

UNIVERZA V LJUBLJANI
FAKULTETA ZA DRUŽBENE VEDE

Zala Vidali

Hitrost in komuniciranje: primerjalni zgodovinski pogled
Speed and Communication: A comparative historical view
Magistrsko delo

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ZAHVALA

Za odpiranje in širjenje znanja na polju medijske zgodovine se zahvaljujem pokojnemu profesorju in mentorju Hannu Hardtu. Za mnoge prizemljitvene prijeme in širjenje vedenja na polju prihodnosti komuniciranja pa profesorici in mentorici Tanji Oblak Črnič. Hvala Poloni Torkar in vsem bližnjim.

Hitrost in komuniciranje: primerjalni zgodovinski pogled

V magistrskem delu raziskujem razmerja med hitrostjo komuniciranja in prenosa informacij v določenem zgodovinskem trenutku. Predpostavljam, da se smisel za hitrost prenosa informacij in komunikacij v času in prostoru definira s kulturnim vedenjem, razumevanjem in sklepanjem, ki so vpisani v spreminjajoča se sredstva komuniciranja in medijske strukture. S to domnevo oblikujem strukturno analitično ogrodje sekundarnih virov s poudarkom na treh pristopih: medijske uporabe, kulturno vedenje in medijske tehnologije. Medijsko in komunikacijsko zgodovino razdelim na pet dominantnih oblik komuniciranja: govor, znakovna, množična, internetna in mobilna komunikacija. V vsaki identificiram značilnosti prostora, časa in hitrosti komunikacije ter jih opredelim do kulturnega konteksta definirane s tremi omenjenimi pristopi.

Ključne besede: medijska zgodovina, hitrost komuniciranja, medijska tehnologija, kulturno vedenje.

Speed and Communication: A comparative historical view

In the master thesis I explore the relationships between the speed of communication and information transmission in a given historical moment. With the assumption that our sense of speed of information transmission and communication in time and space is defined by cultural knowledge, understanding and reasoning inscribed in the changing structures of media and means of communication. With that assumption in mind I frame an analysing structure using secondary sources, emphasizing three approaches: means of media use, cultural knowledge and media technologies. I divide media and communication history on five dominant modes of communication: oral, sign, mass, internet and mobile communication. In every mode characteristics of space, time and speed of communication are identified and established within the cultural context defined by three mentioned approaches.

Key words: media history, speed of communication, media technology, cultural knowledge.

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1 INTRODUCTION

A short video “Sight” was uploaded on Vimeo.com in June 2012. Its authors Daniel Lazo and Eran May-raz envision a future scenario of high technology Eyewear development. They present eye lenses as substitutes for all of our contemporary communication devices, replacing, for example, a personal computer and television, and adding to it an array of possible future applications, which are accessible to the user through their representation on a wall. The augmented reality application called “Wingman” which is in the centre of the aforementioned script utilizes data accumulated through the observance of a person's body language to form algorithms. Using a meta social database analyser it then interprets the algorithm and offers the Wingman’s user suggestions for actions that would make him more socially pleasing. The film calls attention to the possible consequences of the usage of such future applications and their features, like the possibility of immediate access to personal and public information, and their control in an attempt, as shown here, to make users appear less alienated and asocial. The Future is shown to be abundant with virtual communication possibilities that have a direct impact on our real sphere and communication technology could make the real and the virtual collide.

From movie fiction we move back to the present reality. The recent and longest Arab revolution, which evolved into the Syrian war, is broadcast on television and to the internet users as mediated reality. Soldiers are pictured zooming in on their military objectives using the Google Maps application on their iPads in order to locate them accurately. The dromological aspect could be acknowledged or perceived in acts of “space control, technological surveillance of the territory, enlargement of the royal domains in an attempt to lay its hands on all media, religious ideologies, money, knowledge, modes of transportation and information, and external commerce” (Virilio 2007, 92). The “inventor of the term 'dromology' or the logic of speed” in the words of Armitage (2000), Paul Virilio claimed “history progresses at the speed of its weapons systems” (2007, 90). Total war seems to be the ultimate consequence of speed. But if future is considered to be abundant with communication possibilities, can it be claimed that the history progresses at the speed of communication technologies, which are very much connected with the creation of weapons system?

Our perception of the future and history is limited by the contemporary cultural knowledge and reasoning. In explaining McLuhan's discoveries Kittler stated: "we can reason only as far as the information machines of our time" (quoted in MacDonald 2006, 509). Even Friedrich Nietzsche observed that our "tools for writing" shape our thoughts. (Carr 2011, 27) If one is to explain the role of communication technologies and techniques, and the personal and social consequences they imply, it is inevitable to address the impact of technology. For McLuhan "it was not the machine, but what one did with the machine, that has its meaning or message." (1994, 7) For him, the 'message' of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs, which cannot be shaped efficiently by the message produced by content. (ibid, 8) The medium also has meaning; it gets it with the change of speed of communication technology.

Media and communication technologies provide new ways of capturing and preserving the moment to determine the pace of reproducing reality (Hardt 2004, 116). The acceleration of speed of today's technological changes is getting more and more apparent and it intimidates or pleases academics and laymen, the political and commercial sphere. But certain awareness is needed when suggesting "we have passed a point of singularity and are now moving at warp speed" (Manovich 2008, 136), and when terms like radical changes, raptures and social breakdowns are not understood as simply speculations, especially when applying them to culture and the actions of individuals and their perspectives. We are confronted with speculations that speed produces changes, attacks balance and order; epistemological issues can therefore occur and can have detrimental effects on society and cultural knowledge. Could it be that the notions of near ends, sped-up lives and changed reason are nothing more than a modern myth, ideology that serves political institutions and economic, religious or military powers? Is this just an illusion produced from ongoing communication, ubiquitous media and continuous stimuli to distract and aim to become self-generating?

In the following pages I begin with explanation of the main thesis. After the explanation of main notions and short notice on methodology used, theoretical background with theories relevant on the field of communication and media history and social changes rising from media structures, technologies and uses, is introduced. Subsequently, five modes of communication are identified, and each mode is analysed in order to name relations with three identified approaches. Before concluding the findings of the influence and consequences derived from the means of use, ways of information transmission and communication

technologies that define the relevant historical context of the communication environment, schema is presented graphically.

1.1 Thesis

My goal is to explore the relationships between the speed of communication in different modes of communication and information transmission in a given historical moment. I would like to claim history progresses at the speed of communication. With the assumption that our sense of speed of information transmission and communication in time and space is defined by cultural knowledge, understanding and reasoning inscribed in the changing structures of media and means of communication I frame an analysing structure with key approaches: means of media use, cultural knowledge and media technologies. As the speed changes media forms, cultural knowledge inscribed in them is determined. Since information transmission have been presently perceived as increasingly sped-up, what are the social consequences of this changes in cultural perception? Contemporary cultural knowledge is limited because of an unbalanced communication environment and speed is one causing it.

The preoccupation with speed is old and “seems inherent in the development of communication technologies” (Hardt 2004, 118). Media communication is creating a sense of time and space; the media have altered our sense of the past and have created a 'mediated worldliness' shaped by mediated symbolic forms. (Thompson 1995, 34) Innis thought of the media of communication as ones that facilitate knowledge (Watson in Innis 2008, xxxv). On the basis, set by the works of Vilem Flusser (2011), Harold Innis (2007, 2008), Marshall McLuhan (1994), Paul Virilio (2007), Hanno Hardt (2004) and Lev Manovich (2001, 2008) I frame theoretical background for the analyses of different modes of communication throughout human history. A considerable part of the following thesis will attempt to illustrate a historical development of the relationship space-time-speed in the communication process. The consequences revealed will be indicated as ones signifying cultural perception on time and space, and linked with cultural knowledge.

Our informational age is related to the ways of structuring information found in our previous media, used throughout history. On the level of meaning it is now being substituted with the concepts “from computer’s ontology, epistemology, and pragmatics” (Manovich 2001, 47). Mobile communication systems contain and converge different types of media of communication; they are all-present, ubiquitous and highly abstract. What is more, their first feature is meant for oral communication. This is one of the reasons for starting my search with

the different consequences already present in oral societies, following it with the presentation of the communication sphere in the culture of signs, the culture of mass transmission, the internet and the mobile communication realm.

The power of communication is enabled by people communicating and willing to share and shape meanings, by the institution of force, wealth and knowledge, and by technologies transmitting and transforming communication. Communication is becoming ubiquitous and one must make a conscious choice to avoid it. If speed is the feature and consequence of today's communication technologies, it should have a message for us. I would like to articulate it.

1.2 Explanation of Main Notions

1.2.1 Speed of Communication

“Speed upsets the balance between the space- and time-binding media” (Hardt 2004, 119), and consequently, harbors a considerable impact on social and political practices. In a democratic society a well-tempered process of mass communication is the basis for the balance between the immediacy of information-processing and the reach of historical knowledge. (ibid.) I would like to claim, long-term benefits for a culture appear with the balance between the speed of communication and the reach of cultural data or knowledge. What we are experiencing now does not seem to be a well-tempered process of development of communication technologies, but an outburst of communication possibilities. We have witnessed an exponential increase in the speed of information transmission. Media systems and communication technologies are becoming increasingly sophisticated and far-reaching. Information and entertainment can be produced and disseminated “faster, cheaper and more widely” (ibid, 79) and speed is celebrated as a modern (or post-modern) contribution of technology.

Did advantages in printing, telegraph, electronic broadcasting and digital data transmission speed up and changed the social and political processes? Did speed of communication changed cultural processes? How is speed related to media? With regards to the notion of speed; one must be cautious in defining it, since it dominates a contemporary conceptualization of communication, dictates how individuals perceive the world (ibid, 118) and informs contemporary social and political practices (ibid, 62). The speed of communication meant is therefore one, acknowledged as information-processing in the relation to time and space. I

define the Speed of communication as a notion related to information transmission in space or distance and time.

1.2.2 Time and Space

In the fundamental way, the use of communication media transforms the spatial and temporal organization of social life, creating new forms of action and interaction, and new modes of exercising power. (Thompson 1995, 4) The presence of communication and its effects on the production of public knowledge “touch on constructions of time (and speed) and space; the latter are institutions, according to Albert Einstein, that have become part of a social or cultural consciousness” (Hardt 2004, 116). Workings of mass communication reflect the spatio-temporal framework that characterizes human existence. (ibid, 115) The dimensions of time and space need to be perceived as equal in order to achieve cultural stability. For Innis time and space are two fundamental indices of human experience (Pietrzyk 2012, 127) and when new temporal and spatial experiences are introduced, new social relations are produced (Bourdieu in Yakhlef 2009, 85). Castells (1996, 376) invites us to “consider social forms of time and space that are not reducible to what have been our perception to date, based upon socio-technical structures superseded by current historical experience” (idib.). He argues that space and time are being transformed under the effects of the information technology paradigm and social form and processes encouraged by the process of historical change. (ibid.)

Time is defined first, as time as a central area of regulation and interpretation in social interaction; second, time as externalized means of orientation and control, and third, as active in history and the maintenance of culture (Elias in Gotved 2006, 474), used as a communicative symbol in the words of Gotved (2006, 475). “We are interacting with time through cultural patterns of meaning as well as through structural representations, and thus we are interacting *in* time and *with* time” (ibid). For Castells (1996, 429) “we are embodied time, and so are our societies, made out of history.” He claims in the tradition of Harold Innis that new “time regime” is linked to the development of communication technologies. (ibid.)

Space or the perception of space is formed of three different types of representation: space continuously and consciously created and recreated through a system of verbal signs called representations of space; representational space where space is understood as unconsciously

experienced and lived in, and involves more or less coherent systems of non-verbal symbols and signs; the actual space and the movements within called spatial practice. (Lefebvre in Gotved 2006, 478) Castells (1972 in Castells 1996, 411) defines space as “a material product, in relationship to other material products – including people – who engage in [historically] determined social relationships that provide space with a form, a function, and a social meaning”. Materialistic perspective reflects also from the writings of David Harvey who is attributed to the notion of space-time compression (ibid, 462).

1.2.3 Cultural Knowledge

Is there a way to address visible changes of the velocity of information-processing on human cultural knowledge? Cultural knowledge is an amount of cultural data inscribed or conveyed in media of communication. Communication practices affect the understanding of duration or permanence and change. (Hardt 2004, 119) “Knowledge and information are critical elements in all modes of development, since the process of production is always based on some level of knowledge and in the processing of information.” (Castells 1996, 17) Knowledge is “a set of organized statements of facts or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through some communication medium in some systematic forms” (Bell in ibid.). Knowledge is a product of human communication (Hardt 2004, 93) and the use of a medium of communication over a long period of time will to some extent “determine the character of knowledge” (Innis 2008, 34).

1.2.4 Media Technologies vs. Communication Media

Media as structures include both technological forms and their associated protocols, and communication is a cultural practice, a ritualized collocation of different people on the same mental map, sharing or engaged with popular ontologies of representation. In short, media are technologies and communication is practice. Lievrouw and Livingstone invite to a new phase of critical and empirical examination for new media researches, which focuses on mediation, rather than on the media themselves (2006, 11), where all three elements of infrastructure: artefacts, practices and social arrangements (ibid, 9) are entailed.

In the human past, concrete experience of an animated, four-dimensional space-time continuum changed to the three-dimensional situation with graspable objects, such as sculptures; while creating cave paintings *Homo sapiens sapiens* slipped into an imaginary,

two-dimensional mediation zone, and about four thousand years ago the process of abstraction came on the historical level where “another mediation zone, that of linear text, was introduced between human beings and their images” (Flusser (2011, 7). For 4,000 years linear text occupied the dominant position as the bearer “of critically important information [... and this is the time, which] can be called ‘history’ in the exact sense of the word” (ibid, 5). It took (some of) us a few centuries to fulfil our “need” for a regular morning dose of news in the form of a newspaper. The TV has only been accommodated in our lives a few decades ago. The issue following is the fact that the rate of technological changes has been increasing and leaves no time for their cultural adoption and assimilation. “Consider how fast digital media are changing today.” (Gitelman 2006, 8) Computer processors comparable with human brain could appear by the 2020s. By 2060s the estimated computational power of 6 billion human beings could level a single computer, since the historical trend has no sign of slowing. “It is believed the trend must be sustained and the exponential growth must stop.” (Hall and Heck 2009, 2) What about, if it does not stop? How does the speed of communication technology development change communication itself? If communication is ubiquitous, is there a “no speed” situation?

Gitelman (2006, 7) defines media as socially realized structures of communication. Media are very particular sites for social as well as historically and culturally specific experiences of meaning, which are variously interpreted by media users. (ibid, 8–9) The media are important sources of knowledge and involve “the exchange of ideas, a lasting commitment to dialogue, and a willingness to learn from cooperation” (Hardt 2004, 93–4). »Rightist and leftist thinkers alike have similarly conceptualized the media as being the cause of social breakdown and the ideological cement that glues an unjust society together.« (Stevenson 2004, 1) Society and individuals have an impact on the content and uses of communication technologies. Individuals’ way of thinking is installed in a broader context of cultural data or knowledge that is more or less successfully controlled by the powers of different institutions; the media, economy, politics, military forces, religion and science. These cultural or social institutions are therefore those who construct meanings, norms and values. Thompson (1995, 17) identifies economic, political, coercive and symbolic power and the fourth type of power – cultural and symbolic derive from communication and exchanging information that produce, transmit and receive meaningful symbolic forms. Communication is a “distinctive kind of

social activity which involves the production, transmission and reception of symbolic forms, and which involves implementation of resources of various kinds.” (ibid, 18)

In the communication process, every social structure is characterized by the collaboration between discourse and dialogue, where discourse is a method through which information is transmitted and dialogue the method through which it is produced. (Flusser 2011, 83) Neither discursive (for example, late medieval society) nor dialogical societies (for example, the Enlightenment) form conditions for an ideal society. With the emergence of numerous ways for collaboration in the communication process, contemporary society is abundant with options of information transmission and production. Therefore, the balance between the information-processing and the reach of knowledge is demolished and hard to accomplish. What are the consequences of the seeming omnipresence of communication in the obviously unbalanced environment?

1.3 Methodology

Even secondary sources are limited when analysing communication historical processes. Communication research and theory is established only after the emergence of mass media. In the 20th century the field is abundant with new ways of explaining communication processes. In terms of theory it follows that with mass communication comes the paradigmatic shift: Lippmann presented his cultivation theory; individuals in the agenda-setting act as constitutive element of the communicational process and are influenced by mediated reality; Hall and his cultural studies tried to show that the individual is a credible and forceful participant in a complex expressive totality (Hardt 2004, 98). In the days of the mass media three-part framework, the encompassing production, text, and audience dominated media research and scholarship (Lievrouw and Livingstone 2006, 3). The mass communication tradition has spent decades in dealing with the linear relationship amongst production, text, and audience (i.e., production makes texts, who in turn affect or impact the audience, which is consistent with the sender-message-receiver model of communication). In new media research “no such linear assumption is necessary” (ibid). Stevenson (2004, 5) enumerates the four paradigms of mass communication research, the first being the critical approach to mass communication, the second the audience research, the third is concentrated on technological means of communication, and the fourth on the development of new media of

communication, also representing the convergence of the three aforementioned paradigms of research.

Through the comparative study of secondary literature of media histories or histories of media and communication I seek to find the cultural consequences of the alteration of ways of communication, which arise from significant advancement in communication media technologies. With the works of Flusser, Innis, McLuhan, Virilio, Hardt, Manovich and others I move from different theories and approaches; from the field of philosophy of communication, communications media effects (one less and the others more deterministic), post-modern writings, critical cultural media theory, to the new- and finally software studies.

The interpretation of secondary sources on this process throughout history is employed in the thesis and the findings of the analysis are applied in the conclusion, where I also address the problems of writing comprehensible media history. Critical approach will be held and implications for further research issued.

I am confronted with the methodological as well as epistemological issues. The problem of historical data analysis is faced with notions of reasoning cultural data in the here and now.

An important aspect concerning methodology in the thesis is the fact that it lacks psychological attempts to describe issues concerning consequences on perception, even though I am aware of the dangers of explaining the issues of reasoning and knowledge without the psychological notions. My attempt is to organize a theoretical frame solely by relying on concerns devoted to question how communication technologies and devices effect communication and cultural knowledge in terms of a society; how this changes affect human perception in a psychological sense will only be indicated.

Throughout the thesis the notion of knowledge overlaps, which is why I would like to address the methodological frame of the thesis as a mixture of comparative historical research and epistemology.

2 THE THEORETICAL BACKGROUND

Using the grounds laid by the works of Vilem Flusser (2011), Harold Innis (2007, 2008), Marshall McLuhan (1994), Paul Virilio (2007), Hanno Hardt (2004), Lev Manovich (2001, 2008) and others, two works on media communication and its consequences, namely Stevenson's *Understanding media cultures* (2004) and the introduction of Lievrouw and Livingstone's *Handbook of new media* (2006) helped with forming the theoretical background for the following thesis, addressing questions like “Do media cultures reaffirm today's dominant social relations?”, “How have different media of communication reshaped relations of time and space?” and “Who are the key thinkers of whom we should be aware in thinking about these issues?” (Stevenson 2004, 1). Lievrouw and Livingstone's *Handbook* importantly deals with new media in opposition with mass media and towards post-industrial or post-modern theories of society, and asks: “What are the implications of these developments for media and communication studies more generally?” (2006, 8) Mass media is a special category, characteristically different from new media. The problems concerning the term new media confront different dimensions of communication that could be a step forward to social revolution and a historical break like the invention of writing, as claimed in some theories (Flusser, 2011; Manovich, 2001; etc.). Communication and media research is at a conceptual and disciplinary crossroads and along with other writers, Lievrouw and Livingstone (2006, 5) invite to rethink the role of 'the mass' in technology and society.

2.1 Three Theoretical Approaches

Three theoretical approaches are identified in the theoretical works of communication and media history united in (1) The use of media and their cultural impact, (2) The cultural knowledge inscribed in media and (3) Media technology.

2.1.1 The Use of Media and their Cultural Impact

If “we wish to understand the cultural transformations associated with the rise of modern societies, than we must give a central role to the development of communication media and their impact” (Thompson 1995, vii).

In the words of Pascual-Leone (in Carr 2011, 38) our way of perceiving the world and communicating with each other, our ways of thinking, acting and functioning are not

completely determined by genes, they change over different periods of our lives and through the tools we use. Neuroplasticity is “one of the most important consequences of evolution, an ability that enables nervous system to escape the obstacles of its own genom and adapts to the impacts of the environment, psychological changes and experiences” (ibid.). The ways of searching, maintaining, and interpreting information, the manner of administering our attention, the use of our senses, how we remember and forget throughout the history were influenced by devices and technologies. They formed our physical structure and the functioning of our brains. Neuroplasticity is seen as a link to the understanding of the influence of the information media and other intellectual technologies on the evolution of civilizations and helps to direct the history of human consciousness on the biological level. (Carr 2011, 53)

Goody, Havelock and Ong whom Poe (2011) calls “the Mentalists” are united in the conviction “that media in general and literacy in particular make people think differently. Learning to read and write, they propose, rewires the brain and enables new cognitive abilities” (Poe 2011, 3). But, as Poe claims “anthropologists have run this test in the field and the result is definitive: there is no direct, casual relationship between learning to read and write and the cognitive capacity to think logically.” (ibid, 4) Than, there are “the Marxists”, especially the followers of Critical Theory who claim the media are impacting people and describe them as an opium for masses. People are “willing to be victims of exploitation” (Poe 2011, 5), trapped in structural legitimacy of media, political and economic systems. Some works from social and cultural history have treated communication media with “the seriousness they deserve” but writings of social theories neglect them. For them, the process of rationalization and secularization played a crucial role. Modern societies gradually discard the past, its tradition, superstition and myth. Contemporary theorists are divided on those defending the narrative and “those who are inclined to reject it as another myth” (Thompson 1995, 3–4). Habermas's early work treats “the development of the media as integral part of the formation of modern societies” (Thompson 1995, 7). Poststructuralists such as Baudrillard or Virilio put much emphasis on media and the representations they offer, and are thereby determined by the great power of media. (Poe 2011, 5)

How powerful the media really are? Is it a logical step in the argumentation frame to claim media are more and more powerful since they occupy a vital place in the everyday lives of the people?

At what point are the consequences of media of communication visible, defined or materialized? Is it at the moment of shock – at sudden happening on a mass scale; or is it an invisible process that shapes the social attitude towards some issues or media use, and overlaps with institutional shaping as well as technological changing? Vilem Flusser and Marshal McLuhan propose two different views.

Vilem Flusser did not include citations in his works, and therefore “it is difficult to trace his path through intellectual history” (Schaefer 2011, 1390) although one can certainly trace some of McLuhan’s ideas in Flusser’s intellectual scope. He himself called McLuhan’s attitude towards the image “fascistoid” (1988, 8:55). McLuhan did say that the human image could be “thumbed more easily than public prostitutes” (1994, 189), but their disagreement is materialized somewhere else. Ieven (2003) claims Flusser believed “newly invented media are very consciously used” and it is after some time of usage a possibility of the danger that “people’s lives become a function of a medium” rises. Whereas McLuhan argued that the invention of a new medium brings forth an immediate unawareness about that medium and especially its consequences for our consciousness, Flusser stated “men only become unconscious of a medium after a while”. McLuhan puts “too much emphasis on a media history independent from human experience” (Schaefer 2011, 1393).

However, at the same time they shared the focus not on content but on the structures of communication, and Schaefer identified that as their “fundamental similarity” (ibid.) They also did not share the same opinion about the historical ages and the dominant media of communication, ascribed to them, since Flusser (2011) claims there is the pre-historic era of the traditional image, the historic era of the linear text and the post-historical, dimensionless state which could “no longer be found in any place or time but in imagined surfaces, in surfaces that absorb geography and history” (Flusser 2011, 4). McLuhan in turn differentiated the epochs by the domination of media of communication, following Harold Innis, and they both are acknowledged by Manovich (2001, 48) to be the beginniners of new media theory. Innis was one of those theoreticians who already asked: What do different media do? (Poe 2011, 7) What changes can constant and mass usage of a medium bring?

2.1.2 The Cultural Knowledge inscribed in the Media

Innis (2007/1950, 2008/1951) differentiates between permanent and perishable communication technologies or infrastructure. For him, media are space- or time-biased and “[m]onopolies of knowledge had developed and declined partly in relation to the medium of

communication on which they were built and tended to alternate as they emphasized religion, decentralization, and time, and force, centralization, and space” (Innis 2007, 192). Harold Innis and Marshal McLuhan share the same intellectual context and place mass communication studies, especially the technical apparatus of mass media, in the sole centre of shaping the modernity. Innis turned his attention to communication networks, on information they transmit and the wider impact they have upon social forms of organization. His concept the *cultural monopoly of knowledge* was the link between the empire and information. In his viewpoint the media of communication and the properties of dominant media facilitate knowledge and therefore power, which serves particular interests (Watson in Innis 2008, xxxv). Comor (2001, 285) claims Innis’s main idea was that history unfolds the relationship between the context of our existence and on the other hand natural environment, predominant political economies and the realities (and perceptions of reality) shaping power struggles. The struggle to control knowledge, wealth and force “is directly shaped by predominant and historically structured media (institutions, organizations and technologies) at any given place and time and the often unobservable effects on social epistemologies” (Comor 2001, 284). For Innis communication occupies a vital role in the organization of large areas and its government depends to a very important extent on the efficiency of communication (Innis 2007, 26). In the analysis of writing technologies in relations to time, space and speed of information transmission, Innis differentiates between the media of communication, which are durable, for instance stone, clay and parchment; and between those, which are not durable in relation to time but can be distributed on a larger scale in relation to space, like paper and audiovisual media. This distinction is very valuable even though his ideas are not sufficient for the explanation of new ways of communication, which anticipate new dimensions and new features that have no historical precedent.

2.1.3 The Media Technology

The notion of features of media technology foreseeing specific consequences is a proposition immanent to theories describing certain social processes in a technologically deterministic view. How is the relationship between technology and culture to be understood, if not causal? Technology is invented for the use of the people, therefore its usage came first and technology was a step towards the betterment of the users experience.

Cohen (in Bimber 1998, 86) argues that technological determinism should nominally be both technological and deterministic. In practice, “technological determinism” begins to lose its

meaning when it is used as a malleable interpretive tool. An explanation of historical change that meets the standard of clarity “is surely more useful than one in which the theory of change is hidden by less precise language” (ibid, 87). A standard of clarity in analysing media history is not easily achieved, since different versions of media history “do make a difference [when explaining the] way people experience meaning, how they perceive the world and communicate with each other, and how they distinguish the past and identify culture” (Gitelman 2006, 1).

The power of media technologies “to transform our habits of perception and forms of understanding” had already been recognised by Walter Benjamin (MacDonald 2006, 511). Great civilizations developed 6,000 years ago as an effect of writing and with writing the human history hardly began, since we have “no history of conversation” (Innis 1951, 9). Technological determinism should be observed from a broad historical and sociological viewpoint. No matter if people decide how and what device they will use, they do not have much control over the way or the speed of technological development. The technology and its uses are affected by economic, political and demographic means, but the technological development has its inner logic and it is often independent from the attempts and wishes of producers or users. Sometimes we command tools, other time we obey them. (Carr 2011, 51–52)

Certain technologies become very extensive, embedded and taken for granted and can limit the range of available choices. Every system affords a certain range of interpretations which is “determined by the discourses that have been inscribed into it” (Agre in Lievrouw and Livingstone 2006, 4–5). Carey's semiotic understanding of *techne* as a process whereby meaning is made from, with, and towards the material world, highlights how symbolic meaning and material use, and thus culture and technology, are inseparable (in Vannini et al., 2009, 470–1). Lievrouw and Livingstone show how recent writing about new media in cultural studies, media arts and design often takes a technologically deterministic tone (e.g., Manovich 2001; Poster 1990; Stone 1995 cited in Lievrouw and Livingstone 2006, 5), but new media researchers in the social sciences are virtually united in rejecting accounts in which technological innovation is the cause and society the effect, and have adopted the counter-view that the technological sphere is not separated from social life but is a part of society; it is “constitutive of society” as MacKenzie and Wajcman claim and is “society made durable” in Latour's terms (in ibid.). “The dilemma of technological determinism is probably a false problem, since technology *is* society, and society cannot be understood or represented

without its technological roots.” (Castells 1996, 5) Relationships between technology and society are reciprocal rather than unidirectional. (Bimber 1998, 80) The role of the state can either by “stalling, unleashing, or leading technological innovation” or by expressing and organizing the social and cultural forces that dominate in a given space and time, decisively characterize the relationship between technology and society. (Castells 1996, 13)

For the tenth anniversary issue of *New Media & Society* Benjamin Peters (2009) wrote an article rethinking some concepts of media history literatures and proposing that most modern media pass through the following five periods; technical invention, cultural invention, legal regulation, economic distribution and social mainstream (ibid, 18). One can notice that the first step of the development is technical invention, even though Peters does not assume a technological deterministic view. (ibid, 24) The Five level model shows some other aspects as well; the forming of a medium is an interplay of technological development, structural regulations on the level of a state and the commercial sector, and lastly the uses and meaning making of individuals and their shared cultural data.

2.2 The Concepts of Historical Continuity and Historical Change

In media theories we can find the examinations of notions of “the modern dialectic of history” (Peters 2009, 14), which alternate between arguments for historical continuity on one hand and change on the other.

The continuity argument argues all things at all times are, have been and will forever more remain inseparably related and similar. In this view, modern humans live out their lives “in the ever-present past; our language, habits, tools and environment all follow the course of historical forces unfolding in the present” (ibid.).

Notions of changes and revolutions suggest “dramatic and mundane raptures, shifts and epistemological breaks in modern life” (ibid, 13) and one can be easily convinced by the concepts of numerous ends, for example the end of history (Fukuyama), or of geography (Virilio), of perspective (Baudrillard), of writing (Flusser), of reason (Castells 1996, 4) of times (Žižek), etc. But history continues, at least for now, and we have no logical means to think differently. Do arguments for and against change or the continuity of history, development, social consequences along with fast technological changes differ in any way from the “old” conceptions of communication processes?

The concept of change is connected with the idea of motion and thus to the notions of time and space; with the flow of words, the movement of eyes across the page, the linear design of books and the complex narratives of film and television; the concept of change “is embraced by communication” (Hardt 2004, 115). Does “new” in new media theories have any implications on understanding the speed of communication? Does the speed of communication change throughout history? What is before and after this changes that ought to be happening? We can measure the speed of production and transmission of information thousand years ago and today. But can such a comparative view tell us anything about the social consequences in a significant social context?

Any social change is believed to be a mixture of two intersections, “a culture and a market” (Bell in Beilharz 2006, 98) and we can even broaden the context with Appadurai who shows the dynamics of ‘the social’ in identifying five key dimensions of change; the ethnoscaples, the technoscaples, the financescaples, the mediascaples and the ideoscaples (in Lievrouw and Livingstone 2006, 6). Throughout the thesis changes from all mentioned perspectives will try to find its place, though I am aware of the problem of possible overlapping of connected concepts.

Medium of communication reflects and restructures power relations. (Comor 2001, 286) When analysing theories of social change and viewing history in its broad context, the collective will of the people is rarely a cause of radical cultural, economic or political structural changes. It is the collective agency formed after mediation which is defined by the interplay of several other cultural subjects. External circumstances represent internal matters of shaping an understanding of reality in the minds of the individuals, and form “a private or personal experience that involves ways of receiving information and knowledge for the construction, adaptation, or conversion of meaning.” (Hardt 2004, 92) In given and determined circumstances of the human environment the three entities which frame cultural knowledge or cultural understanding of media will be followed in each part of the historical development; media technology, institutions of power forming cultural knowledge and the set of interpretations of the meaning.

The dominance of a certain medium of communication reveals the nature of the culture. In the following chapter I analyse five different modes of communication and search for the characteristics of cultural knowledge transmitted through space and time with significant communication speed.

3 SPEED AND COMMUNICATION

3.1 Five Modes of Communication

Intersubjective social relations are structured by media or modes of cultural transmission which McLuhan (in Stevenson 2004, 119) classifies as oral, literate and electric. Flusser (2011) differentiates between traditional images, linear one-dimensionality and technical images. Poe (2011, 7) follows Innis's proposition that new media were “pulled” into broad use by the rising demand and not driven by the rising supply, and differentiates between oral, written, printing, audiovisual and computer tradition. Yakhlef (2009, 80–1) states that the media systems for establishing or reinventing relations, recording, sharing, and transmitting information and knowledge, have evolved from oral means through writing and audiovisual to the latest digital networks.

For purposes of clarity and structure of this thesis, I claim there have been five major changes in terms of media devices and in terms of ways of communication; from language with oral communication to a sign system with images and writing communication; from a sign system to the mass media with mass transmission and production; from the mass media to the computer with the internet; and mobile technologies with mobile communication.

I have no intention to claim this model is the only one possible, but is indicated throughout different media history writing and will help to classify different modes of communication and reveal the media forms involved. The way we communicate is once again being subjected to a certain process of change.

3.1.1 Oral Communication

In the process of oral communication speech is conveyed with a help of mnemonic devices, such as rhyme, rhythm, and behavioural routines. (Poe 2011, 53). Oral communication is employed by all humans and has different characteristics. Before mass media techniques images and sculptures, generally known today as art, have had different function in the past and simply did communication. Certain groups of people were involved in the production of this type of communication, it was their profession. Following the wide spread of literacy, people mainly became the object of the communication process, the mere receivers of information.

3.1.2 Sign Communication

Sign communication is representational for communication which contains images and written words. For the purposes of this thesis it will be defined as a system of representation. This is what Yakhlef (2009, 83) ascribes to written communication and as a preserver of culture's discourse which gives “shape and substance to the physical and psychological manifestations of contemporary life” (Hardt 2004, 19).

3.1.3 Mass Communication

The revolutionary shift from oral and sign communication to mass communication occurred with the invention of the printing press. (Hardt 2004, 2) The printing and inventions in transportation greatly attributed to the mass distribution of information, whereas the writing itself never implies there is a mass scale of audience. Writing and reading, as highly exclusive ways of communication, needed to be pushed in circulation to become massive. Medieval times' first and foremost book, the Bible, became the means of gaining social control. Non-literate people could be controlled and culturally shaped through images, presenting, for instance divinity and shaped mediated reality with very few stimuli. If mediated realities gave rise to “a new understanding of fact and truth, reshape the premise of social knowledge, and redefine personal interests” (ibid, 6), certain points of communication history should be applied to address this new understandings. George Gerbner (in ibid, 14) defined mass communication as “an institutionally based mass production and distribution of a broadly shared, continuous flow of public messages” transmitted in form of sound, image and data. In the mass mediated environment few major channels or forms are controlled by the dominant class of society and information is transmitted to the anonymous mass. Mass-mediated reality and the reality of personal experiences differ in terms of substance and “complexity of social, political, or economic issues and their solutions as well as in terms of time, speed, or duration.” (ibid, 100)

Numerous mechanical and electrical tabulations and calculations were developed after the process and “they gradually became faster and their use more widespread” (Manovich 2001, 23). A shift from mass communication to new communication occurred with different types of mediation and distinctive ways in which the new technology develops.

3.1.4 Internet Communication

Internet communication is here defined as *new communication* that does not involve mobile communication, and since communication using internet technologies chronologically precedes the mobile communication and occupies a vital stand in media theory, the thesis make a clear distinction.

Star and Bowker (in Lievrouw and Livingstone 2006, 2–3) define new communication as “information and communication technologies and their associated social context” and as infrastructures with three components: the artefacts or devices used to communicate or convey information (e.g. alphabets, electrical grids, keyboards and mice, operating systems, telephone switches, film stock, satellite dishes, money, etc.); the activities and practices in which people engage to communicate or share information (e.g. gestures, vocalization, telephone or email etiquette, language, manuscript formatting, typing, online file sharing, fashion, contract law, television program schedules, blogging, etc.); and the social arrangements or organizational forms that develop around those devices and practices (e.g. single-parent families, recorded music labels, think tanks, national film boards, political campaigns, community advice networks, film studios, etc.). All three components form the environment of cultural and social context, technological development and its design, and the ways media technologies and practices are organized and governed. (ibid.)

In the 21st century, media and communication have a visible stand and could be thought as one of the driving economical and technological forces. Google, Apple, Nokia, and Facebook to name a few, have enviable worth in the global economic sense and are producing labour. All these corporations are in the “business of moving information” as McLuhan (1994, 9) could state. They do communication. Some of them are (in terms of efficiency) responsible for some of the world’s best devices, hardware or to use a more obsolete term – apparatuses. Others develop software and programs. They deal in the formation of information and media and are in the business of organizing thoughts. They do something that no other media corporation did before them; the media technologies they produce incorporate hardware and software to the degree at which they become the same thing; computer apparatus legitimizes experimentation with media, even more, Manovich argues experimentation is “a default feature of computational media” (2008, 71). And after the emergence of software, and wide literacy involving production knowledge, another important change followed – media users become media producers.

3.1.5 Mobile Communication

Technology develops within the context of economic, social, and political institutions who try to achieve a decline of social interaction in favour of social control, the loss of privacy, and the lack of social communication. (Hadrt 2004, 79) But with social networks social communication becomes emphasized even more than with mass produced information. Mobile communication is here to arrange live meetings as soon as possible and as comfortably as can be. The primal feature of a mobile phone is oral communication, with it one can write, transmit text at great distances, and in a short period, use it for personal memories, to record sounds, view pictures and videos, listen to radio, program his or her own applications, acquire knowledge and delete used information. And it does not stop here, one can also calculate, measure, view time, maps, light a light or release a bomb. Mobile communication is a form of “new” communication, meaning, all what computer technologies are, but never static. It involves mobility; mobile communication is therefore a mobile new communication, transmitting self- and mass produced information in the form of sound, image and data, it is easily accessible and ubiquitous.

In terms of the content and information it carries nothing is really new in the mobile communication sphere. “New would be a medium that carries tastes, smells, and feeling” states Poe (2011, 228) when reflecting the content on the internet. What is new or what Manovich calls as “the fundamental quality of new media that has no historical precedent” (2001, 47) is the programmability employed by the new technologies. Programmability follows a historical path to the ultimate abstraction of human thoughts caused by the communication technologies, starting with human language and ending (for now) in several computer languages. This is not the only reason for me to explore “the very roots of our being-in-the-world” as expressed by Flusser (2011, 7) or at least with the first recorded modes of communication, but also the fact that communication technologies, that form dominant media and economic position of society, are a mix of all previous modes of communication. We have witnessed an exponential increase in the speed of the information transmission and production. Several new ways of communication are approaching or are already a fixture in everyday lives. The culture is being computerized (Manovich 2001, 9) and the new features are merging, redefining, elaborating, extending and differing from “old” ways, once which are still in use and others which are part of the media history.

Before we explore the historical modes of media and communication, I shall give a quick note relating to the range of arrangements constituting our communication and the knowledge maintaining ability. As I write the following lines, I can go no further but think linearly; we will start with “the beginning” of communication history.

3.2 THE ORAL TRADITION

FROM THE OBJECTIFICATION OF SELF TO THE OBJECTIFICATION OF CULTURE

When studying oral tradition one must first take into account that talking is not comparable with other ways of communication, since “we did not invent it” (Poe, 2011, 27). If one would try to imagine what would happen, if the human culture would not develop speech, the dimensions it would bring, one could speculate that other human senses, such as smell or touch, would greatly evolve. Imagination aside, our communication basis seems to be grounded on the eye and the ear.

The human mind of today cannot really imagine how being in a six-dimensional continuum would be like, as probably our ancestors did. As a species we experienced only the four-dimensional space-time continuum and it is doubtful, if we can even comprehend the idea that one can not differentiate herself from the environment. In the human prehistoric state time moved in a circle (Flusser 2011, 58) and people lived in a concrete experience of an animated, four-dimensional space-time continuum. A subject faced an objective situation and objects were transformed or informed by the subject; the result of this process around 2 billion years ago in East Africa was culture. (ibid, 7). Humans denominated objects and speech acted to separate man from man and mankind from the cosmic unconscious (McLuhan 1994,79–80). It transformed the indeterminate into the determinate idea and gave definite form to what the mind created (Cassirer in Innis 2007, 28). Minds were applied to symbols and concrete experience into the world of conceptual relations that created an enlarged time and space universe. (Innis 2007, 30) Oral tradition, produced and handed down in the social context of everyday life, gave people the sense of the past, of distant places, of the spatially delimited and historically continuous communities to which they belonged. (Thompson 1995, 33)

Language is a fundamental, highly charged cultural medium, the centre of a culture (Hardt 2004, 20), a human technology that has diminished the values of the collective unconscious. (Bergson in McLuhan 1994, 79) With culture, symbols and language intersubjective social relations are structured. A step towards abstraction is made. To speak is to remove perception

from its concrete time and space (Poe 2011, 43). Fiske (in Stevenson 2004, 29) argued that “all social reality is linguistically constructed”. With language as an interface and as the dimension in which human life moves (Heidegger in Hardt 2004, 90), and following Ludwig Wittgenstein, if the limits of language are the limits of the world – then life seems to be a simple and straightforward matter (Hardt 2004, 136). In the subjective realm of the oral tradition people were equal; they had equal access to speech and sharing goods. (Poe 2011, 39) For Innis the oral tradition “emphasises dialogue and inhibits the emergence of monopolies of knowledge leading to overarching political authority, territorial expansion, and the inequitable distribution of power and wealth” (Watson in Innis 2008, xxxiii).

Ancient Greeks are one of the most cited examples of a civilization that cultivated oral tradition in opposition with other cradles of civilization. The Greek civilization based on oral tradition is hard to approach from an objective point of view for a modern society (Innis 2008, 40–41), since Greek thinkers stated that the “notion of causality was static, simultaneous, and spatial” (ibid 2007, 88). The Greek flexible oral tradition followed with a success which solved the problems of time and space (ibid 2008, 46–8). Their rich oral tradition has been preserved intact, the reason being the Greek alphabet, which was an efficient representation of sounds (ibid 2007, 75). “Language as an external manifestation of thought acquired stability with the new prospects of the text that began with the manuscript age.” (Hardt 2004, 19)

It was in the second half of the fifth century BC that writing “began to make its encroachments on the oral tradition” (Innis 2008, 43) and the foundation of a public library in Athens in 330 BC “brought the vitality of oral tradition to an end” (ibid, 44). The great tragedy of the oral tradition was materialized in the execution of Socrates and the fall of Athens. The myth had lost its importance with the emergence of tragedy and comedy. “The audience had lost faith in social life and the power of the oral tradition began to wane.” (Innis 2007, 101) In the transitional era from oral to literate (while still largely oral) culture “such is the need to maintain traditions across time rather than space that knowledge which does not perform this function tends to be quickly discarded” (Goddy in Stevenson 2004, 132) and the knowledge important for a minority who stored it in written forms objectifies the culture in writing. The objectification of culture creates the conditions for critique and the literate readers are able to perceive logical inconsistencies and contradictions. (Goddy in Stevenson 2004, 132) Illiterate people could not enter into the realm of political and communicational sphere.

The oral culture was balanced and did not change communication-wise for almost 175 000 years (Poe 2011, 10). Information processing was comprehensible, time regulated human behaviour in its relation to the notions of duration. The spatial and simultaneous causal relationship between the two ideas produced history, which had not been linear. Media of communication formed myths – cultural knowledge with a strong ground and thus stability.

In order to leave off the romantic discussion of fairness and equality in oral tradition, an important aspect should be acknowledged; talking as a human impulse to understand and communicate with each other should be subdued to the preservation of knowledge and therefore the idea to preserve it efficiently. If writing, signs, images and tokens were a logical step in order to make the ideas more durable, their irreversible path made knowledge and communication more abstract.

3.3 IMAGE AND WRITING

FROM THE OBJECTIFICATION OF CULTURE TO THE DOMINATION OF LINEARITY

Writing did not replace an oral culture but transformed and modified it. (Goddy in Stevenson 2004, 133) Supplementing against replacing is an important aspect of different ways of communicating, which are evolving in time and with time and are adopting on two levels – on the level of making inscribed information understandable in exclusive groups and on the level where a specific way of communication becomes dominant and employed by the majority of people.

The first written signs emerge from the Neolithic Sumerian Mesopotamia and China. Both, the Chinese and nonphonetic script enables “to retain a rich store of inclusive perception in depth of experience” (McLuhan 1994, 84). But, keeping in mind the purpose of this thesis, we find the notion of the durability of the artefacts and involved practices of the Asiatic and Western alphabets even more important than the differences between them. The Eurocentric theoretical frame should not be overlooked, but the concerns involved could be too broad, and therefore a sign will be taken as a sign and an image as an image, no matter its cultural context.

Sculpture and other imitations of nature emerge in Neolithic times. Its traditional images shape a magical and mystical universe, a prehistoric universe in which earlier pictures arose

from an ancient level “at which human beings first stepped back from their surroundings to observe and to depict” (Flusser 2011, 11). The power of imagination “enables a society informed by images to generate continually new knowledge and experience and to keep reevaluating and responding to it” (Flusser 2011, 12). According to the theories of knowledge focusing on imagination, an image was a tool of persuasion and the subjects perception of self. (Hardt, 2004, 8-9) With Neolithic farming and husbandry new technologies arose, the communities stopped migrating with the season and settle permanently, the notion of private ownership, slavery, family groups, villages, war, social ranks, taxes and numerals appear, with tokens trade, and abstract signs with abstract values were introduced. (Flusser 2011, 63; Poe 2011, 67) Images did not show matter but what matters (Flusser 2011, 11), tokens inscribed a value and were efficient for practical purposes. Their image was reduced to a linear one-dimensionality and the result was “a conceptual universe of texts, calculations, narratives, and explanations, projections of an activity that is not magical” (Flusser 2011, 9). Becker (in Innis 2007, 30) stated that “the art of writing provided man with a transpersonal memory”. Linearity was followed by the art of broader thinking, causal relationship, abstractness of thought and the notion of history. The environment and its characteristics maintained communication to become more efficient.

The Egyptian civilization has largely been influenced by the character of the Nile and its periodical flooding. The discovery of the sidereal year in 4241 BC made it possible to create a calendar, which facilitated the establishment of an absolute monarchy. Its control over Egypt in terms of space necessitated a concern with problems of the continuity of time. The problem was solved with the idea of immortality. “Mummification and construction of the pyramids as devices for emphasizing control over time were accompanied by the development of the art of pictorial representations [...] and by the emergence of writing.” (Innis 2008, 34) Geometrical design was replaced by pictorial representations reflecting the subjugation of art to the progressive narration. (ibid, 110)

Semitic and Egyptian people invented the alphabet some time before 1500 BC, but the first accomplished phonetic alphabet was invented by the Greeks around 750 BC and it reduced the amount of time and attention needed to recognize the signs and so became (intellectually) available for all not just for the elites. (Wolf in Carr 2011, 56–57) This process of broader literacy had a great impact on the later trajectory of Western culture. With slight exaggeration Carr (2011, 57) notices that the Greek alphabet signified “one of the far-reaching revolutions in the history of reason” and changed the brains of almost everybody on Earth. The practice of

the classical Greeks, that is the exchange of ideas with a large community by making those ideas available in written material, has fostered critical thinking and speculation. (Goody in Yakhlef 2009, 83) Speculation enforced the rethinking of main existential notions, and doubt in myths created unstable social arrangements.

The dominance of an abstract sign system use as a communication tool comes according to the small rate of adoption of the sign system by the minority of scribes. An important aspect relating to relative number of people engaged in the communication process aside from oral communication is that a minority of people from the past have had a great impact on what the majority of people in the present are or are supposed to be concerned with and what is considered history. In all historical periods “it was left to a minority to maintain, criticize and contribute to 'culture’” (Leavis in Stevenson 2004, 12). Higher levels of abstraction in ancient civilizations and the introduction of print technologies were implied by a minority and to them we can therefore attribute the mass production of information.

One of the key factors of the inability to control the empire in terms of space and time is according to Innis ascribed to a new medium introduced into society, which 'pushed' institutional powers to either the military or the religious way of ruling. When the existing control over the problems of continuity through great areas resulted in the destabilization of the civilization, invaders emerged, invasions of other cultures began and the civilization was confronted with social breaks. “The limitations of the Egyptian empire were in part a result of the inflexibility of religious institutions supported by a monopoly over a complex system of writing” (Innis 2007, 44), writings in stone had lost its majesty and the sense of eternity faded. The monopoly of knowledge centring on stone and hieroglyphics was exposed to competition with a new and more efficient medium, namely papyrus (ibid 2008, 35) and this coincides with the shift from absolute monarchy to a more democratic political organization. (ibid 2007, 35) When heavy medium – stone lost its value, “thought gained lightness” (ibid, 36), religious literature was displaced by secular, the administration became more efficient, peasants were organized in civil services etc. Complex ideas could be produced easily, which can be credited to both, lighter medium (papyrus) and a more comprehensible system of signs (25-sign alphabet). The growth of libraries and a rise in the importance of vernacular languages were accompanied by a flourishing book trade and the export business which in turn impacted on the “extension of territory and improvement of roads” (Innis 2007, 128). Rome gained power and monopoly over time by praising the name of Rome, the use of the Latin language

and the celibacy of the clergy. After the fall of the Roman Empire Europe experienced a major decline of the urban cultures, giving rise to a different organization of land, with a stress on the rural life and the rise of feudalism. (Innis 2007, 148; Innis 2008, 51; *ibid*, 124)

Baghdad was located at considerable distance from the supplies of papyrus in Egypt and the prohibition of the use of pig skins for parchment was followed by the concentration on paper production, what was grounded in an intense interest in learning. The prestige of Baghdad provoked a revival in Greek and Latin learning. Based on two different alphabets the final separation of East and West church took place in the year 1054. “The struggle between church and state for control over time had centred about a series of measures in the states in the West and the iconoclastic controversy in the Byzantine Empire in the East.” (Innis 2008, 72) Baudrillard claimed the visible machinery of icons began to substitute “the pure and intelligible Idea of God” and this is what frightened Iconoclasts, “their rage to destroy images rose precisely because they sensed this omnipotence of simulacra” (1983, 8). The fragile papyrus roll was replaced by the durable parchment codex. The new medium was appealing to the powerful religious organizations and gave way to Christianity. Parchment was a product of agricultural economy and suited to a decentralized system. The new medium was durable but faced problems of copying, hence a system of censorship developed. Learning declined and the monopoly of knowledge over parchment emphasized religion and law. This in turn encouraged the spread of monasticism and missionary work and fastened distant regions. (Innis 2008, 48–9) “How it is, if economic systems have changed and political systems are problems, that the great historical religions are still recognisable today?” (Bell in Beilharz 2006, 98) Only one manuscript – the Bible escaped the proposed trajectory and evidently had an enormous impact on the development of Western thought as symbolic¹. There is something in the nature of these meanings which is different and sustainable, and is not in accordance with the economic systems and political orders. (Bell in Bilharz 2006, 98) We will not argue that the power of media was the only one to impact the religious stability. There were political and cultural factors as well. From the fourth century AD to the year 1453 Christianity had a monopoly over cultural knowledge. “A concern with concrete and individual representation rather than the universal and the ideal was stressed in the epic documentary tradition [... and] continuous epic narrative technique was adopted to the

1 Detailed discussion: chapter *Book as symbol* in Curtius, Ernst Robert: *European Literature and the Latin Middle Ages* 1979, 302–348.

uninterrupted continuity of surface of the book scroll.” (Innis 2007, 129) Short forms of representation with illustrations on rolled manuscripts and graphics on coins were “effectively propagandists” (Innis 2007, 129–30). “Mass communication was applied by the church – which remained the main source of propaganda, and the great enforcer of the word, continuously until the eighteen century.” (Hardt 2004, 21)

With the invasion of the Mongols in 1258 the paper production spread from Baghdad to the West. It developed further in Italy and France and influenced the commercial revolution. The monopoly of knowledge “held by monasteries of rural districts was weakened by the growth of cities, cathedrals, and universities” (Innis 2008, 52). The hegemonic influence of the Abrahamistic religion made an enormous difference to the accumulation of knowledge and the European Renaissance “represented a catching up with the achievements of the eastern powers” (Goody in Nederveen Pieterse 2011, 152), it was not just about Europe reclaiming its Hellenic and Roman past, “but was Europe re-establishing trade with the east and reconnecting with the orient and with the major achievements that had taken place there during Europe’s ‘dark ages’” (ibid, 155). The reason Europe experienced a Renaissance is that it lacked continuity. Other Eurasian cultures strongly experienced continuity with the past and periods of decline and rebirth were less momentous for them. (Goody in Nederveen Pieterse 2011, 152)

Frescoes and mosaics express the simulation tradition where the single coherent space continues, the Renaissance paintings in contrast express the representational tradition where the double identity of the spectator is revealed. Paintings on the walls were another step to abstraction, the split of the subject is “a tradeoff for the new mobility of the image as well as for the newly available possibility to represent any arbitrary space, rather than having to simulate the physical space where an image is located” (Manovich 2001, 113). Paintings and photographs in linear perspective tend to produce what might be called the space of illusion. (Shim, 10)

The balance appears to “depend on dual arrangements in which the church is subordinate to the state” (Innis 2008, 75–6). Since writing as a communication practice could be inscribed in different media and since ideas inscribed are believed to be more permanent and thus closer to what ought to be true, systems of power, such as the state and religious organizations, tried to control the material for information and knowledge dissemination. What follows is a short excerpt from the art history in order to illustrate how linear text impacts the notion of history.

The motif of Queen Kondake commissioning a painting of Alexander the Great as a gift for him is a cover of a book titled “Alexander Romance”. The cover was painted using tempera, gold and ink and the book which was made of cotton paper may have presumably belonged to one of the Trapuzine Emperors in late Byzantine Period, Alexios III Komnenos. Today it belongs to the Hellenic Institute of Byzantine and Post-Byzantine Studies in Venice.

One of the most impressive non-royal statues of the Old Egyptian Kingdom (c.2647–2124 BC) is a statue of a scribe and was found in the Egyptian tomb of an official called Kai at Saqqara and it is fairly certain to represent the owner himself, since “even the high officials liked to be represented as scribes” (30,000 Years of Art 2007, 69). Today the statue is known as the Louvre scribe.

Baudrillard wrote: “Ramses meant nothing to us: only the mummy of inestimable worth since it is what guarantees that accumulation means something. Our entire linear and accumulative culture would collapse if we could not stockpile the past in plain view. To this end the Pharaohs must be [...] exhumed” (1983, 19) as if they were “our own past” (ibid, 20).

As we believe to be highly civilized, our past belongs to us and it is presented in our collective cultural data as a chronological course. Linear way of thinking and assuming was ascribed by some theoreticians (e.g. Flusser) to be a consequence of linear writing. “Texts produce history by projecting their own linear structure onto the particular situation. [...] Such historicizing of conditions affects people’s perspectives.” (Flusser 2011, 58) Writing “abstracts from the human experience” (Giddens 1990 as quoted in Yakhlef 2009, 83) and is, as written by Lowe (in Innis 2007, 144), in itself “an instrument of conservatism”. Writing as a technology became invaluable for purposes of learning and the rise of literature. (Hardt 2004, 19) Its capacity of circulating ideas in time and space have permitted cultural or political indoctrination (ibid, 20). Texts “encoded human knowledge and memory, instructed, inspired, convinced, and seduced their readers to adopt new ideas, new ways of interpreting the world, new ideologies” (Manovich 2001, 77). Writing evolved in organized groups that monopolized reading and writing, literacy became geographically fixed, myths were written down and social practices were stabilized, and the process had a higher impact on abstraction. (Poe 2011, 62–85) Writing has facilitated abstract thought, gave rise to science and mathematics, “and although it freed thought from the subjective realm of the oral tradition, it rendered explicit social obligations in lay and economics” (Watson in Innis 2008, xxxiii).

Writing enforces the individual to reflect more intensively and played “a decisive role in the intellectual and artistic revolution” (Innis 2008, 125).

Tokens, signs and images forming written culture imbalanced it, and since writing is inherently materialistic (Innis 2008, 130), a sign is linked to the private and the individual – in terms of a media in which it is inscribed and in terms of the idea that the sign represents. He who owns and controls systems of signs, controls cultural knowledge and the notions of time and space. With the emergence of systems of non-verbal symbols and signs, space is understood as unconsciously experienced and lived in (Lefebvre in Gotved 2006, 478). Spatial organization changed position, which became apparent “not only in relation to political structure but also to art” (Innis 2008, 110). Writing as a system of representation stabilizes and reduces the flux of everyday life into spatial ordering at the expense of temporal movement (Yakhlef 2009, 83) and therefore at the expense of regulation and interpretation in social interaction. Comprehending writing and reading widened intellectual capacities of the audience and narrowed social ones. Which cultural consequences can one trace with the slow abandoning of linear writing?

3.4 MASS TRANSMISSION

FROM THE DOMINATION OF LINEARITY TO DISPERSED ASSOCIATIONS

Are we approaching the critical point in our intellectual and cultural history, similar to one that already happened with the appearance of books, when humans were confronted by “very different ways of thinking” (Carr 2011, 19)? If language was the first cultural interface, linear writing the second, it was then overtaken by the screen or the cinema, a toolbox of all cultural communication, removing printing from the centre of the human intellectual life after more than 500 years. (Carr 2011, 77) Printing and books are playing an important role of conveying cultural knowledge and pave the way for mass literacy and mass transmission of information. Writing, in the sense of placing letters and other marks one after another, appears to have little or no future. With writing the idea of history came in to being. It has introduced a mode of consciousness that structures events into a sequential order. (Flusser in Schaefer 2011, 1392) Linearity is something arbitrary and not natural to humans; the human mind “operates by associations” claimed Vannevar Bush in 1927 (in Poe 2011, 211) when criticizing

microfilming services developed by Kodak. The problem of microphotography according to him was the linear way in which the information was stored, indexed, and retrieved in print (ibid, 210). Linear narratives and genres were associated with particular media technologies and forms of the past. Like the tradition of oral Greek myths evolved into written tragedy and comedy, so are the manuscript era and the widespread tradition of linearity in form of a novel partly responsible for the development of electronic forms and the narratives in them, for example the Hollywood films or the LP record albums (Liverstone 2006, 4).

The development of mass transmission of information in form of sound, image and data through communication media follows two different trajectories, namely the development of the technology of the representational media and the technology of the storage media. Different innovations, as well other factors, forced the development of representation media to the point where it met the computer or computing. The aforementioned trajectories overlapped and supplemented not only one another but also the past communication media, media features or patents, which were efficient enough to “survive”.

The method for coding data and a suitable storage medium were of basic value for the prehistory of the computer and cinema. (Manovich 2001, 25) Two different historical trajectories evolved and materialized: computing with Babbage’s Analytical Engine and media technologies with Daguerre’s daguerreotype. In 1936 Alan Turing invented ‘the Universal Turing Machine’ that operated “by reading and writing numbers on an endless tape. At every step the tape would be advanced to retrieve the next command, read the data, or write the result.” (ibid, 24) Manovich legitimately acknowledges that the machine looked like a film projector. Further more, Konrad Zuse, who built the first working digital computer, used a punched tape that was “actually discarded 35mm movie film”, which, with its strange superimposition of binary over iconic code, “anticipates the convergence that will follow half a century later.” (Manovich 2001, 25) Representational technologies (film, audio, video, digital formats), real-time communication technologies (telegraph, telephone, television) and radio as an intersection (ibid, 162) were essential for the ability to keep track of their “birth records, employment records, medical records, and police records” (ibid, 22) and necessary for the functioning of modern mass societies.

By the end of the fifteenth century printing presses had been established in the larger centres in Europe and used mainly for the needs of the Church, law, medicine, and trade. The increase of printing in Europe was accompanied by the expansion of news services, learning, the stronger belief in the importance of vernacular languages and the growth of new financial

centres. The monopoly of monasticism was undermined and the authority associated with the written word declined. “The age of cathedrals had passed. The age of the printing press had begun.” (Lecky in Innis 2007, 166) Printing brought changes; philosophies of Hegel, Comte, and Darwin “became enslaved to the superstition of progress” (Innis 2008, 80). The impact was not seen only in the rise of philosophy in the seventeenth century, but also in the rise of reason as a new authority, of science and of parliament. The supremacy of parliament was strengthened by the new financial devices, improved by communication, which spread from Antwerp and Amsterdam to London. (ibid 2007, 177) Mass communication enabled the industrialization or commercialization of communicational practices and the mechanization of knowledge, which became “a source of power and its subjection to the demands of force through the instrument of the state” (Innis 2008, 195). Even if Virilio's notion of history that “progresses at the speed of its weapon systems” (2007, 90) is a bit overstated, Innis writes that the Republic of the United Netherlands was the first one to use state credit as an effective weapon in the war for independence. (2007, 177) Thirty years war took place in Europe between the years 1618 and 1648, showing changes in geopolitics, new economic powers, system structure and new modes of communication. Improvements in communication and economy, incidental to the growth of newspapers, accompanied the idea of public opinion. “An enlightened mass” came into being with an increase of the confidence in the judgement of the common people. (Hardt 2004, 31) Mass communication “reinforced the natural curiosity of people by providing insights into the social and political thoughts and practices of various elites” (ibid, 29). Social and political power was constituted by information and social knowledge that was perceived as a new form of property. With the access to and participation in social communication class divisions occur. (ibid, 50) With the modern idea of the public came a point in the cultural history of mass communication, in which the idea of communication “becomes identified with the task of uniting and sustaining societies” (ibid, 32). Literacy provides access for the masses and to the bourgeoisie. The democratic practice of sharing information in the twentieth century retained some forms of a privileged, class-related enterprise that took advantage of its access to the needs and desires of the people as subjects, who, in turn, adopted bourgeois behaviour and tastes in an effort to rise above their social standing. (ibid, 19) In the mass communication era the “barbarians” could read and enter the realm of the privileged. Mass communication “raised expectations of political liberation from the authority of those in control of the printed word” which had been “the foundation of an authoritarian rule of church and state as it delivered power over ignorance

and became the key to the contentment of social, cultural, and political elites in their role of knowledge brokers.” (ibid, 29) The industrial growth brought enormous technological advances; the invention of the telephone, the electric light, the linotype, the phonograph, photography, the movies, the automobile, the airplane etc. Changes eliminated most people from the process of social communication and transformed them into consumers. (ibid, 77) The means of mass communication became identified with specific demands of consumption: “books and academic journals for a cultural elite, newspapers and magazines for a general public, [...] and movies for illiterates or immigrants” (ibid, 34). Mass communication identifies class interests by providing particular taste cultures and thus reinforcing class differences (ibid.) An individual becomes economically determined (Marx and Smith in ibid, 75) and his economic needs must be controlled.

Mass communication “threaten the sovereignty of democratic societies by inviting individuals to a discourse they cannot share and into a reality they cannot understand.” (Hardt 2004, 84) What does it mean to be literate in the era of high literacy and stupid society? “The knowledge was growing too vast for successful use in social judgement, since life is short and sympathies and intellects are limited.” (Wallas in Innis 2008, 191) The mobility of the text and the invention of the printing press overturned “a delicate balance between the authenticity of individual expression and the inauthenticity of institutionally manufactured articulations of reality in the 20th century” (Hardt 2004, 2). “Mobility, heterogeneity, and centralization have demolished commonalities among people and led to the rise of mass society.” (ibid, 43) External circumstances represent internal matters of shaping an understanding of reality in the minds of individuals, and form “a private or personal experience that involves ways of receiving information and knowledge for the construction, adaptation, or conversion of meaning.” (ibid, 92) The monopoly which emerged with technological advances in the printing industry and with the insistence on the freedom of the press emphasized individualism, which generated instability and created an illusion with catchwords like democracy, freedom of the press, and freedom of speech. (Innis 2008, 80–1) Dewey wrote democracy was experienced in the act of communication (in Hardt 2004, 77). Freedom of the press and its obscured monopolistic characteristics had been an essential ingredient in establishing the monopoly of knowledge. Technological inventions were adapted to the conservative traditions of monopolies of communication with consequent disturbances to public opinion and to political organization. The processes emphasized regionalism and decentralization and were adapted to control vast areas. Time and continuity were destructed.

(Innis 2008, 187–8) Or to put it differently; mass communication forms an alliance with time and the narratives of knowledge are subdued to the dictates of speed. (Hardt 2004, 119)

With the rise of mobility and the mass transmission of texts, images and sound a class of literate people emerged, who believed to be independent in thoughts, but were much controlled by political forces and monopolies of communication.

“The highly sensitive economy built up in relation to newsprint and its monopoly position in relation to advertising hastened an emphasis on the new medium, notably the radio.” (Innis 2007, 188) In the United States of America the use of radio enabled the rise of the Democratic party to power (ibid, 188) and in Germany the same happened with Hitler. (ibid 2008, 81) New instruments of domination emerged within the boundaries of mass communication to replace traditional (political or social) authorities of legitimation. “Hitherto fixed institutions of authority are effectively replaced by movable (or easy adaptable) instruments of control.” (Hardt 2004, 141)

At no period of human culture have men understood the psychic mechanisms involved in invention and technology. The instant speed of electric information permits for the first time the patterns and the formal contours of change and development. (McLuhan 1994, 352–3) With electricity “all aspects of production become incidental to communications” (ibid, 354) which can have an effect on employment, security, education, politics and markets. Communication is comprehended as information and the distinction between communication and mass communication reduces the self to a representation of an anonymous and alienated existence in the grasp of mass communication. Media reality as “a preeminent and dynamic social milieu raises questions about its relations to other forms of domination” (Hardt 2004, 140).

New forms of mass communication dramatically changed the landscape of societal communication. (Leavis in Stevenson 2004, 12). Research methodologies and the emergence of public polling legitimized “the ahistorical and decontextualized nature of such practices – which focus on information rather than on knowledge.” (Hardt 2004, 65) Public knowledge and experience have relied on the flow of mass-mediated realities and cannot escape from the collective world view of a media industry “that seems less divided over the discursive strategies of representation, including the ideological thrust of the discourse, than over territorial issues pertaining to influence and control over the public sphere” (ibid, 123). In the

flow of mass communication information is lost and knowledge cannot be recovered, since spoken word is preserved as text and speech becomes disembodied. (ibid, 92)

With electricity media are non-linear, repetitive, discontinuous, intuitive, and proceeding by analogy instead of the sequential argument (Lapham in McLuhan 1994, xi). Television and film techniques are “constitutive elements of a modern, accelerated spatio-temporal framework of social existence that is increasingly ahistorical and nomadic.” (Hardt 2004, 119) Men are suddenly nomadic gatherers of knowledge, informed as never before, free from fragmentary specialism as never before – but also involved in the total social process as never before. With electricity humans have instantly interrelated every human experience. (McLuhan 1994, 358) Experiencing, perceiving, and valuing the world is different in a one-dimensional, linear, process-oriented, historical way from the one of surface, context, scene in a two-dimensional way. When images supplant text, our behaviour changes, it is no longer dramatic, but embedded in the field of relationships; a mutation of our experiences, perceptions, values, and modes of behaviour. (Flusser 2011, 5) Linearity was ascribed to different social practices not necessary linked to the communication process. “The linear and logic emphasis of writing was mirrored in the uniform regimentation of clock time, printing press paved the way for geographical maps, railways timetables, and notion of perspective in painting.” (McLuhan in Stevenson 2004, 123) “Linearity is decaying spontaneously.” (Flusser 2011, 15) Linear time is eliminated, as if it were from an ancient fortress in which “the enemy Time” was beaten by the static resistance of the construction materials, or in other words by duration. (Virilio 2007, 90)

The progressive industrialization of the media and improved access to mass communication along with the promise of accessibility and participation in the democratic process have been accompanied by an optimistic belief in the betterment of society. This process has consistently translated mass communication performance into speed. In the 19th century the “French poet Alphonse de Lamartine could exclaim, with reference to the speed of newspaper circulation, that ‘the book arrives too late’. A century later newspapers were outdistanced by the immediacy of broadcasting media, which, in turn yielded to the velocity of computers.” (Hardt 2004, 62) The newspaper civilization was obsessed with the immediate. (Innis 2008, 187) The production of information and entertainment is driven by the dictate of the principle of instantaneousness. The Post-modern understanding of mass communication is shaped when a moment connects to a moment without a sense of past or future. Historical consciousness is

no longer present; “speed replaces reflection, an effect supersedes content and content displaces meaning” (Hardt 2004, 63) in the world of commodified distractions where “individuals most likely react with knowledge about the immediate, which rewards spontaneity, but lacks thoughtfulness” (ibid, 33). With the arrival of periodical literature came the convenience of immediacy. (ibid, 116) “The beneficial stimulus which examination can give to study is in an inverse ratio to the quality of intellectual exertion required.” (Pattison in Innis 2008, 194) The fabrication of historical narratives is sped-up and trying to make sense of the complex and immediate social and political developments. (Hardt 2004, 128) A denial of history suggests the collapse of the past into the present and replaces “journalism as an explanatory apparatus that meets a public need for instantaneous interpretation” (ibid, 130). Moving pictures of war were taken and shown in theatres immediately afterwards. Time was commercialized, even destroyed. (Innis 2008, 83) Political stability in times of newspapers and cinema was difficult to achieve, “news and the cinema complemented each other in the emphasis on instability.” (ibid, 78) When mass communication retains a dominant position as a supplier of knowledge, as a producer of social and political realities and even as a pervasive sense maker of a complex media environment, the culture is imbalanced. The consequence is that society caters to commercial demands and social control rather than to individual needs and private encounters with ideas. (Hardt 2004, 133–8)

The central role of mass communication in the social, economic, political, and cultural spheres in society and its conspicuousness in what Enzensberger called the industrialization of the mind points to the “pervasiveness of mass communication as a social process not only across specific spheres of society, but also across specific technologies (or media) on a global scale.” (Hardt 2004, 58) When artillery and military highway surveillance became part of the State system, “historical language passed literally from the comparative to the positive.” (Virilio 2007, 91) The determination of certain historical notions seems necessary for mass communication to reach efficiency and comfortability. “Technologies of communication, from highway system to telephonic traffic and broadcasting networks, reproduce the comforts of physical and psychological proximity, suggest immediacy, and claim intimacy.” (Hardt 2004, 61) The perception of space includes the recognition of privacy as a constituent of social space. Mass communication crosses the boundaries of social space through the process of dissemination (technically) and practices invoking rights and public interest (discursively). (ibid, 117) When overcoming the geographical distance, it generates a distancing of the subject, “who becomes alienated in the absence of an irreducible, dialogical face-to-face

situation.” (ibid, 79–80) With alienated individuals occupying the environments which are distant, simultaneous and multiple, cultural stability is once more jeopardized. The inability to reach cultural balance reflects the failure of existing strategies to control space and/or time, practised “both by what is known and the ways in which what is known becomes or remains known” (Comor 2001, 283). What remains known reflects the knowledge, that is durable. “The media creates myths that are compatible with the desire for stability and the permanence of the political or economic control of the dominant class” (Hardt 2004, 139–140). The ability to develop a system of government in which “an appraisal of the significance of space and time can be reached remains a problem of the Western world” (Innis 2007, 197) and is materialized in the lack of interest in problems of duration in Western civilization. (ibid 2008, 76)

“We are witnessing the end of perspective and panoptic space” (Baudliard 1983, 54). For Virilio, vectors of space-time-speed are produced as a result of transport and transmission technologies; where “ubiquity meets instantaneity” (Friedberg 2004, 184) and “the speed of communication becomes virtually instantaneous” (Thompson 1995, 36). The advent of telecommunication “resulted in the uncoupling of space and time, in the sense, that spatial distancing no longer required temporal distancing” and in the discovery of despatialized simultaneity, which has “extended in space and became ultimately global in scope” (Thompson 1995, 32).

If for Greek thinkers the notion of causality was static, simultaneous, and spatial (Innis 2007, 88) and writing made thinking and anticipation linear, the electronic forms eliminated the dimensions of space and time and in communication the presumption of cause and effect was eliminated as well (Lapham in McLuhan 1994, xxiii); a sequence becomes merely additive instead of causative. Time is destroyed and thus social interaction. Socially institutionalized means of orientation in a culture therefore need to be constantly recreated. “The object which is represented by a medium of immediacy will lose its historical and temporal origins and thus the contexts where it has been located.” (Shim, 12) The Speed of mass communication denies durability of historical knowledge. Balanced culture is thereby a myth articulated on the behalf of the same historical knowledge. The myth of stability, which follows a self-generating abstract order.

3.5 THE INTERNET ERA

FROM DISPERSED ASSOCIATIONS TO THE CLOUD OF COMMUNICATION POSSIBILITIES

In this and the next chapter the notions and ideas can overlap. The main reason for the separation of Internet and mobile communication derives from the fact that most theories separate these two fields even though their cultural processes are almost the same. The only visible distinction is that in the next chapter we take into account the mobility of people, whilst in this chapter a computer is defined as a device with the Internet, and the physical uses are considered static.

The computer as a machine for the exhibition and distribution of media should not be privileged over the computer as a tool for media production or as a media storage device. Mobile representational media as photography affected only one type of cultural communication – still images. The introduction of the printing press affected only one stage of cultural communication, namely the distribution of media which were and still are controlled mostly by global media conglomerates. With the emergence of new channels they converged with the development of computer-mediated forms of production, distribution, and all stages of communication, including acquisition, manipulation, storage, and distribution. (Manovich 2001, 19) Bondecka-Krzykowska (2005, 15) divides history of computers into two main parts: “the history of automated computing and the history of mechanization of reasonings.” Since the early 1960s the computer has been used as a production tool, a calculator, a control mechanism, or a communication device. (Manovich 2001, 25) The Communication of multiple computers is made possible with the net. Internet communication is not *only* mass communication. Rather than mass standardization, the Internet follows the logic of individual customization. It extends the available information and data “to individuals with interests and capabilities to conduct independent research and draw their own conclusions” (Hardt 2004, 11). Mass media have lost their dominant position in shaping the cultural context of communication.

Beginning in the 1980s, the internet corresponded to the need to reach beyond the effectiveness of mass mediation. (Lievrouw and Livingstone 2006, 9) The Internet ‘piggybacked’ on phone or television networks (Poe 2011, 219) and that is what made the speed of assimilation and adaptation of the new medium faster. But the access to the internet is not universal and involves investments in technology and transmission fees. Therefore it requires intellectual abilities in support of curiosity and a desire to know. (Hardt 2004, 75)

The Internet is “constituted through the power of global media conglomerates, its technological capacities, the flow of information and symbols that are largely beyond the capacity of states to regulate, and that it has become the organising centre for those who seek to resist global capitalism.” (Castells in Stevenson 2004, 197) New structures of regulation, driven by economical and technological forces, emerge.

In the time of the development and transformation of new medium different names were given to the dominant devices and software commonly ascribed as new media. The Internet is a communication infrastructure with many different applications, for instance the Web, e-mail, Cloud etc. These applications are media of communication as well; it is what makes the Internet a mixture of other media. When describing the communication patterns, from the year 2000 on, it is better to call them the “cloud” than the “web”. In the original web model information was published in the form of a web page and collected into web-sites. “The lack of a more sophisticated technology for 'receiving' the web was not an omission on the part of the web's architect Tim Berners-Lee – it is just that nobody anticipated that the number of web sites will explode exponentially.” (Manovich 2008, 241) In the new social communication paradigm millions are publishing 'content' into the 'cloud', whereas the content itself could also be another medium. An individual curates her or his own personal mix of content. (ibid, 240) Marshall McLuhan (1964) already observed that older media often become the content of newer media in the so-called process of 'remediation'. Remediation occurs when older media are appropriated, refashioned or absorbed by the new, therefore simultaneously shaping the new and reshaping the familiar. New features and options tend to merge, elaborate or extend existing functions rather than constitute radically new and unfamiliar ones. Unlike mass media, which had stabilized into a few major channels or forms due to the spectrum scarcity and the establishment of technical and formal standards, the forms and genres of new media continue to branch, recombine and proliferate. (Bolter and Grusin in Lievrouw and Livingstone 2006, 6–7) In the era of new media the information and communication environments of the people have become ever more individualized and commodified. New media integrate still and moving images, telecommunications, print, audio, broadcasting, computing, and other modes and channels of communication and information sharing. Among researchers perspectives on social change thus turned from revolutionary to evolutionary processes (Lievrouw and Livingstone 2006, 1–2).

Mediated interactivity has long been cited as a definitive difference between new media and mass media (Lievrouw and Livingstone 2006, 9). In communication research the once-dominant 'one-to-many' frame of mass communication and its role relative to one-to-one and many-to-many (or n-way) modes of communication is being rethought. "These multiple, shifting configurations have important implications for the management of authority, trust and participation in social relations, and the control and diffusion of information." (ibid, 7) The field of Internet uses research is divided in two segments; the first are enthusiasts, who advocate the democratization of culture and the second sceptics, for whom the content on the internet is a sign of stultification. (Carr 2011, 12) Even though most studies of new media and cyberculture focus on their sociological, economic, and political dimensions, Manovich focuses on "the emerging conventions, recurrent design patterns, and key forms of new media" (2001, 12) and defines four key trends that are shaping the development of new media: modularity, automation, variability, and transcoding (2001, 10). "The history of software is one of increasing abstraction [... which] is fully compatible with the general trajectory governing the computer's development and use: automation." (Manovich 2001, 61) In any automatic machine "the generation and transmission of power is quite separate from the work operations that uses the power" (McLuhan 1994, 350). All new media objects are numerical representations, composed of digital code. Media become programmable and follow a rule of modularity, a principle that allows the automation of many operations involved in media creation, manipulation, and access. Variability comes from the principle that new media objects can exist in different, potentially infinite versions. The emphasis of cultural transcoding lays in the way structure now follows the established conventions of the computer's organization of data, the dimensions that belong to the computer's own cosmology (composed of size, file type, type of compression used, file format etc.) rather than to human culture (image content, meanings). (Manovich 2001, 27–48) New media can be thought of as consisting of two distinct layers – the cultural and the computer layer that "are being composited together" (ibid, 46). The computer interface acts as a code that carries cultural messages in a variety of media. "A code may also provide its own model of the world, its own logical system, or ideology." (ibid, 64) To seek, browse, meander, and exchange files is made easy with the "search" feature and network social structure (Bratton in Virilio 2007, 17). New cultural forms and redefined existing cultural forms emerge. Internet enables "new kinds of collaborative production, democratic distribution, and participatory experience" (Tribe in Manovich 2001, xi). On the internet one is freed from excessive

information and can usually choose whether something is worthy of his attention or not; active participation is needed. The dynamics, constant innovation, energy, and unpredictability reveal a real challenge for the web culture. (Manovich 2008, 288)

If electricity and the combustion engine made industrial society possible, software similarly enables global information society. The knowledge workers in service industry as key economic players of the information society cannot exist without software. The information society, knowledge society, or network society, regardless of how particular social theory of the last few decades names it, are enabled by software. “If we don’t address software itself, we are in danger of always dealing only with its effects rather than the causes”. (Manovich 2008, 4) Aside from the content, Software Studies investigate the programs and social cultures producing the content and the role of software in forming contemporary culture, and cultural, social, and economic forces that are shaping the development of the software itself. (ibid, 5–6) In the computer age cultural forms become a code; “new media transforms all culture and cultural theory into an ‘open source’. This opening up of cultural techniques, conventions, forms, and concepts is ultimately the most promising cultural effect of computerization” (Manovich 2001, 333). The viewer’s experience is structured in the way in which computer is used and information is presented and organized. (ibid, 13) Language of new media refers to “a number of various conventions used by designers of new media objects to organize data and structure the user’s experience.” (Manovich 2001, 7) Software interfaces organize data in particular ways, “they privilege particular modes of the world and the human subject.” (ibid, 16), be it in a hierarchical file system or a non-hierarchical network of hyperlinks, where the former is applied from older habits of organizing. New sets of conventions for organizing cultural data has become the cultural interface (ibid, 117) and with it we get “a language designed by a rather small group of people that is immediately adopted by millions of computer users” (ibid, 79). Working with software and using the operations embedded in it becomes the part of how we understand ourselves, others, and the world around us. The strategies of working with computer data become our general cognitive strategies. “At the same time, the design of software and the human-computer interfaces reflects a larger social logic, ideology, and imaginary of the contemporary societies.” (ibid, 118)

“What before was ephemeral, transient, unmappable, and invisible become permanent, mappable, and viewable. Social media platforms give users unlimited space for storage and

plenty of tools to organize, promote, and broadcast their thoughts, opinions, behaviour, and media to others.” (Poe 2011, 273)

Comor (2001, 290) follows Innis’s classification of types of empire influenced by the characteristics of media that they employ and claims that the Internet is a spatially biased medium. Internet communication technologies disseminate the knowledge over space more or less simultaneously, but the Internet’s infinitive data storage also possesses the ability to preserve the information and make the knowledge durable through time. “At this juncture in history, the bias of the Internet is being structured and used in ways that diminishes time into the functionary of space.” (ibid, 291) In the world of new media and technologies speed can have an influence on geography, architecture, urbanization and the processes of perception. (Virilio 1996, 151) Digital, instantaneous new media, ubiquitous in contemporary Western society are conducive to speed and spatial control. They cannot really hold onto a sense of historical continuity (Pietrzyk 2012, 130) and are therefore not perceived as a part of a progressive media evolution. The Internet is sucking the past in the memory banks, and there the past is “affixed to the ever-expanding present of born-digital information” (Poe 2011, 243).

“The network of communication is the fundamental spatial organization”, since “no place exists by itself.” (Castells 1996, 412) With the transformation of social life in its all dimensions new concepts of temporality emerge, what Castells (1996, 434) calls timeless time. This is the “dominant form of social time in the network society”. (ibid.) The culture of real virtuality contributes to the transformation of time in two forms: simultaneity and timelessness. (ibid, 461) Timelessness brings resistance in society and “time-conscious social actors try to bring under control the ahistorical domination of timelessness” (ibid, 467). The compressed time is ultimately denied in culture, “as a primitive replica of the fast turnover in production, consumption, ideology, and politics on which our society is based” (ibid, 463). “The dominant trend in our society displays a historical revenge of space, structuring temporality in different, even contradictory logics according to spatial dynamics.” (ibid, 467) “Modes of representation that were once cartographic and diagrammatic are now instrumental and meditational.” (Bratton in Virilio 2007, 17) The diagram becomes an interface, the map becomes a tool, and the subjective manipulation of virtual symbols becomes a structural form of agency in pre-formatted landscape of immediate contact. Political function of urban planning and surveillance has been “augmented by web portals and search engines, interfaces to the vast exabytes of online data curated and mainstreamed for public accessibility. “(ibid)

The creation of private through public social space is shaping a transcultural platform filled with the wisdom of the crowds; real people are trading knowledge of any kind. (Poe 2011, 227–47) Multiple knowledges are occupying the cultural interface, organized by a relatively small number of people.

The strategies used by social media companies often look more like tactics in the original formulation. Since the companies, which create social media sites make money out of it, the 'content', 'news' or 'media' often become *tokens* used to initiate or maintain a conversation. Symbolic tokens are media of exchange that have standard values and are thus interchangeable across many contexts. (Giddens in Yakhlef 2009, 82) “Their original meaning is less important than their function as such tokens.” (Poe 2011, 276–7) For both, the user and the producer or the programmer a token becomes a function; the structure of all types of internet communication is based on an agreement.

Information no longer carries content, idea or meaning. Cultural knowledge is presented through features and functions whose use and modulation are becoming the new cultural knowledge. The opening up of cultural techniques and formats and the infinite storage space do not imply the deepening of cultural knowledge, but a risomatic forming of immense media techniques.

For a some relatively short time the Internet was available only on static personal computers. With mobile devices, mobile phones and tablets there are few limits for a person to connect to the internet.

3.6 MOBILE TECHNOLOGIES

FROM THE CLOUD OF COMMUNICATION POSSIBILITIES TO THE UBIQUITOUS COMMUNICATION

The convergence of different media, the parallel convergence of entertainment, education, work and civic activities, and interpersonal communication require a more radical rethinking of people’s relations with and understanding of new communication technologies. Mediated content and interaction are socially diversified rather than directed primarily at the masses. Channels of communication are technologically convergent rather than distinct systems, and mediated communication processes are interactive rather than one-to-many, with separate producer and receiver roles. (Lievrouw and Livingstone 2006, 9) With the rapid diffusion and

the continuing development of mobile phone and within the Internet services, these technologies have been adopted by a large part of the population. In terms of access, differences between the Internet and the mobile phone still exist, but they are gradually being used in many contexts; in day-to-day activities at home, in the workplace, at school and in other social contexts (Petrič et al 2008, 116). Not only is the usage of mobile phones increasing, smart phones could dominate personal and public communication domains in a short while, at least in the Western world. What are the cultural implications of the fast developing mobile media of communication, which can substitute all previous media and are at the same time employing oral, sign, mass, internet and mobile communication?

Cinema's aesthetic strategies have become the basic organizational principles of computer software (Manovich 2001, 86), evolving with new technical developments, uses and regulations of mobile computers. Nanotechnologies have made it possible to build smaller and more portable electronic devices (Lievrouw and Livingstone 2006, 8). Mobility refers to the movement of media objects between people, devices, and the web (Manovich 2008, 227) and is an expectation predicated not only on miniaturization, but also on ubiquitous, interoperable transmission networks with common or 'convertible' standards. Mobile technologies are designed as personal tools or accessories that provide access to a variety of individualized content and communications services, no matter where the users, services, or resources happen to be (Livingstone 2002 in Lievrouw and Livingstone 2006, 8–9).

With mobility and the miniaturization of communication devices both the device and practice are at hand and as Manovich expresses with it we “carry our prisons with us” (2001, 113). Materials used for mobile devices follow general trends in innovation, towards ever “lighter” and short-lived communication technologies that are highly efficient over distances but of short duration (Pietrzyk 2012, 128). The effect is the lack of interest in the problems of duration and is materialized in the amount and popularization of the problem of waste and the compatibility of technology and nature.

With computers and especially mobile devices interactivity is at its peak. Interactivity is often misused and applied only in terms of physical interaction (pressing a button, choosing a link, moving the body). Manovich (2001, 57) objects to this kind of view by emphasising “the psychological processes of filling-in, hypothesis formation, recall, and identification, which are required for us to comprehend any text or image at all.” The mistake is not new and “it is a structural feature of the history of modern media” as well as a modern trend to an externalized

mental life, a process in which media technologies have played a key role. The assumption of equating mental processes with external, technologically generated visual forms is shared with the modern media inventors, the artists, the critics and the modern psychologists. They believe new media technologies externalize and objectify reasoning and they can be used to augment or control it. Their assumption is based on the isomorphism of mental representations and the operations with external visual effects, such as dissolved, composite images, and edited sequences. The comparison is taken for granted and it is not presented as a simple metaphor. We could ask ourselves, so suggests Manovich, why their models of the mind are so similar to the computer workstations on which they are constructed. (Manovich 2001, 59–60) Interactive computer media perfectly fits this trend, as Manovich continues, since we are now asked to follow pre-programmed, objectively existing associations, “to mistake the structure of somebody else’s mind for our own” (ibid, 61). Moreover, interactive media “ask us to identify with someone else’s mental structure [and] follow the mental trajectory of a new media designer” (ibid.).

Modern technologies of representation demand a high degree of separation between subject and object, between the act of viewing and the act of being viewed. (Wood 2004, 514) Benjamin and Virilio equated nature with spatial distance between the observer and the observed. Distance is destroyed by technologies, dimensions of space are eliminated. (Manovich 2001, 171–2) If the distance, which makes objectification possible and is responsible for separating the subject and the object (ibid, 174) is destroyed, where is the subject situated in the real world and where is he situated in the virtual world?

Virtualization is not equal to a dematerialization or 'vaporization' of the concrete world but is rather an “important extension of notions of reality and the context of action” (Shields in Yakhlef 2009, 78), the issue is how to manage the relationship between the virtual and the concrete. (Yakhlef 2009, 78) The separation of time from local context and the standardization of clock times foster new forms of coordination of distant tasks across time and space. (Yakhlef 2009, 80) Virtualization implies a set of spatial and temporal shifts that attempt to compress, make contingent, or mitigate the impact of time and space on human activities and social process and relations. (ibid, 81) Shields (in ibid.) argues virtuality appears in many forms throughout history and proposes a model of reality whereas the concrete is “actual real”, our everyday; the virtual is a “real idealization” like a memory, a dream or an intention; the abstract are concepts and images thus the “possible ideal”; and the probable is an “actual possibility” expressed in percentage. The imagining of different 'other' spaces and

virtual worlds is nothing really new. Post-structuralistic views would blame it on mass media and their pervasive sense making of the real world, what makes the virtual worlds disappear. With the importance of virtual worlds in our everyday lives concerning social life, working place etc. spaces are becoming multiple. And not only space, also time becomes a cultural obsession; human beings are increasingly obsessed with immediate concerns and individual needs. (Comor 2001, 290) Virtualization is regarded as inherent in modernity and the present wave of technologies is only a speed up of the virtualization process that was set in motion long before digital technologies. (Yakhlef 2009, 78) “In the realm of digitized informatics space is discursively reduced through speed” (Wood 2004, 513). Bentham’s panoptic architecture is now becoming a flexible form of active modelling defined by the ubiquity of digital information. (McQuire 2006, 263) Through technologies of power, through the discourse of databases the individual subject is questioned by the superpanopticon (Poster in Shim, 21) and as a result digital databases tend to produce dispersed and multiple individuals. Digital databases have the power to reconstruct the subject. (Shim, 21) In contrast to the medium of immediacy, a medium of hypermediacy “reveals the distance between the subject and the object, clarifying the context in which a specific object lies” (ibid, 12). An object keeps its uniqueness with a constellation being built by its peculiar affinity with the hypermedia. (ibid.)

Following Innis's classification, digital database is a space biased media. (Shim, 22) “Time becomes arbitrary” (Hardt 2004, 116). Time is compressed when watching a film and stretched when reading a book. One could claim time is compressed when watching short Youtube videos and stretched when spending time on Facebook. The amount of time is not just arbitrarily fixed, it is almost unnecessary. What are the implications of the process of social acceleration, and the associated cultural neglect of time for the contemporary efforts to archive and preserve digital narratives, including websites, blogs, other online text and documents? (Pietrzyk 2012, 128) The technology for writing becomes more advanced, but the products of writing generally become less durable, and this is what makes the process “one of the great ironies of our age” (Simons in Pietrzyk 2012, 130). Now is the time of drastic and irretrievable information loss (ibid.), since digitalization inevitably involves the loss of information (Manovich 2001, 49) and brings forth the associated “digital amnesia” and the loss of our shared cultural heritage (Pietrzyk 2012, 131). Deegan and Tanner identify digital obsolescence as the ‘continually accelerating rate of replications, adaptation and redundancy

of hardware, software and data formats and standards' that serves the corporate interests by helping to speed up the production, distribution and consumption of digital technologies. (Pietrzyk 2012, 129) The problem of the “digital Dark Age” is not technological; we have the technical understanding to solve problems of digital degradation, it is in our digital culture we lack “the habit of long-term thinking that supports preservation.” (Hillis in Pietrzyk 2012, 130) Projects like Google books illustrate the case; we have an understanding to put all the books into digital format and update it with new features. But is there a broader cultural aim to preserve all the books for the purpose of widening an individuals knowledge? Or are great works becoming only a few seconds scroll with the feature “search”?

It does not matter what is true or false, but what counts as knowledge. (Gitelman 2006, 21–2) Knowledge is seen as the achievable bits or irreducible pieces of modern culture. “Disciplinary practice of doing media history is changing with the media that it does history to.” (Shim, 22) Contemporary culture is commoditizing. The demand for technological development, designed to facilitate things more efficiently, has become extraordinarily important. One aspect of this systematic drive has been the extension of the capacity to profit from information-based products and services. Knowledge is becoming an increasingly central means for the parallel of both, the production and reproduction of capitalism and the hegemonic order. (Comor 2001, 287) Reflecting the status of knowledge and communication throughout human history implies that knowledge and control over means of communication have always been of central purpose in any social order. Barriers between classes have not been lowered but raised. The information gap continues to produce cultural, social, and political divisions and reinforces a society of two classes: the information-rich and the information-poor. (Hadr 2004, 82–3) Knowledge will become the central cause for excluding people from the realm of public and private, from the realm of communication.

Table 3.1: Presentation of modes of communication in relation to communication technology, media usage, cultural knowledge and concepts of space and time

<i>Mode of communication</i>	<i>Communication technology</i>	<i>Media usage</i>	<i>Cultural knowledge</i>	<i>Space and time</i>
Oral	Language, speech	Preserving tradition	Subjectification of self; myths	Space-time continuum
Sign	Linear writing on different materials	Institutional control over means of communication	Objectification of culture; linear thinking and abstract values	Spatial ordering and time made durable
Mass	Electronic forms of mass transmission	Quasi participation dominated by corporate media institutions	Mechanization of knowledge and symbolic forms; cultural imbalance	Destruction of space and time
Internet	Non-hierarchical network	Interactive participation; function over meaning	Subjective manipulation of symbolic forms represented in digital code; accessible and open	Virtual and unlimited space; time as function of space
Mobile	Miniaturisation and convergence of all modes of communication	Socially diversified interactive participation	Objectification of reason; mental process equates with external structures	Ubiquitous, simultaneous and multiple space-time continuums

4 CONCLUSION

In the now concluded master thesis I have been searching for the relationships between modes of communication and changes immanent to the speed of communication in specific historical moments. I propose that changes will materialize in communication technologies, media usage and its meaning making and shared cultural knowledge that form specific historical context of spatial and temporal organization of social life.

After dividing human history of communication in five overlapping eras, my conclusions are the following:

Oral culture was balanced and the fact that language was a dominant communication artefact did not change for almost 175 000 years. Information processing was comprehensible and time and space formed a single continuum where tradition was preserved by myths with strong ground in the culture and thus stability and durability.

A sign system of representation expressed in letters, numerical signs and images made encroachments into the notions of time and as an inherently materialistic system of communication changed the position of space and stabilized spatial ordering. The prospects of control over time became recognised by monopolies of power and knowledge. Intellectual capabilities, abstract reasoning and reflecting cultural phenomena were followed by linear writing and reading. Minority of people who were able to become literate enforced linear thinking and made history.

Printing press brought the mobility of texts and the mass transmission of ideas. After the emergence of printing reason and practical reality were celebrated, this had considerable consequences of the development of mass media technologies that followed them. Electronic forms of mass transmission eliminated the dimensions of space and time, the speed of information transmission denied durability of cultural knowledge and balanced culture became a myth articulated on the behalf of the same knowledge. Cultural data is selectively distributed by those who can control it and different realities are, as a consequence, produced by the audience.

With the Internet and the computerization of culture cultural knowledge is composed from codes communicating features and functions which become more important, than the content they (could) carry. The past is engulfed in infinitive reproducibility and time becomes the function of space. Space is unlimited, immediate and reduced by high speed. But as time and

the impact of speed are arbitrary and could be denied the cultural knowledge could be infinite. The Web on the Internet or communication platforms with non-hierarchical networks are producing and representing their own history and appear as they resist it. The technical capabilities, aimed at making storage immense are confronted with problems, because of the lack of the idea of durability. When wide accessible and open cultural knowledge is understood as a tool for preserving the idea of durability and thus durability of knowledge, cultural stability could be closer as ever.

With mobile communication platforms the convergence of all presented modes of communication take place. In the socially diversified interactive participation of individuals ubiquitous, simultaneous and multiple space-time continuums are formed. There is *no* Speed of communication, since communication is everywhere and every time.

With higher speed communication becomes more efficient.

If we were to frame the arguments that follow a causal relationship of notions, it is necessary not to overlook the media of communication's impact on them. If causality is inscribed in linearity and linear ways of thinking, many new and different ways of conveying and interpreting information should come with hypertextuality, programmability, mobility and ubiquitousness. This are the themes I would like to propose for further research and state that we constantly need to be aware of historical and cultural data that influence our mind-set. When dealing with already transmitted media history, one should constantly be aware of the problems of analysing processes that have shaped our perception of them.

With the appearance of communication as all-embracing in social and individual processes the all-presence of information and ubiquity of communication are total. With “no-speed” situation our past experiences with time and space organizations, whose inner logic has historically been linear and progressive, loose their narrative and neglect institutions of powers that constituted them. Myths could have lost their importance a while ago, but our urge to understand and communicate enables us to program our own symbolic forms in socially shared structures, even if the speed of communication disperse sequences of what used to be a linear thought. This too is probably just another referential point in one of our space-time continuums.

5 POVZETEK V SLOVENSKEM JEZIKU

Hitrost in komuniciranje: primerjalni zgodovinski pogled

Moč medijev in komuniciranja je omogočena z ljudmi, ki komunicirajo, posredujejo in oblikujejo pomene, z institucijami oblasti, denarja in védenja ter s tehnologijami, ki prenašajo in preoblikujejo komunikacijo. Komunikacija v sodobnem svetu postaja vseprisotna in ogniti se ji je moč le zavestno. Če je hitrost eden od dejavnikov in posledica današnje komunikacijske tehnologije, mora imeti za nas sporočilo. V magistrskem delu ga poskušam artikulirati.

V nalogi z naslovom *Hitrost in komuniciranje: primerjalni zgodovinski pogled* raziskujem hitrost komuniciranja ter prenosa informacij v določenem zgodovinskem trenutku. Predpostavljam, da se občutek za hitrost prenosa informacij in komunikacij v času in prostoru definira s kulturnim vedenjem, razumevanjem in sklepanjem, ki so vpisani v spreminjajoča se sredstva komuniciranja in medijske strukture. S to domnevo oblikujem strukturo analitično ogrodje sekundarnih virov s poudarkom na treh pristopih: medijske uporabe, kulturno vedenje in medijske tehnologije. Medijsko in komunikacijsko zgodovino razdelim na pet obdobji dominantnih oblik komuniciranja: govor, znakovna, množična, internetna in mobilna komunikacija. V vsaki identificiram značilnosti prostora, časa in hitrosti komunikacije ter jih opredelim do kulturnega konteksta definiranega s tremi omenjenimi pristopi.

Metodološko je naloga opredeljena kot analiza in primerjava sekundarnih virov vezanih na zgodovino komuniciranja in medijev, teorije medijskih tehnologij in učinkov, dela postmodernistov, kritično teorijo medijev, filozofijo komuniciranja in novomedijske ter softwareske študije. S pomočjo avtorjev: Vilem Flusser (2011), Harold Innis (2007, 2008), Marshall McLuhan (1994), Paul Virilio (2007), Hanno Hardt (2004), Lev Manovich (2001, 2008), Stevenson (2004) in Lievrouw and Livingstone (2006) analiziram odnose do kulturnega védenja, medijskih tehnologij, zaznave prostora in časa ter hitrosti, ki jo predpostavlja proces komuniciranja v določeni zgodovinski eri, ki jo avtor analizira.

V teoretičnem delu se opredelim do treh najvidnejših teoretičnih pristopov, to je, vpliv in uporaba medijev, kulturno vedenje vpisano v medije in raziskave medijskih tehnologij.

Če želimo razumeti kulturne transformacije, ki vznikajo z vzponom sodobnih družb, moramo postaviti v središče zanimanja razvoj komunikacijskih medijev in njihov vpliv, meni

Thompson (1995, vii). Goody, Havelock and Ong so prepričani, da mediji in pismenost vplivajo na drugačen način mišljenja ljudi. Kritična teorija je medije označila za opij za mase, ki ustvarjajo stanje, v katerem si ljudje želijo biti izkoriščani na račun medijskih sporočil. Tudi Paul Virilio in post-modernisti nasploh so v medijih videli veliko moč. (Poe 2011, 5) Kakšno moč imajo mediji in kdaj se spremembe, ki jih povzročajo v komunikacijski sferi manifestirajo? Je to v stanju šoka (McLuhan 1994) ali je to neviden proces, ki oblikuje družbeni odnos do določene teme? (Flusser v Schaefer 2011) Harold Innis je svoje pozno raziskovanje posvetil temi dominantnih medijev v določenem zgodovinskem obdobju in védenju, ki ustvarja moč in oblast tistemu, ki jih nadzira (Watson v Innis 2008, xxxv). Moč medijskih tehnologij, da »spremenijo naše načine percepcije in oblike razumevanja«, je bila identificirana že pri Walterju Benjaminu (MacDonald 2006, 511). Raziskovalci novih medijev so združeni v prepričanju, da ne drži, da je tehnološka inovacija vzrok, družba pa posledica. Tehnološka sfera ni ločena, temveč je del družbe, in je tako družbeno konstitutivna (MacKenzie in Wajcman v Lievrouw in Livingstone 2006, 5).

Moderna dialektika zgodovine je razpeta med argument nespremenljivosti in argument spremembe. Argument nespremenljivosti vodi prepričanje, da ostajajo vse stvari vedno neločljivo povezane in podobne druga drugi (Peters 2009, 14). Koncept spreminjanja pa je povezan z idejo premikanja, torej premika v času in prostoru. V koncept spremembe je vključena komunikacija – tok besed, premik oči po strani v knjig, linearna oblika knjig, kompleksne naracije filma in televizije itd. (Hardt 2004, 115).

V jedru naloge se opredelim do družbenih sprememb, ki se dogajajo na področju komunikacije, in to v petih obdobjih: obdobje govora, znakovne komunikacije, množične, internetne in na koncu mobilne komunikacije.

GOVOR

Od objektifikacije stvarstva do objektifikacije kulture

S pomočjo kulture, simbolov in govora se strukturirajo intersubjektivni družbeni odnosi. Govoriti pomeni premakniti percepcijo s konkretnega prostora in časa (Poe 2011, 43). Fiske (v Stevenson 2004, 29) trdi da je »vsa družbena realnost zgrajena lingvistično«. Innis je kulturo govora razumel kot tisto, ki »poudarja dialog in ovira prihod monopolov védenja, kar

vodi do preseganja politične avtoritete, teritorialnega širjenja in nepravične distribucije moči in bogastva« (Watson v Innis 2008, xxxiii). V kulturi govora, ko je bil govor 175 tisoč let dominantno komunikacijsko sredstvo, je bila družba v ravnovesju. Informacijsko procesiranje je bilo razumljivo, čas in prostor pa sta oblikovala enotni kontinuum, kjer je bila s pomočjo mitov na trdnih kulturnih temeljih ohranjena tradicija, stabilnost in trajnost.

PODOBE IN PISAVA

Od objektifikacije kulture do dominacije pismenosti

Moč imaginacije omogoča s podobami informirani družbi, da »proizvaja vedno novo védenje in izkušnje ter ohranja proces reevaluacije in reakcije nanje« (Flusser 2011, 11). Znaki in simboli ne kažejo pomena, ampak kaj je pomembno (ibid.), vanje vpisane vrednosti so učinkovite za praktične namene. So eno-dimenzionalni in predstavljajo »konceptualni univerzum besedil, kalkulacij, pripovedi in razlag, torej projekcij delovanja, ki ni magično« (ibid 2011, 9). Znakovni sistem reprezentacije, ki se izraža v črkah, številkah in podobah, je posegel na polje časa in kot inherentno materialistični sistem komunikacije spremenil položaj stabilnosti prostorske ureditve in dojemanja prostora. Možnost nadzora nad časom so prepoznali monopoli moči in védenja. Z branjem in pisanjem se začnejo razvijati intelektualne sposobnosti, abstraktnost mišljenja in refleksija kulturnih fenomenov. Manjšina, ki ji je bilo dano postati pismena, je uveljavila linearni način mišljenja in tako ustvarila zgodovino.

MNOŽIČEN PRENOS

Od dominacije linearnosti do razpršenih asociacij

Tisk in kultura knjig je odprla vrata množični pismenosti in množičnemu prenosu informacij. Množična komunikacija je postavila odprte možnosti za osvoboditev od avtoritete medijskega nadzora, ki je bila »temelj avtokratskega vodila cerkve in države, torej tistega, ki je imel moč nad ignoranco in je postal ključen za zadovoljitev družbenih, kulturnih in političnih elit v vlogi posrednika znanja« (Hadr 2004, 29). Tisk je predstavil mobilnost besedil in množičen prenos idej. S pojavom tiskanja se je v družbi slavil razum in praktična realnost, kar je imelo pomembne posledice za nadaljnji razvoj množičnih medijskih tehnologij. Elektronske forme množičnega prenosa so zbrisale dimenzije prostora in časa, hitrost informacijskega prenosa pa je zaničala trajnost kulturnega védenja in tako je kulturno ravnovesje postalo mit. V času

dominantnosti tiska kulturne informacije selektivno širijo tisti, ki jih nadzorujejo, posledično pa njihovi bralci ustvarjajo različne realnosti.

ERA INTERNETA

Od razpršenih asociacij do oblaka komunikacijskih možnosti

V poglavju *Era interneta* se ukvarjam z napravami, ki omogočajo dostop do interneta, so pa statične v fizičnem smislu. Ločevanje med komunikacijo posredovano s pomočjo interneta in na drugi strani mobilnih tehnologij je bilo narejeno na podlagi teorij, ki se ukvarjajo primarno z novimi mediji in njihovimi družbenimi posledicami, ne opredeljujejo pa se posebej na mobilnost tehnologij v procesu komuniciranja. Pojmi se v tem in naslednjem poglavju zaradi tega ponekod prekrivajo.

V novi družbeni komunikacijski paradigmi milijoni ljudi objavljajo »vsebino« v »oblak«, pri čemer je lahko »vsebina« tudi drug medij. Posameznik v tem primeru upravlja z lastnim miksom vsebin. (Manovich 2008, 240) V računalniško posredovani internetni kulturi je kulturno védenje sestavljeno iz kod, ki sporočajo strukturne elemente in funkcije, ki postanejo pomembnejši kot vsebina, ki jo imajo oziroma bi jo lahko imeli. Preteklost je zajezena v neskončnem reproduciranju in čas postane funkcija prostora. Hitrost medijskih tehnologij vpliva na geografijo, arhitekturo, urbanizem in procese percepcije (Virilio 1996, 151). Prostor je neskončen, takojšen in skrčen pod pritiskom visoke hitrosti informacijskega prenosa. Ker pa sta čas in vpliv hitrosti arbitrarna dejavnika, ki sta lahko zanikana, je kulturno védenje neskončno. Splet na internetu in komunikacijske platforme z nehierarhičnimi mrežami ustvarjajo in predstavljajo svojo lastno zgodovino in videz, da se ji zoperstavljajo. Tehnološke možnosti brezmejno širijo pomnilniški prostor in zato trajnost kot ideja izginja. A ravno če je kulturno védenje široko dostopno in odprto, se ga lahko razume in uporablja kot orodje ohranjanja ideje trajnosti in s tem trajnosti védenja. Kulturno ravnovesje bi lahko bilo blizu.

MOBILNE TEHNOLOGIJE

Od oblaka komunikacijskih možnosti do vseprisotnosti komunikacije

Z mobilnimi komunikacijskimi platformami se zgodi konvergenca vseh predstavljenih oblik komuniciranja. Mobilnost predstavlja premik medijskih objektov med ljudmi, napravami in spletom (Manovich 2008, 227), mobilne tehnologije pa so opredeljene z miniaturnostjo ter

vseprisotnostjo, interaktivnostjo in virtualnostjo. Z mobilnimi napravami je stopnja interaktivnosti na vrhuncu. Trenutni val tehnološkega napredka pa je pohitreni proces virtualizacije (Yakhlef 2009, 78). Čas in prostor postaneta kulturni obsesiji, ljudje so obsedeni s takojšnjimi zanimanji in individualnimi potrebami (Comor 2001, 290). Hitrost procesov v digitalni informacijski sferi diskurzivno krči prostor (Wood 2004, 513).

V družbeno raznovrstni interaktivni participaciji posameznikov se formirajo vseprisotni, simultani in mnogovrstni kontinuumi prostora in časa. Hitrosti komuniciranja ni več, smo torej v stanju *ne-hitrosti*, kajti komuniciranje je povsod in ves čas.

Izsledke na koncu naloge ponazorim še s sledečo tabelo:

Tabela 5.1: Grafični prikaz oblik komuniciranja v razmerju s komunikacijskimi tehnologijami, medijsko uporabo, kulturnim védenjem in koncepti prostora in časa

<i>Oblike komuniciranja</i>	<i>Komunikacijska tehnologija</i>	<i>Uporabe medija</i>	<i>Kulturno védenje</i>	<i>Prostor in čas</i>
Govor	Jezik, govor	Ohranjanje tradicije	Subjektivizacija sebstva; miti	Prostor-čas kontinuum
Znakovno	Linearno pisanje na različne materiale	Institucionalni nadzor nad sredstvi komuniciranja	Objektivizacija kulture; linearno mišljenje in abstrakne vrednote	Red prostora in trajnost časa
Množično	Elektronske forme množičnega prenosa	Navidezna participacija dominirana s strani korporativnih medijskih institucij	Mehanizacija védenja in simboličnih form; kulturno neravnovesje	Uničenje prostora in časa
Internetno	Nehierarhična mreža	Interaktivna participacija, funkcija nad pomenom	Subjektivna manipulacija simboličnih form predstavljena v digitalni kodi; dostopno in odprto	Virtualni in brezmejen prostor; čas kot funkcija prostora
Mobilno	Miniatrizacija in konvergenca vseh oblik komuniciranja	Družbeno raznovrstna interaktivna participacija	Objektivizacija razuma; mentalni procesi se izenačijo z zunanjimi strukturami	Vseprisotni, simultani in številni kontinuumi prostora in časa

Hitrost je v razmerju s komunikacijskimi procesi vezana na percepcije časa in prostora. Zaznavanje prostora in časa pa z napredkom komunikacijskih tehnologij in medijskih uporab (ki jih definirajo institucije in uporabniki sami) oblikujejo kulturno védenje. To se vedno nanaša na prejšnja obdobja komuniciranja in zbirke védenja iz preteklosti, in to v okviru, ki ga

dopušča sam medij, skupine, ki posedujejo moč in nadzor nad njim ter tudi zmožnost celostnega pojmovanja trajnosti in dolgoročnih učinkov.

Argumentacijski okvir v nalogi sledi kavzalnemu odnosu pojmov. Potrebno je poudariti, da imajo mediji komuniciranja vpliv tudi na percepcijo teh pojmov. Če je bila kavzalnost vpisana v linearnost in linearni način mišljenja, s hipertekstualnostjo, možnostjo programiranja, mobilnostjo in vseprisotnostjo prihajajo in se oblikujejo različni in drugačni izrazi. Komuniciranje sledi trendu vedno večje učinkovitosti, ki jo hitrost družbenih procesov omogoča. S pojavom komunikacije kot vseprisotne v družbenih in individualnih procesih, postaja komunikacija totalna. Z izgubljanjem linearnosti in progresivnosti medijskih sporočil in družbenih procesov izginja narativnost in avtoritativnost institucij moči, ki so jih utemeljili. Želja po razumevanju in sporazumevanju sili družbene skupine in posameznike k ustvarjanju lastnih simbolnih form, ki so zaradi hitrosti komunikacijskih sporočil razpršena med različne sekvence v različnih kontinuumih prostora in časa.

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