Critical Issues

Imaginative Research in a Changing World

Digital Memories
Exploring Critical Issues

Edited by

Anna Maj & Daniel Riha

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Introduction

Anna Maj & Daniel Riha

The papers included in this volume reflect the debates that progressed during the First Global Conference on *Digital Memories*, held as a part of Cyber Hub activity in the frames of the ID.net *Critical Issues* research in Salzburg, Austria in March 2009. The edited draft papers are a snapshot of the actual publishing.

The topic of digital memories emerged soon after the first computers as the result of data storage and processing which enabled the creation of artificial intelligence. The *Digital Memories* conference, however, cannot be summarized as a prosaic meeting for archaeologists of new media. Data accumulation, protection and selection are increasingly important issues connected with the everydayness of humanity on a global scale. Digital identities produce individual digital memory that can be read out *en masse* as social digital identities. This means that digital remembering, in addition to being chaotic or insignificant collecting of data, can have economic or political impact on contemporary societies and hence will be crucial for knowledge and power distribution in the future.

Digital memory seems to be vulnerable in many ways. It produces a new context for human existence-not only due to the available and accessible data, whose amount can be both an advantage and a disadvantage for its users, but also by inflicting a direct change on human lives at the level of privacy or its gradual deprivation. On the other hand, the vulnerability of digital memory can be seen as a threat not only for individuals but also for societies or even cultures. Data protection, performed with the help of new digital archiving means and methods, becomes a never-ending struggle to select the important elements in cultural heritage and preserve this purified vision of humanity for future users. The parallel processes of constant digitisation of data and erosion of its analogue artifacts may well lead us to a moment in which only these purified versions of human life will be accessible. Although interpretation of the past has always been the major role of all traditional archives, the possible future scenario shows that even conservative institutions of that type are evolving under the pressure of the digital age. The virtual archive providing only a digital version of the past is more flexible and open to modifications, hence it allows cultural heritage to fluctuate and dissolve: digital remembering can be both similar to and different from digital forgetting.

Although the "fragility" of digital data may lead to a global digital memory disaster that can paralyse the most developed countries and turn them back to the Gutenberg Galaxy, thus far technology has rather been an

element accelerating and stimulating culture, communication and economy. Digital memory provides a new context for both personal remembrances and for information, which is strategic for whole societies. Although this memory is still personal or local, it also reaches a global aspect creating new possibilities and threats for information seekers, users or distributors. In this context, data storage becomes more that just archiving - it acquires the power of knowledge. Database becomes the most important form of the digital knowledge. The discourse of digital power is thus dependent on technology and competencies to use it. The ability to create meta-data is no longer the work of a librarian; each user must learn to manage and manipulate the extraordinary amount of data.

It is important to note, however, that new media competencies emerge together with new models of perception and behaviour. New strategies of dealing with data are the answers to questions of new everyday practices associated with the use of technology. The convergence of new media provokes new users' strategies: mobile phones with cameras and ubiquitous Internet access enable instant exchange of data, such as text messaging, photo sharing or web browsing and social bookmarking, which as a result, form possibilities or even create the need to access to various personal yet publicly shared data in the form of a moblog. The rising mobility of contemporary societies has impacts on all areas of life. The demand for instant information on every subject affects data regarded as both private and public. Thus, the meaning of privacy is changing. Memory is no longer solely a private thing; it becomes personal and public at the same time. Sharing photos, videos or sounds turns into a new cultural paradigm exerting influence on identity. Common behaviour of life logging or other kinds of self-recording can be easily criticised but, in psychological and anthropological terms, they are elements of the process of global testing of new devices and communication possibilities. Digital memory is the result of this experiment conducted on a global scale by independent yet coordinated and interconnected users.

Technology creates digital imagination and digital imaginary. This means that at various levels of interaction, memory is reworked and functionalised. Constant self-recording and web-based share-ism connected with Web 2.0 ideology are significant elements of this process - a re-invention of the human-computer relationship and a re-invention of the human itself in the context of intelligent technology. The idea of connectedness appears to be one of the fundamental values that matter in the process of global and virtual self-description.

The situation in which private data are open to collection and market analyses results in digital memory becoming subject to marketing strategies of global companies. The Web 2.0 trend, in spite of the fact that it liberates users by handing power to them, is also a marketing product, which may be

seen as the manipulation of users at the level of social needs for sharing and interconnecting. However, users are conscious of this situation and rarely totally disapprove it. They create their own databases, often well aware of the fact that technology providers or other companies can use the databases, and consider this fact to be a necessary compromise. This attitude is also a part of ideology of share-ism, which in the context of memory means openness to "remembrance transfusion". It also constitutes a form of grassroots self-journalism - a constant global vivisection, or, more precisely-a brain operation.

Digital memories are important only when we can share them. Like travel photos being proof of our exotic experiences, provided we find an audience to listen to our account. It is also a chance for virtual communities that raise fundaments of common experiences, both pleasant and traumatic, sometimes of a local and at another time of a global character. New forms of commemoration, or exchange of recollections, are created giving their participants opportunities to gain and provide psychological support, and granting them a feeling of fulfilment at the level of distribution of knowledge. Such is the role of the Internet, which is both an interconnecting and a publishing medium that helps users to analyse, select and revalue personal or group experiences. On a certain level of communication, this aspect of the Web helps to maintain a psychological balance of the individual, especially the one experiencing traumatic recollections. Thus, technology can be seen as a new form of tranquiliser or "soma" predicted by Aldous Huxley almost eighty years ago.

Today, humanity is approaching a new form of digital memory-internal and external at the same time. Various prototypes of microchips and a new generation of prostheses, brain chips and concepts of nanophones give a new perspective for future research in the field of digital memory and new aspects of tomorrow's everyday communication. Thus, the issue of digital memory is now becoming a problem of bioengineering and medicine as well. It is connected with the research of perception and the brain itself, as well as with the design of 3-D environments and HCI, webnography and cyborg anthropology.

Papers presented in this volume explore various aspects of the subject. The *Digital Memories* conference shows that this area of studies is undergoing rapid development and is increasingly drawing attention of researchers representing a wide spectrum of disciplines. The interdisciplinary approach presented here can be extended even further to encompass new possibilities of application in various fields of research.

This book consists of 20 chapters and has been organised into eight parts:

Part I: *Theories and Concepts in Digitizing Individual and Community Memory;*

Part II: *Externalization and Mediation of Memories, Representational Principles for Memory Record, Digital Recording Strategies*;
Part III: *Emergent Technologies and Systems for Capturing Private Memories*;
Part IV: *Virtual Spaces of the Past*;
Part V: *Archiving and Disseminating Community Memory Data*;
Part VI: *New Media and Representations of the Past*;
Part VII: *National Identity and Memory in the Digital Age, Political Uses of Cybermedia for Historical Revisionism*;
Part VIII: *Social Issues Research, Online Ethnographic Research;*

The first part is comprised of three chapters that focus on presenting actual issues related to the concepts of memory:

Laura Schuster searches for the meaning of memory in the post-biological era in her opening essay, "The Trouble with Memory: Reco(r)ding the Mind in Code 46". Technology and genetics become new context for the existence of personal remembrances and re-shape it radically. Michael Winterbottom's film, *Code 46*, works here as the valuable, multidimensional and analytical example exploring the issue of privacy, surveillance, coding and decoding, identity and memory itself. The author indicates the tensions between the body and technology, the DNA and digital code, memory and biomedia.

Martin Pogačar explores the implications of new media on collective memory, especially the one associated with the construction and reconstruction of national and supra-national identities in his essay, "(New) Media and Representations of the Past". He analyses spatial and temporal aspects of memory as well as the change of the meaning of the past conditioned by the digital. Showing influences of Appadurai's and Lévy's reflection and concentrating on the redefinition of identity performed by online communities, the author suggests that the Web, with its multitude of variable narrations, can paradoxically provide the users with a certain fixity concerning the reconstructed past.

Anna Reading gives us a fresh approach to the old problems of globalisation and digitisation, proposing the term "globytal" in her essay, "The Globytal: Towards an Understanding of Globalised Memories in the Digital Age". Questions on the existence of the global unconscious and global memory arise here in the context of Web 2.0 and mobile technologies, which enable the media users to reconfigure the meaning of private and public memory. The paper analyses the shift from liquidity of memory to its solidity. The author searches for conceptualisation of the individual and collective memory constructed and conditioned both by the mobility and by

deterritorialization of the users, and by instantaneity and accessibility of technologically mediated communication.

The second part of this book presents three articles on loosely corresponding topics, focused on the emerging practices in cinephany, social network archiving and museology:

Marc Jolly-Corcoran shows the implementation of Mircea Eliade's concept of hierophany and Roger Odin's research of semiopragmatics in the field of film studies in his essay, "Original Cinephany and Reappropriation: The Original Affect and its Reactualization through Emerging Digital Technologies". The author proposes the term 'cinephany' to describe the relation between the movie and the spectator, a mental pattern that appears while viewing the film and is connected with the feeling of perceptual pleasure and affective memory. These concepts are examined in reference to popular film production, mass culture and consumerism connected with the emergence of active and networked film public.

Alberto Sá analyses the impact of Web 2.0 technologies on the memory in his essay "Can Web 2.0 Shape Metamemory?" He describes significant changes in social behaviour connected with privacy and data sharing and suggests that, due to technology, there is an emerging need not only to remember but also to forget. The author gives various examples of memory recording activism-grassroots journalism, micro blogging, social networking and folksonomy are the clear evidence that there is a strong social discourse connected with the emergence and proliferation of peripheral, technological memory and its networked archiving that shows importance of interconnected, tagged data that become shared meta-memory.

A different approach to digital memory comes from *Olivier Nyirubugara*, who draws our attention to the possibilities of recreation of the museum order with the help of hyper linking analogue collection like digital data in the Web in his essay, "Clickable Memories: Hyper linking and Memory Contextualisation". By treating the traces of the past as interconnected ideas and its embodiments, which together construct cultural heritage in the form of an infinite knowledge archive, we can provide the museum public with a new transformed hyperlinked experience. Museology, in this perspective, becomes a creative game based on the method of re-contextualisation of separated (by tradition or external conditions, like museum architecture) data-artifacts which are remembrances of the past. Memory is understood here as the ongoing process, hyper linking as knowledge strategy and forgetting as erasing associations.

The book's third part considers selected issues on hypertext tool design and culture heritage in the digital age.

Diana Espinal Cruces and *Jose Jesus García Rueda* show the concept of an alternative interface for hyper textual writing and reading in their essay, "Hyper Author: A New Tool for Hyper textual Narrative

Creation". The creative process of building, reshaping and decoding narrations being immanent for writing-reading linear process, is here deconstructed and reconstructed in the form of a new informatics tool which enable following both linear and hypertextual paths of narrations. HyperAuthor is the interface mediating between the new digital order of knowledge and its traditional literary paradigms.

A different perspective on the subject is shown by *Tom Evens*, who analyses the issues of audiovisual cultural heritage functioning in the context of the digital in his essay, "Disclosing Cultural Heritage over iDTV". Interactive digital television is treated here as a platform for audiovisual data, serving as web archive which helps to maintain and distribute the cultural content and thus, cultural identity. The research is based on a large-scale survey exploring the users' needs connected with the cultural content.

The fourth part of this book presents papers concerned with virtual environments usage for a historical representation and perception of digital art.

Daniel Riha explores interactive 3-D documentary as a medium that, in the frames of crossmedia approach, may become a representational form for purposes of a biography in his essay, "Biography as an Interactive 3-D Documentary". The paper proposes an idea that, designed as a deconstructive knowledge space, the interactive 3-D form may function as a comparative tool and hypotheses playground.

Maria Lakka suggests that the development of technologies has always been directed toward forgetting not remembering in her essay, "Bill Viola's Passions Series and the Sensualisation of Experience". The author highlights the role of digitisation of art in redefining the perception through spatialisation of time, dematerialisation of the work of art and virtualisation of the spectator's experience. In analysing Bill Viola's networked works, the author argues that the memory associated with locating the work of art on the Web is evolving due to certain artistic practices that force the user to contemplate the digital and tries to evoke a new sensualisation of the experience. This is directed toward the viewer's body and underlines the role of a perceptual apparatus.

An example of an archiving perspective is provided by *Lois Hamill*'s essay, "3-D as a Medium for Virtual Memorialisation", in which she analyses the possibilities that open digital media to the use of various communities and institutions in the field of commemorating and reviving the past. The author examines the historical account of the tragic fire of a popular restaurant in Kentucky, and the project of the virtual 3-D representation of the club that is built based on recovered documents and recollections of the survivors and the families of the victims. The paper shows an example of visual and spatialised digital storytelling, which enables Internet users to gain objective knowledge on the local history and a subjective view of the local community.

Part five examines the problematics of the digital archives.

Marcus Burkhardt shows another approach to the subject of archiving of the Internet and its implications in the essay, "Is There a Way Back or Can the Internet Remember its Own History?" The author concentrates on the strategies and methods of preserving the digital memory performed by the Internet Archive and Wayback Machine initiatives, which indicate both the importance of cultural heritage of traditional analogue character and of new digital networked reminiscences in the form of websites. He argues that the data base logic of Internet Archive is in fact not appropriate for total storage of the whole Web, especially of Web 2.0 content, which is more problematic than traditional digital documents. This leads to the idea that even technical aspects of data storage have consequences in the form of digital memory narrations.

Laurence Hauttekeete, *Tom Evens* and *Erik Mannens* investigate the issue of the digitisation of oral history collections in their essay, "Browsing through Memories: the Online Disclosure of Oral History in Flanders". The Web, which offers a chance for cultural heritage storage and maintenance, is a space open for cultural institutions, which can produce sound databases or audio archives helping to disseminate cultural knowledge. The paper illustrates some of the advantages of such projects as well as problems resulting from the questions of the software, archiving methods and displaying metadata used in the project.

A similar topic is explored by *Thomas Nachreiner* in the essay, "The Digitization of Audiovisual Archives: Technological Change within the Structures of Reproduction", where he draws attention to the issue of audiovisual discourse connected with the problem of data digitisation. The author suggests that the digital does not necessarily implicate immateriality. The problems of copyrights, intellectual property and interface between storage and cultural production are analysed in the paper with perspective of the archaeology of knowledge.

Two papers in the sixth part consider the artistic deconstruction of Holocaust memories and the role of the new media technologies for the representations of the past.

Karen Frostig is concerned with the artistic and scientific analysis of memory of the Holocaust, and the narrations about the past, which are encoded in various kinds of documents and visible traces in the space in her essay, "Data as Memory and Memory as Data describes The Vienna Project". Images that are the results of artistic and historic investigations lead the author to reflections of both personal and universal character, concerning personal, local and national or even global memory.

Marin Laak and *Pille Pruulmann-Vengerfeldt* analyse challenges of the impact of the digital for the narrativisation and representation of the past in their essay, "Re-Writing Literary Past in the Digital Age". The authors

concentrate on new models of re-writing the past in the digital media, proposing their model of textual and contextual relations of knowledge, taking into account the necessity for preservation of elements fundamental for literary history, which constitute cognitive processes worked out by historical cultural development. Modelling knowledge in a digital context, the authors examine existing modes of digitisation, traditional and mediated communication behaviour, and representations of cultural memory and pedagogical functions of these methods of cultural heritage maintenance.

Part seven continues with two chapters devoted to ideological use of new media.

Another aspect of this subject is disclosed by *Jukka Jouhki* in his essay, "Dokdo Island Dispute: Korean Reconstruction of History and National Identity in User-Created Content Media", which highlights the ideological use of social media, connected with politics and national identity. The author analyses multimedia ethnographic material gathered on the Web, prepared mainly for the English speaking global public. His aim is to reconstruct South Korean and Japanese discourses on Dokdo Island, the problem of borderland and recreation of history and its remembrances.

Tuuli Lähdesmäki analyses the evolution of the idea of national heroes under the pressure of the digital and the proliferation of alternative narrations and representations of the past on the Web in her essay, "National Heroes in the Digital Age: The Institution of Great Men in Change". The author suggests that the impact of the Internet means deinstitutionalisation and thus, subjectivity of national myths, and provokes a process of creative re-working of national identity. The internet debate and voting for the Greatest Finn and Great Man monuments are examples used here to examine the problem of digital fluctuation of the national memory.

Part eight includes two papers that present an anthropological approach to the study of digital cultures.

Michal Derda-Nowakowski analyses the anthropological perspective of digital culture, where the Internet is an extraordinary tool both for creation, exchange and distribution of narrations and for data mining, collecting and researching in his essay, "Computerlore, Netlore and Digital Memories: HCI as Ethnographic Field Research". The author shows the influence of traditional mythographies on the social environment of web and interface designers, information engineers and ideologists of new technologies, connected with the ideals of openness, freedom and anarchy. Folklore, netlore and computerlore, emerging in the context of the Internet, understood as an infinite archive of parole, are examined here because of media narrativisation and functionalisation. Another important element of the analysis is the process of constant re-designing of the interfaces and communication devices with the regard to the user and usability.

A similar approach is given by *Anna Maj* in her closing essay, "Digital Memories of High-Tech Tourists and Travelling Media: Twittering and Globalhood", where she presents the problem of digital memory taking an anthropological approach to the issue of mobility, and the growing importance of instantaneity in culture. The author analyses the impact of mobile phones and micro blogging tools, such as Twitter, on social construction of knowledge and the change of communication behaviour. Digital memory is the result of reinterpretation of the users of mobile technologies, especially active high-tech travellers who create various mediated narrations using Web 2.0 tools and participating in the emergent ubiquitous networked society.

Part I

Theories and Concepts in Digitizing Individual and Community Memory

The Trouble with Memory: Reco(r)ding the Mind in *Code 46*

Laura Schuster

Abstract
This paper explores several widespread anxieties surrounding the technological storage of personal memory, and how these anxieties figure in Michael Winterbottom's dystopian SF film *Code 46* (2003). This film features a variety of technological implementations and objects which disperse memories and the 'codes' of identity throughout the human body, a body easily 'read' by and 'connected' to other devices. The embodied mind thus becomes a medium - a transmitter, receiver, and container of information - in itself. DNA analysis and the surveillance of memories are common practices in *Code 46*, which raises critical questions of memory privacy. Memory becomes dislocated and subject to change: the constant interplay between personal experience and recorded information rhetorically aligns embodiment and mind-body relations with data-storage and hardware-software relations.

The encounter between neurology and digital technologies is here envisaged along tropes and suggestions that are equally present in contemporary debates. Like many similar texts, this film hovers between fascination and fear, between the fantastic and the realistic, and between cautious and optimistic expressions concerning humanity's technological future. The concepts of 'cross-memory' (originally an IT solution) and 'biomedia' (Eugene Thacker) address these tensions in order to sketch a lively battleground between science, futurism, and critique.

Key Words: Biomedia, Cinema, Digital, Futurism, Memory, Neurobiology, Science Fiction, Surveillance, Winterbottom.

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1. Introduction

Since its inception, the cinema has been said to exert a peculiar influence over our experience of remembering. The 'mediatisation of memory' is still a stronghold in western culture, an ongoing cause of concern in intellectual debate and a continuous, and multifaceted trope in popular culture texts – particularly in science fiction. This paper explores several widespread anxieties surrounding the technological storage of personal memory through their prominence in Michael Winterbottom's dystopian SF film *Code 46* (UK, 2003). Part science fiction, part romance, and part *film*

noir-ish detective intrigue, this film presents itself most of all as a 'what-if' scenario. What might happen to our notions of individuality, freedom, autonomy, emotions, and memory if a number of contemporary developments were to progress into the future in ways that are not - as far as we can judge from the here and now - implausible? *Code 46* presents a futuristic technocracy, where authoritative control and intervention interfere with the personal use of memory and information, and where the possibility of manipulation extends the unreliability of all personal memories into the field of objective information. Furthermore, the film posits memory as a substitute or fix for diegetic incoherence, but at the same time takes a highly ambivalent stance toward the possibility of memory as a source of agency.[1]

Code 46 features a variety of technological implementations and objects which disperse memories and the 'codes' of identity throughout the human body, a body easily 'read' by and 'connected' to other devices. The embodied mind here becomes a medium in itself - a transmitter, receiver, and container of information. In this storyworld DNA analysis and the surveillance of memories are common practices, which raises critical questions of memory privacy. Memory becomes dislocated and subject to change. Moreover, the constant interplay between personal experience and recorded information rhetorically aligns issues of embodiment and mind-body relations with data-storage and hardware-software relations.

Dystopian science fiction tales, from Huxley's *Brave New World* to films such as *Code 46*, are often used as reference points in debates on real-life developments and our technological future. In such debates, these scenarios are cited as warning signs, as the hypothetical forebodings of what might be in store for us. As David Morley describes concerning increasingly constricting regulations for travel and credit documents in the 1990s:

> the seemingly dystopian vision of a future in which any form of travel requires specific authorisation, combining 'one-time use only' insurance and travel permits, as presented, for instance, in Michael Winterbottom's futuristic thriller film *Code 46* (UK 2003) begins to look eerily prescient.[2]

Apart from concrete enlargements of contemporary situations such as *Code 46*'s take on authoritative surveillance, it also plays on (and in effect mobilizes) less well-defined anxieties concerning information technologies and their effects on our sense of privacy, individuality, and ultimately our subjectivity.

One pertinent question in current future-preoccupations concerns the compatibility of personal memories and technological systems of information storage, inscription, and retrieval. This issue lies exactly on the intersection of two pertinent paradigms in current scientific research: first, that of digital

information technologies, and second, that of neuroscience. Their combination inspires suggestions that many find either enthralling or threatening: if neuroscience can now map our brain activity, how long will it take before we can upload our thoughts in such a way that they could live on as data running on a mind-simulating program? In addition, it follows that we might want to examine the inherent risk of manipulation here: if technological systems could access and communicate with mental processes, then how do we protect our brains from those with an interest in their contents?

Assessing the validity of such worries is not the concern of this paper; my aim is, rather, to map the cultural imaginary from which these questions arise. Ultimately, the core question here seems to be whether mental processes, in a sense, 'run digitally,' or in an idealist-posthumanist phrasing, whether the digital is the key that will unlock thought from the confines of the brain and body.

2. Cross-Memory: The Battle over Information

In a brief synopsis of its over-packed plot, *Code 46*'s near-future scenario presents an American corporate fraud detective, William (Tim Robbins), who travels to Shanghai to investigate the forgery of travel documents at an international visa-issuing organization.[3] His instant attraction to the culprit, Maria (Samantha Morton), however, causes him to ignore her crime, and the two embark on a brief romance. Weeks later, William is sent back to Shanghai because the fraudulent activities have continued, and he finds Maria hospitalized after an abortion she does not remember.

Due to widespread IVF and cloning practices, 'all prospective parents should be genetically screened before conception,' so states the 'Code 46' regulation that gives the film its title. If they are genetically related, conception is considered a criminal act, which William finds out to be the case with the pregnancy resulting from his fling. The authorities have therefore removed both the foetus and Maria's memories of William. Their intuitive love, however, continues, and the couple makes an unsuccessful attempt to escape the system. Eventually, though, the system has its way and restores William to his (married) life, his memories of Maria neuro-surgically removed, whereas Maria is expelled from society to live as an outcast in the vast desert wastelands that presumably testify to the effects of global warming.

Some contemporary developments enlarged in *Code 46* are globalization/urbanisation, earth erosion, access to genetic information, transplantation of body parts, risk assessment and insurance, surveillance of citizens through the centred gathering of locative, financial, and medical data, and concomitant with this, the restriction of individuals' freedom of choice. It

clearly hypothesises the future of human living in the age of information and globalisation, fitting Richard Koeck and François Penz's description of the 'near-future film':

> In the context of the near-future theme, cinema offers a body of films that emphasize the portrayal of urban visions 'just around the corner' as opposed to science fiction films which tend to portray worlds many decades ahead.[4]

On top of all this, the script includes many more far-fetched innovations and situations, such as the 'Code 46'. In addition, neurobiology in this storyworld is advanced enough to enable the removal and insertion of specific memories in a human brain. Furthermore, it features mental software components entitled 'viruses', which enable specific skills such as mind-reading and knowledge of foreign languages, or disable unwanted behaviour.

In its engagement with the future of (bio) information technologies, this film belongs to a category of cultural texts that Richard Coyne calls 'sophisticated contemporary digital narratives,' which tend to oscillate between imagining both liberation and control.[5] While these narratives 'bring out the ambiguities of the IT phenomenon, presenting the prospect of unmediated and free interaction between people and the creation of new modes of community,' Coyne argues, 'they also present the undesirable prospect of electronic surveillance and attempts to control people's lives.'[6]

Code 46's neuro-technological practices effectively blur any existing lines between mental and mechanical modes of information processing, especially with respect to memory. Memory, either personal or 'mechanical', becomes essentially discontinuous, malleable, and fragmentary, and in constant need of re-definition. For such divergent functions and functioning I propose the term *cross-memory*, originally used in the context of long-distance IT communications and external or virtual data storage.[7] Dislocated, temporally flexible, and severed from the structuring principles of chronology and causality, cross-memory practices as applied to biological and psychophysiological data in this film render all information instantaneous and malleable.

Cross-memory instances in *Code 46* such as a mental virus that delivers instant knowledge of Mandarin Chinese and the virtual-surgical alteration and removal of personal memories, here illustrate how memory can (and will) extend to the body, into external objects, and across people - especially with the help of neuroscience. This suggestion peaks in one illustrative example: Maria shows William a collection of nostalgic memories that seem to have materialised straight from her own mind. When after her abortion William tries to convince Maria of their previous acquaintance, he finds hard evidence in a remarkable blurring between the mental and the

mechanical registration of events: an album in which Maria has stored the memory of their first night out. This object resembles a photo album, but contains moving images and sounds precisely from Maria's vantage point during the scene that showed the actual event. Within the reality of the story, no recording was made at the time, but upon their return home, Maria mentally 'uploads' a memorable event into this album before handing it to William to show him her childhood 'pictures'. When William returns to Shanghai and Maria does not recognise him, he uses this recording (in which he is prominently visible) in order to remind Maria of their romance.

What is ultimately at stake in *Code 46* is the way technological developments, especially digital technologies that monitor individual behaviour, may affect the emotional lives of subjects. This society is marked by a profound limitation of personal freedom to move, but also by a profound increase in the individual's access to information (both in spatial and temporal dimensions: William has full access to biographical and otherwise personal information of individuals on the other side of the world; Maria has full access to representations of her own memories). This last instance, however, actually shows an affective relation with a *very* technological device, one that in its recording capacity seems to transgress by far the surveillance powers of the system. The way the album looks-its fantastic, kinetic surface, its immediate access to a wide variety of historical events, its materiality- and the affectionate manner in which Maria handles it, in fact, show a very emotional engagement with a technology that could be extremely powerful and dangerous when put to less personal use.

This film invests great belief in the powers of love and emotion to overcome the harsh interventions of the authorities, as witness Maria's enduring love for William after the 'removal' of his presence in her memory. With information failing to prove rational grounds for acts or decisions, affective memory steps in as motivation for agency. However, with so many unreliabilities on top of one another, the resulting subjectivities and agency become inconsistent, at the very least.

3. Surveillance and Biomedia

The fascination with distorted memory in *Code 46*, and many recent films similar in topic matter, might signal an anxiety concerning the loss of reliable representations and stable information because of digitization. Without attempting to assess the justness of such anxiety, I suggest that memory here might function as a trope for (media) representation and information in general. The technological gathering, storage, handling, and (re)ordering of information by digital means is here extended fully into the human mind and body, pushing citizen control to new limits.

Addressing *Code 46*'s take on surveillance systems, Peter Marks observes how 'the pass system, while enabling for those with the correct

documents, also functions as a tracking device, and activates a holding system.'[8] Marks takes this as a direct comment upon contemporary developments:

> In exploring the surveillance systems that maintain order and underpin the materialist wealth of the utopian space, as well as punishing those who threaten the state's stability, *Code 46* prompts its viewers to assess critically the competing values justifying surveillance in an environment complex and contradictory enough to parallel our own.[9]

More interesting than the socio-political dimensions of this surveillance system, however, I find its *pervasiveness*. Whereas the travel pass system is a straightforward extension of existing bureaucratic policies, the aforementioned instances of cross-memory control signal a more specific development: that of using biological information for a variety of monitoring purposes. These are clear instances of what, whether actual or fictional, Eugene Thacker calls *biomedia*: 'a situation in which a technical, informatic recontextualisation of biological components and processes enables the body to demonstrate itself.'[10] The contexts of biomedia vary from science fiction to medical and military practice; Thacker stresses crucially that this biomedia is not as much a historical point of rupture but has rather come to the fore under the vast extensions of its domain that have come with cybernetics and advanced digital technologies.

The human body has always functioned as a carrier and transmitter of information; philosophers from Augustine to Heidegger, to media theorists such as David Morley and Friedrich Kittler, have consistently emphasized that mediation is as natural to human conduct as the use of any tool. The perception of the current pervasiveness of concepts such as code and pattern, however, is 'unnatural' with respect to biological systems. Thacker states that:

> In this almost mythic encounter, an assumedly pre-informatic body confronts a set of techniques and technologies, whose central aim is to render everything as information: not only can everything be understood as information, but also that information is everything, in that everything has a "source code." While some perspectives see this as emancipatory promises of the post human, other, more critical perspectives have questioned the hidden theology masked by the technical speak of pattern, emergence, and code.[11]

In this respect, biomedia becomes almost analogous to what N.K. Hayles has dubbed the "Regime of Computation"; the paradigmatic shift to code and simulation that began with the advent of cybernetics in the 1950s, and that currently pervades most any field of science and culture. Hayles wonders how:

> the "new kind of science" that underwrites the Regime of Computation can serve to deepen our understanding of what it means to be in the world rather than apart from it, co-maker rather than dominator, participants in the complex dynamics that connect "what we make" and "what (we think) we are."[12]

Sharing Hayles' focus, Don Ihde addresses the *Matrix* film series as symptomatic of a current crisis in theories of mind:

> the late modern adaptation of computerization, situated in proximity with that most "Cartesian" of late modern sciences, neurology and some versions of cognitive science, give us the clue for the popularization of this epistemology engine in the *Matrix* series. [..] Today's brain, the homunculus's new version, is now an autonomous "computer" or "hard-wired" brain which de-codes "information" which comes in through the various sense organs […] *The Matrix* is a cinematographic version of the latest epistemology engine: inner brain processing interacting with external data-code input.[13]

Similar reconceptualizations of the mind are forwarded in *Code 46*: underlying all memory interventions in its story is the assumption that mental processes run in a kind of code, recognizable by, interchangeable with and compatible to technological systems for the storage and handling of information. This mind-as-machine conceptualization is a rather common trope, directly related to recent developments in neurobiology, cognitive science, and cybernetics which threatens our conventional distinctions between the objective vs. the subjective, the fixed vs. the permeable, and the 'natural' vs. the 'technical.'

3. Conclusion: Re-Coding the Mind

Code 46 draws a powerful triangle between agency, memory, and information, none of which are stable and measurable properties but rather become permeable and conflicting ones. The omnipresent chance of memory alteration or manipulation here complicates any sense of agency. This, however, has more to do with its society's handling of information than with memory per se: cross-memory practices in these films allow for much deeper

modes of data-gathering and state intervention than we like to imagine possible in our actual lives.

Related to all this, the film takes up the haunting question whether human perceptions can be equated or described in terms of digital information processing. The relative ease with which tissue and technics are coerced into two-way interaction in physical prostheses and cyborg animals for instance, suggests that, indeed, human perception is compatible with digital information.[14] However, a recent survey article in Scientific American, to cite just one example, is reluctant to embrace such visionary predictions with respect to human cyborgisation:

> Fulfilling the fantasy of inputting a calculus text – or even plugging in *Traveller's French* before going on vacation – would require far deeper insight into the brain signals that encode language and other neural representations [than is currently available]. Unravelling the neural code is one of the most imposing challenges in neurosciences.[15]

Many scientists and experts stress that we are nowhere near mentally uploading instant knowledge of Mandarin Chinese, for example. Rudimentary as current biomedia innovations such as neuroprosthesis might be, though, they prompt wild imaginations such as the technological storage of consciousness at some point in the future. Mental or neural activity *can* be translated, to some extent, into digital information, and we can neither be sure about the possibilities of its storage and alteration, nor about how much good or bad they might do. However futuristic their imagined technologies may be, in reality the theories-of-mind of films such as *Code 46* and *Eternal Sunshine of the Spotless Mind* really are not far off.[16] Exploring the possibilities of memory manipulation by digital means, they bring the fragility of mental processes to its extreme and hypothesize on the continuous engagement between human subjectivity and technological mediation.

Notes

[1] Parts of this paper derive from, or were developed during the course of, a collaborative essay: P Hesselberth and L Schuster, 'Into the Mind and Out to the World: Memory Anxiety in the Mind-Game Film', in J Kooijman et al (ed), *Mind the Screen: Media Concepts According to Thomas Elsaesser*, Amsterdam University Press, Amsterdam 2008. I am greatly indebted to Pepita for her many suggestions and keen insights, and for allowing me to rework this product of our mutual interest in the topic of distorted memory in contemporary cinema.

[2] D Morley, *Media, Modernity and Technology: The Geography of the New*, Routledge, London, 2007, p. 240.
[3] *Code 46*'s explicit near-future reference should be taken with a grain of salt; close narratological analysis, and some calculation concerning even the most sped-up of possible time-lines for human cloning, reveal a gap of at least 80 years between *Code 46*'s present and ours of 2009.
[4] R Koeck and F Penz, 'Screen City Legibility', *City* 7.3, 2003, p. 368.
[5] R Coyne, *Technoromanticism: Digital Narrative, Holism, and the Romance of the Real*, MIT Press, Cambridge, 1999, p. 25.
[6] Ibid.
[7] See for instance Answers.com: 'Rather than using a fixed address, cross memory services use a method of indirection whereby the calling program obtains a token that serves as a pointer to the actual routine.' No author, retrieval date February 6th, 2009, <http://www.answers.com/topic/xms>.
[8] P Marks 'Imagining Surveillance: Utopian Visions and Surveillance Studies', *Surveillance & Society* 3.2/3, 2005, pp. 232.
[9] Ibid., p. 233.
[10] E Thacker, 'What is Biomedia?', *Configurations* 11, 2003, p. 78.
[11] Ibid, p. 47.
[12] N K Hayles, *My Mother Was a Computer: Digital Subjects and Literary Texts*, University of Chicago Press, Chicago/London, 2005, p. 242.
[13] D Ihde, 'Technofantasies and Embodiment', in *The Matrix in Theory*, M Diocaretz and S Herbrechter (eds), Rodopi, Amsterdam/New York, 2006, p. 160.
[14] See for instance J Marshall, 'The Cyborg Animal Spies hatching in the Lab', *New Scientist* 2646, 2008, p. 41: 'The HI-MEMS project aims to merge artificial control systems with those of the insect by inserting the devices during the pupa stage. The idea is that as new organs and tissue develop, they will create strong, stable connections between the devices and the insects' neural or muscular tissues. The control devices become part of the adult insect's body.'
[15] G Stix, 'Jacking into the Brain', *Scientific American* 299.5, 2008, p. 59.
[16] See J van Dijck, 'Memory Matters in the Digital Age', *Configurations*, 2004, 12: 349–373, for details.

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(New) Media and Representations of the Past

Martin Pogačar

Abstract
New media infiltrate the quotidian of a great deal of Earthlings to an extent where the most basic professional or pastime activities seem unimaginable (completely) outside the realm of the digital. Clearly, reality is becoming re-modelled and re-shaped by the intrusion of the digital. Less clear and far less comprehensible, however, are the implications that media convergence (Jenkins, 2006) and remediation (Bolter and Grusin, 1999) have for understanding the possible futures of the understanding and representing of the past. Moreover, his is the main concern of this paper. In this respect, the author discusses key questions that fuel his research into contemporary remodelling of mediascapes. How the new media, particularly the internet, influence understanding the reality (as opposed to "old media")? How these media "infest" representations of the past and remembering? What kind of interpretations and narrativisations of the past (may) emerge? How the new media influence our understanding of the past? What are the implications for national and supra-national histories and identities? First, the author discusses the relationship between connectivity, memory and collectivity (CMC) in the age of the digital and the implications the changes of these crucial aspects have for any social togetherness. Second, the online representations of the past (ORP) are discussed showing how the changes in CMC affect the changes in ORP, and vice versa. Finally, the implications the digitally remodelled strategies and opportunities of representing the past have for conceiving of collectivity, memory and connectivity are taken into account.

Key Words: Collectivity, Identity, Cyberspace

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1. Collectivity-Memory-Connectivity

Let me start with words of Arjun Appadurai: "where natural social collectivities build connectivity out of memory, virtual communities build memory out of connectivity."[1] This statement brings into play three important aspects: collectivity, connectivity and memory; essentially pertaining to the existence and functioning of any community, in relation to digitisation of memory and remembering.

Without much doubt, these three can be understood as the basic building blocks of any socio-cultural constellation as they enable establishing, maintaining and reproducing interpersonal, social, cultural,

national and international relations - collectivity. If a collectivity is to persist over time, its members must be connected to each other, and this connection is to a great extent formed through and around more or less commonly produced and shared memories, fuelled/triggered by this or that record of the past (monuments, media). Only implicitly present in Appadurai's statement is identity, another crucial element of (understanding) social interaction,[2] which is no less important for understanding the works of memory in the digital age nor for understanding the digital (it)self.

In order for memories to be comprehensible, intelligible, legible, understandable etc., i.e. in order for them to work, memories must be communicable to the collectivity's members and beyond; hence a collectivity requires communicative tools and appliances - communication technologies. Communication is mediation and so are memories.

Essential prerequisite for any communication is language; it enables most basic and most complicated forms of communication; signs, symbols, sentences and words transmit ideas, thoughts... Meaning and sense emerge from words/signs in the process of cognition and interpretation, which can only be situational and never exist outside the act of communicating. As symbolic interactionist perspective claims, human actions are imbued with social meaning and people act in relation to the meanings they form about social phenomena. These meanings evolve as they are interpreted and reinterpreted through social interaction.[3] The paradox here is that communication is the result and the condition of collectivity.[4]

To some, somewhat limited extent spoken language serves as a mnemonic device: it has been extensively used as a tool for preserving the past and creating social-cultural continuity in oral societies, and is until this day widely employed in small groups (family, friends, classmates, etc.) to preserve shared memories. At least it has been until mobile digital technologies and Web 2.0 gave impetus to redefinition and reconfiguration of socialising, of maintaining relations. Memories and representations of the past are essentially culturally construed, as the 'original' event is always irretrievably lost to time. What we are left with, then, are traces in the environment, various records in writing, film, sound, and of course in cyberspace.

Moreover, what are cyber-memories and representations of the past online like? Before moving to discuss this question, let me first say something about the background.

With the invention of (manu) script, the rather fluid oral mnemonic capacity became relatively fixed on paper (clay tablets, stone), i.e. script allowed inscription of semantic knowledge (internal) in cultural artefacts (externalisation). Yet it was not until the invention of the print and later on audio-visual recording technologies that memory and popular/quotidian representations of the past became, by means of mechanical reproduction of

works of art and cultural artefacts, inscribed/present in most ordinary situations. The proliferation of writing (text) and literacy resulted in the emergence of print media (books, newspapers) as the "containers" of memory; their role in romanticist nation building is significant. Recently, however, the new media and digital technologies seem to be generating a significant turn (connectivity turn)[5] in conceptualising memory, representing and understanding the past.

This change is perhaps most evident in a) uses and applications of new technologies for reproduction and storage of the past via remediation of previous past preserving technologies and b) in conjuring new strategies and techniques of remembering, particularly related to different modes of interpersonal connectivity. The change thus not only reveals a shift in the ways the past is preserved, but also a reconfiguration of human capacity to remember.

The impact that the connectivity turn has on conceptualising collectivity and memory can be seen in a way as a reincarnation of pre-writing, oral face-to-face, one-to-one and one-to-many, tribal communication. It could be maintained that all the media since writing imposed a very much one-directional communication channels, presupposing flow of information form producer/state authorities to the consumer/citizen. In addition, it was not until the Web 2.0 that interactivity and consequent re-tribalisation of society on the (more or less) global scale was reintroduced. These communication channels enable multidirectional exchange of information and, but only potentially lead to the ideal of online-democracy. In this respect, I want to emphasise another aspect in the producer-consumer relationship. If writing and print enabled the spread of ideas (and the rise of nation-building processes) and gave the reader time to think about and ponder on what she has read, the more fleeting mechanisms of consumption in media, such as film, radio and television rob the consumer of time and chance to deliberate what has been said and/or televised. (To some extent, radioed speeches may account for the rise of National Socialism and fascism in the early 20th century).

2. Distinct Characteristics of ORP

Online representations of the past (ORP) are marked by several distinct characteristics. At the same time, different or modified techniques and strategies of establishing, maintaining and promulgating such representations are being developed. In light of remediation[6] and media convergence,[7] this significantly affects the conceptions of space, time, memory and remembering, representation of the past, identity, individuality-collectivity, and the closely related sense of belonging, credibility, immersion, interactivity, and participation that new media enable.

Cyberspace as a remediating medium is bereft of materiality of offline representations of the past and instead merges four basic discursive elements, text, sound, image and video. This environment or digital memorial landscape in the first instance significantly redefines the concepts of space and time. Space, it could be maintained, retains some metaphoricity of offline spaces is translated online with a significant difference that online spaces are not geographically determined (information highway, to visit a webpage, forum). They do, however, require navigation (hence the cyber prefix), but this navigation seems much more like navigating the sea rather than land. What internet technologies have enabled is that physical movement is no longer required to traverse distance; connectivity can be established without face-to-face communication. The traveller/internet user remains seated in front of the screen when meeting other travellers/users in geo-remote places. This might have been perhaps one of the strongest opponents' points in the late 90s when criticising cyberspace for eliminating social contact. With the emergence of mobile devices that allow plugging in from anywhere (if signal is available) and the Web 3.0+, such reservations are losing ground, while many others, out of the scope of this paper, will surely arise.

In terms of temporal conceptions of digital worlds, and consequently their analogue counterpart, a concept of detemporalisation might be useful. The linearity of time is collapsed by the possibility of asynchronous communication: in order for people to communicate, they need not be in the same place or in the same time. This in turn enables transtemporal interpersonal connectivity and synchronicity of various temporal dislocations; e.g., multimedia representations (image-sound-text) of the various pasts coexist in one temporal window. Thus, the understanding of time-present expands, despite the pervasive ideology of progressionism engendered by the development of new technologies and the deconstruction of historicity.

Offline memorial requires physical presence of people at a commemorating event in order to exercise the collective re/inscription of shared memory; television allows for displaced, yet nationally bound and still synchronous, "participation" of the masses at the event. ORP provide an opportunity for deterritorialised and detemporalised participation and, even more important, interaction. Practice of remembering thus enabled positions the viewer in front of the screen in a collectivity with which one can interact, be detached from it physically and at the same time individually participate in a collective commemoration. Unimedial space thus provides a collective space for a person to immerse in while at the same time retain his/her individuality.

3. Implications for Collectivity-Memory-Connectivity

These changes in ORPs and the connectivity turn certainly affect the way collectivity and memory are conceived of, practiced and maintained, and

reproduced. According to above quoted Appadurai's statement, offline communities practice collectivity and find basis for connectivity in shared, collective memories. This means that offline communities, normally territorially and temporally bound, i.e. living in the same space-time continuum, source their memories in living together on a certain territory and they build connectivity out of shared memory. Members of such collectivities connect because of shared memories and experiences.

Virtual collectivities on the other hand, build memory out of connectivity. This means that the online worlds, and residents of online communities/realities, who are, as a rule, territorially and temporally displaced, build memory out of the ability to connect with each other not based on territorial belonging, i.e. national affiliation, but rather based on interest (ideology). This implies that online collectivities, independent of temporal and spatial constraints are possibly on the way to become independent from the territorially- and ethnically linked ideologies, such as nationalism. Such clearly utopian and perhaps even naive view finds ground in the opportunities the internet offers to individuals. They presumably can converse and traverse through cyberspace freely and seek their soul mates and friends in spaces that stretch beyond their geo-locality. However, is this really so?

As Lisa Nakamura states,[8] patterns of offline behaviour are translated into online spaces and relations. Think, for instance, on various criteria that have to be fulfilled for a person to join an online community. Better yet, the IP address may prevent a net-surfer to access certain sites or applications. Thus it is clear that social exclusion based on territory, i.e. nation will be present for quite some time and that significant efforts will be required to make the cyberspace truly accessible to all, and at that I'm not talking only about physical access to the net.

So what are the implications for memory and remembering online? The technology and the related changes in conceptualisation of connectivity, collectivity, space, time and sense of belonging show that memory can no longer be associated only to territorially bound traces and old containers of the past (monuments, books). Instead, memory seems to be becoming ever more flexible and adjustable (not implying that it was any more stable before) to contemporary needs of the remembering individual or collectivity. What I find significant in contemporary practices and techniques and technologies of remembering/preserving/representing the past is that the work of memorising and publishing the memory can be done practically by anyone, by using a photo/video camera one can create records that represent a perfectly valid historical evidence. Moreover, the relative availability of means to publish online various stories and most personal accounts/interpretations of the past, could be an indication that the grand narratives do not stand a chance.

Or do they? The everlasting division between universality and particularity in history, in understanding and representing the past is to some extent "endangered." Online we see a rise of individual interpretations of the past, increasing relevance of oral records and at the same time certain dissolution of grand narratives. At the same time, it is clear that these individual interpretations may attract followers worldwide and are no longer very individual. On the other hand, as a corollary of globalisation (deterritorialisation and detemporalisation) and the not unrelated rise of nationalism in Europe at least, it can be maintained that grand national stories are gaining momentum despite the supposedly greater freedom of association and more immediate interaction.

In the end, it could be said that the features of the new media and the unimediality they engender have affected to a certain degree the ways we conceive of collectivity and memory online. Yet to a significant extent, the processes and dynamics of offline relationships (personal, national etc.) are translated online and to the chagrin of many present certain continuity with the offline worlds. Thus, despite memory and remembering having become more personalised and public, more amendable and adjustable, it can be said that on the level of associating-by-interest or by common memory, i.e. on the level of building memory out of connectivity, the main mechanism behind it, is finding people of same/similar interests and convictions. Due to strong links and no clear demarcations between on- and off-line, this does little to challenge and transcend the usual walls of belief people bitterly defend in the light of cultural or technological change.

Notes

[1] Appadurai, 'Archive and Aspiration', p. 17.
[2] See Kollock and Smith, 'Communities in Cyberspace', p. 9.
[3] J Fernback, 'Beyond the Diluted Community Concept: A Symbolic Interactionist Perspective on Online Social Relations', New Media and Society, vol. 9 (1) 2007, pp. 49-69, p. 56.
[4] See Y Mihailovich Lotman, *Universe of the Mind*, IB Tauris, London, New York, 2001, on "semiosphere".
[5] Connectivity turn is understood here as a change in conceptualising collectivity, resulting from changing memorising and remembering practices propelled by new media technologies. It implies the change in social connectivity driven by technological connectivity.
[6] See J Bolter and D Grusin, *Remediation. Understanding New Media*, MIT Press, Cambridge, London, 2000, pp. 45-47.
[7] See H Jenkins, *Convergence Culture: Where Old and New Media Collide*, New York University Press, New York, 2006.

[8] See L Nakamura, *Digitizing Race: Visual Cultures of the Internet*, University of Minnesota Press, Minneapolis, 2008.

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The Globytal: Towards an Understanding of Globalised Memories in the Digital Age

Anna Reading

Abstract
Within memory studies most understandings of memory are configured around ideas of personal memory and community memory, with the latter framed in terms of, predominantly, national boundaries, articulated by different sub groupings. With contemporary digital media, the conventional binaries associated with memory are being questioned: via photo-sharing sites, social network sites, blogging sites and through the digital memory prosthetic of the mobile phone.

Theories of globalisation suggest our understanding of space-time - and by implication memory - is changing. We are experiencing new mobilities: not only people but also data and records of events are on the move in new ways. Digital media technologies allow for the creation, management and storage of records of events and experiences in ways that are cheap, globally accessible and rapidly reproducible worldwide.

This paper asks how we conceptualize memory in relation to the global in the digital age, and whether memory is now 'global' or 'globalised'. Is there a 'global unconscious' and if so what relationship does it have to the global conscious? The paper suggests that the 'globytal' enables a way of conceptualising what a new memory dynamic between the global and the digital.

Key Words: Globytal, Global Memory, Globalisation, Trans-National, Digital Unconscious, Digital Memory.

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1. Introduction

At this conjuncture there are two major dynamics affecting human memory practices, languages and forms. These dynamics of digital media and globalisation require a re-conceptualisation of the precepts underpinning the epistemology of memory. Together they are creating what I have termed 'the globytal'.

With digital media, especially with Web 2.0 and mobile technologies, the conventional binaries embedded in particular memory languages, forms and practices associated with memory are changing. Via photo-sharing and video sharing sites such as Flickr and YouTube, the traditional family photo album - once a private and domestic affair - has become a photo gallery open to larger communities of people and sometimes

open to all. As people manage their on-line identities, social networking sites, such as Facebook and Bebo, leave digital dossiers of our lives; blogging sites can turn individuals into global citizen journalists providing digital archives that are both personal and public. The mobile phone, a wearable digital memory prosthetic, is for many the last thing they touch at night.

The predominant boundaries associated with how we think about memory - those between human and machine, private and public, individual and organisational, communicative and memotechnic - are thus being rapidly traversed and reconfigured. At the same time, theories of globalisation have long since suggested that how we understand time and space, or space-time is changing, in turn implicating our sense of the past and memory.

Globalisation also involves the experience of new mobilities and mobilisations: not only people and things are on the move in ways that they have never been before, but also data and records of events. Simultaneously, there may be immobilities, such as class, which remain fixed. In terms of digital memories, this suggests that more and more we need to be thinking in terms of mobilisations and mobilities of memory that may map, in part, onto the political economy of other mobilities, resonating with them, but that may also result in disjuncture, discrepancy and local re-iteration.

Digital media technologies allow for the creation, management and storage of records of events and experiences in ways that are cheap, globally accessible and rapidly reproducible worldwide. Ubiquitous computing from tags that trace goods and cameras that watch us may seem to make remembering rather than forgetting the default of human societies.[1] Yet all of these digital memories are possible only through digitisation, the process of encoding and decoding through binary code, the common language that underpins all computer mediated communications and that most human beings can neither decipher nor speak but which some have suggested constitutes a digital unconscious.

2. The (Trans) National in Memory Studies

Conceptually, memory has been configured around the precept of the individual and the collective, with the latter mapped, largely, onto the national or subgroups within this. Most classic studies within the field of memory studies have been configured in some way around the national.

Within existing studies, however, there is an emergent strand that struggles to contain a sense of fluidities and mobilities that go beyond national boundaries, suggesting an approach that is "outward looking, multi-levelled and transnational".[2] Some studies that examine European memory, especially in relation to the Holocaust, take this approach. Such work resonates with Hirsch and Spitzer's idea of post-memory: people may enculturate properties of a particular group that includes memories from other countries and places that they have not directly encountered or experienced.[3]

Using Ulrich Beck's idea of cosmopolitanism, Levy and Snaider argued that the memory of the holocaust travels across borders. Huyssen criticised this, arguing that sites such as the Parque de la Memoria in Buenos Aires offer what he terms 'counter memory', combining international memory discourses with local activities of remembrance.[4] Aleida Assman has argued that the holocaust has become a global template through which other traumatic memories are articulated.[5] Work within migration studies on oral memories of trans-national families and migrant workers have also led to the realisation of the significance of the globalisation of memories. Thus, Mary Chamberlein and Selma Leydesdorff examine the role of memory within transnational families and how it is significant to both belonging and the reconfiguration of identities through cultures.[6] Research on genocides and refugees highlights the de-terroritorialisation and liminal status of refugees and their memories that go beyond national boundaries, as with Liisa Malkki's research on Hutu refugees.[7]

Alexander stresses that inter-disciplinarily requires an approach that enables "simultaneous articulations", part of which is the recognition of the ways in which "our knowledge-making projects must therefore move across state constructed borders to develop frameworks that are simultaneously intersubjective, comparative, and relational, yet historically specific and grounded." [8] What is missing is a sense of possible distinctions between global and globalised memories, and, more importantly, a particular recognition of the simultaneous significance to different kinds of global and globalised memory of digital technologies.

LSE seminar participants attempted to address the possible relationships between the global and the digital in 2007. Martin Albrow contended that Hiroshima was 'the first truly global event. He makes a distinction between the ideas of "globalisation", often characterised as a "single route to the future", and "globality" and the global, which, he argues, requires us to think about the consequences of our actions. Rivard argues that 9/11 websites appear global but are largely American. Pentzold uses Assman's idea of liquidity and solidity in relation to the 'global memory spaces' of Wikipedia.[9]

3. Memory in Theories of Globalisation

Although memory studies has generated some work that addresses first the transnational dimensions of memory and secondly the possibly global dimensions of memory, what is lacking is a clear sense of the different models underpinning understandings of the processes and meanings of terms such as global and globalisation when attached to memory. More importantly, there is little work yet that addresses how the digital may be understood within this.

Diane Crane argues that cultural globalisation may be distinguished from the economic, political and technological aspects of globalisation. The field of "memory" and an understanding of the globalisation of memory might be seen to traverse the political, economic, cultural and technological aspects, particularly in terms of understanding digital global memory. However, in terms of how we understand globalisation it is useful to summarize the four key approaches that Crane identifies. First is the idea that cultural globalisation involves cultural imperialism. In terms of digital global memory, this might refer to one country or hegemonic area imposing its version of the past on another country or location through digital technologies. The second version of cultural globalisation, based on the idea of cultural flows or networks, would suggest that memories do not necessarily originate from one source and do not necessarily have the same directional flow. The third model, deriving from reception theory, would purport that multicultural active audiences actively create memories of events and actively respond to globally disseminated versions of the past. A fourth model suggested by Crane herself proposes that different organisations at city, state and interstate levels compete in relation to culture and that part of this involves preservation through the development of museums, heritage sites and cultural memory.[10]

Tomlinson argues that when examining globalisation in relation to culture it does not require wholesale theoretical revision.[11] This may also be the case for the communicative and memorial practices that go with them. The global digital necessitates the need to develop and extend concepts, descriptive categories and analytic strategies. If we take Diane Crane's map of different approaches to globalisation they suggest that what overall they have to offer the study of memory is what might be termed the political (and indeed the cultural) economy of memory.

Several globalisation writers reference the idea of a collective unconscious in relation to the digital. Paul Hopper examines how communication and media forms are genuinely globalised, addressing the global digital divide and the possible network society. He argues that it is difficult to determine the extent of globalisation of media and ICTs because of the range of communication and media flows with their "different velocity and extensity". [12] He asks how we can measure connectivity for example - in terms of voice traffic, ownership, or use. However, he barely mentions memory. The first time is in terms of whether national cultures with the network society will become simply memory museums.

Mark Poster, a media scholar, offers a possible extension of this approach in *Information Please*.[13] Poster suggests the idea of the "media unconscious", adapting Freud's idea of the unconscious in relation to the psyche and specifically the emotional life; as well as Jacques Lacan who translated this into linguistic terms. Poster also critically explores Frederic

Jameson's idea of the political unconscious (1981), arguing that it is problematic if we seek to include the media and particularly the digital. Poster's conception of the media unconscious is meant to suggest the registration of the unconscious not only in the field of human relations but also within the thing, with "a symbiosis of human machine". He argues, in the context of HCI, that identity takes on an interior state of consciousness, "The self constituted in the databases, beyond the ken of individuals, [which] may be considered the digital unconscious."[14]

Poster suggests that "the tool of the media machine insinuates itself within the procession of culture, reconfiguring what had been the subject and object into a new construct I call the humamachine".[15] However, an issue with Poster's approach is that he does not sufficiently discuss how the digital unconscious relates to or is subsumed by the media unconscious; significantly, he barely mentions memory.

Poster's work resonates with ideas of the extended mind or distributed unconscious, which is being explored within other disciplines. Within media studies and sociology, this is in terms of network and mobile culture that suggest an increasing sense of moving cultures and moving stories, as well as socially networked data including the photographic and camera phone image especially.

4. The Global in Human Computer Interfaces

The term "global memory" as a term has been used in computing to describe the process by which it is possible to have parallel access to different memories, or to have private memories combined with those that are shareable. The term global unconscious, traceable to John Monk's concept in the late 1990s that code constitutes a digital unconscious, suggests that the global digital in part is articulated through the coded digital unconscious.[16]

This work has developed in a number of directions within HCI. Ben Goertzel in "Creating Internet Intelligence" explores the hypothesis that global computer and communication networks could lead to an autonomous intelligent system. His research on Webmind AI Engine and the Webworld platform explored applications for distributed cognition. He suggests, "A single global shared memory will emerge allowing explicit knowledge sharing in a collective consciousness."[17] Goertzel argues that people's daily interactions increasingly occur via the internet, with data checked and processed via a vast array of web pages, a phenomenon that increasingly resembles Jung's idea of the collective unconscious.

N. Katherine Hayles criticises the idea of the Universal Computer.[18] She agrees that this work transforms the scale at which we think about the computational since it suggests that consciousness (and hence for us here memory) can be understood in terms of computational patterns, with computations generating physical reality at the subatomic level. However,

she argues the need to take into account the complexity of the dynamics between the organic and inorganic through 'intermediation', that is to say the necessity of considering the dynamics of human and computer together. Hayles contends that we should address the ways in which code modifies our understanding of speech and writing. She suggests examining the interactions between print and electronic text and the transformations of subjectivities as human and computer cognitions alter thinking and mind (and memory).

5. Concluding Remarks

I began by examining the predominance of national frameworks within memory studies and the ways in which the national has come to be seen as increasingly permeable with fluidities that suggest the importance of the trans-national and global. I then examined what established theories of globalisation suggest in relation to digital memory studies and what has been termed the digital unconscious. This suggests a conceptualisation that brings together the dynamics of the global with the digital that comprises the significance of code.

The globytal is the global digital political and cultural economy through which memories are mobilised, networked and archived. It is characterised by multi-modalities and mobilisations of data that can be transformed and rapidly distributed in ways that traverse the organic and inorganic, the human and the machine, the public and the private, the individual and the institutional. The globytal is characterised by unevenness, repetitions, dispersals, revisions and remediations. The globytal should not be confused with global memory in terms of suggesting universal memories, although as shown in Jean-Noel Jeanneney's study of Google[19], it may be both stabilised and mobilised around particular hegemonies. To evidence this, globytal memory needs to be examined in terms of its metaphors and its means, and the ways it can be understood through trajectories across and intermediations between the analogue and the digital, the global and the local, the stable and the mobile.

Notes

[1] V Mayer-Schoenberger, *Useful Void: The Art of Forgetting in the Age of Ubiquitous Computing*, 2007, online paper, accessed January 21st 2009, <http://papers.ssrn.com.5013papers.cfm?abstract_id+976546>.

[2] S Legg, 'Contesting and Surviving Memory: Space, Nation, and Nostalgia in Les Lieux de Memoire', *Environment and Planning D: Society and Space*, Volume 23, pp. 481-504, 2005, p.20. See also B Conway, 'Local Conditions, Global Environment and Transnational Discourses in Memory Work: The

Case of Bloody Sunday (1972)', *The Journal of Memory Studies*, Vol. 1, No. 2, pp. 187-209, 2008.

[3] See M Hirsch, *Poetics Today*, 29 (1), 2008, pp. 103-128.

[4] A Huyssen, 'Memory in the Global Age: The Holocaust', *The Germanic Review*, 78, pp. 86-91, 2003. Levy and Sznaider, *The Holocaust and Memory in the Global Age*, Temple University Press, 2005, p. 10.

[5] A Assman, 'Europe: A Community of Memory?', in *Twentieth Annual Lecture of the GHI*, University of Konstanz, November 16, 2006.

[6] M Chamberlein and S Leydesdorff, 'Transnational Families, Memories and Narratives', *Global Networks*, Vol. 4. Issue 3. 227-241, 2004.

[7] L H Malkki, *Purity and Exile: Violence, Memory, and National Cosmology Among Hutu Refugees in Tanzania*, University of Chicago Press, Chicago. 1995.

[8] Alexander, op. cit. 254.

[9] M Albrow, 'Hiroshima: The first Global Event', paper presented at *Collective Memory and Collective Knowledge in a Global Age: An Interdisciplinary Workshop*, Centre for Global Governance, London School of Economics, 17-18 June 2007, p. 6, available at: <http://lse.ac.uk/Depts/global/workshoppapers.htm>, accessed 30 July 2008. C Rivard, *Virtual (ly) Remembering September 11, 2001: Memorial Websites and U.S. Nationalism*, 2007. Ibid. Ch Pentzold, *Fixing the Floating Gap: The On-Line Encyclopedia Wikipedia as a Global Memory Place*, 2007, Ibid.

[10] D Crane, 'Culture and Globalisation: Theoretical Models and Emerging Trends', in *Global Culture: Media Arts Policy and Globalisation*, D Crane, N Kawashima and K Kawasaki (eds), Routledge, New York, 2002, pp. 1-4, and *Postmodernity*, B S Turner, Sage, London, 1990, pp. 45^62.

[11] J Tomlinson,. 'Globalisation and Cultural Analysis' in *Globalisation Theory: Approaches and Controversies*, D Held and A Mcgew (eds), Polity, 2007, pp. 148-170, p. 150.

[12] P Hopper, *Understanding Cultural Globalisation*, Polity, London, 2007.

[13] M Poster, *Information Please: Culture and Politics in the Age of the Digital*, Duke University Press, Durham, NC, 2006.

[14] Op cit. p. ?

[15] Op.cit. p.36.

[16] J Monk, 1998, op. cit.

[17] B Goertzel, *Creating Internet Intelligence: Wild Computing, Distributed Digital Consciousness, and the Emerging Global Brain* (IFSR International Series on Systems Science and Engineering) Springer, 1 edition, December 1, 2001.

[18] N K Hayles, *My Mother Was Computer: Digital Subjects and Literary Texts*, University of Chicago, Chicago and London. 2005.

[19] J-N Jeanneney, *Google and the Myth of Universal Knowledge*, The University of Chicago Press, Chicago and London, 2007.

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Part II

Externalization and Mediation of Memories, Representational Principles for Memory Record, Digital Recording Strategies

Original Cinephany and Reappropriation: The Original Affect and its Reactualization through Emerging Digital Technologies

Marc Joly-Corcoran

Abstract
Nowadays, the movie spectators face many alternatives to relive an affective and positive viewing experience. In this digital age, the Internet represents a great media for producers of mass cultural products as well as for a certain type of consumers, namely the fan. The writings of Pierre Lévi and Henry Jenkins will be used to articulate the concepts of collective intelligence and cosmopedia, as well as participatory culture and transmediality, and how these concepts play a role in the reappropriation of the *cinephany*. Indeed the viewing experience must ensure a positive response for the viewer, a kind of ground zero, which leads to the reappropriation of their original affect. This is precisely what the fan wants to recreate and perpetuate in order to stay as close as possible to his or her fetish-ized world. Thus, I propose a new framework inspired by Eliade's *hierophany* and Odin's attunement, for which I created the term *cinephany* to identify the first affective experience created between the film and the spectator.

Key Words: Reception, Film Studies, Semio-Pragmatic, Eliade, Religions, *The Matrix*, Cinephany, Hierophany.

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1. Digital Technologies: A Tool of Reappropriation

The first part of this article presents the results of my ongoing research, which is about, amongst other things, the emerging digital technologies that influence the way we consume cultural products. The second part will use the *Matrix Trilogy* and its expanded universe as an example to demonstrate how and why the subsequent reactualization of the first viewing occurs within the spectatorial experience. I will not deal directly with digital technologies as the main object of study. My theoretical interest rather concerns *how* and *why* it affects the whole media relation between the user and the *cultural ramifications* (comic book, animation, videogames, toys, fan culture, etc.) coming from the first and main cinematic object (the "original" movie). Lev Manovich raises this issue in his book *Language of New Media* where he compares the differences between the

historical impact of photography on still images and the broader impact of the uses of computers:

> In contrast, the computer media revolution affects all stages of communication, including acquisition, manipulation, storage, and distribution; it also affects all types of media - texts, still images, moving images, sound, and spatial construction.[1]

Ergo, digital technologies also affect how the cultural products are received and consequently how the spectators manage to keep themselves in relation with their favorite movies. Modern spectators are given several possibilities to manage this relation. Indeed, unlike spectators from the beginning of the last century, they have a privileged access to the filmic memory through various digital apparatuses. They can get more information online about the movie before and after its release; they can watch the previews prior to the release or afterward; and, if they completely are hooked by the movie, they can buy the DVD as soon as it is released in stores. However, it might be cautious to specify, before going any further, that this kind of relation is not fully experienced, as described above, by all type of spectators. One may argue that only a minority may visit the official Web site in order to search for information and trailers. Let us say, for example, that it is always a matter of cultural affinity and personal interest. Moreover, we are most likely to find people having deeper involvement with specific cultural object within the fan culture. That being said, let's try to understand what kind of role digital technologies play over the whole movie spectator's experience, particularly in terms of reception and re-appropriation.

2. *Cinephany*: A Tool of Reactualization

Before the massive use of digital technologies in the Western Countries, the spectator has always been kept at a distance from the production process. Manovich writes about this issue:

> […] where most 'users' are able to 'understand' cinematic language but not 'speak' it (i.e., make films), all computer users can 'speak' the language of the interface. They are active users of the interface, employing it to perform many tasks: send e-mails, organize files, run various applications, and so on.[2]

On the contrary, after a century of experience in watching movies, today's spectators have acquired the ability to understand not only the language of film, but also to speak it. This is particularly the case with fan culture as fans

often use the latest technology in their advantage. For instance, to produce a fanfilm[3], they shoot scenes with their digital camera and put them together with editing software. Afterwards, the Internet allows them to distribute their fanfilm at low cost. As Jenkins says: "The Web provides a powerful new distribution channel for amateur cultural production."[4]

When I began to write this article, a question came to my mind: How is the "original affect" created during a first viewing re-actualized through emerging digital technologies? Indeed nobody wants to forget a positive experience. That is why the spectator often seeks every possible way to keep it alive through an undying affective memory, which relates directly to the positive experience. For a better understanding of this issue, I created a new theoretical framework called *cinephany*. Here is how I define it: *Every first viewing that arouses a positive affective attunement when the spectator is specifically facing a fictional audiovisual production, regardless of the technological media or type of productions being used.*

The methodological approach used is trans-disciplinary and draws its theoretical mainframe from two fields of study: religious studies and film studies. To elaborate this notion, I have referred to two concepts. First, the concept of *hierophany* created by Mircea Eliade, a historian of religions; and second, a notion from film studies called in French « mise en phase » by Roger Odin, which can be translated into English with the term *attunement*[5]. Through a theoretical hybridization of these two notions, the concept and the term cinephany was born.

However, what does *hierophany* mean in the first place? Created by Eliade, *hierophany* literally signifies the "manifestation of the sacred in the world". *Hiero* comes from the Greek word *hieros* meaning *sacred*, and *phany* comes from *phainen*, which means *to manifest itself*, or *showing*. The *hierophany* is the central part of what Eliade calls *dialectic of the sacred*. When a profane object, for instance a rock or a tree, is invested by the significance of the sacred, this object becomes sacred and allows a communication between the sacred world and the profane world. This object is called *hierophany*. In order to manage this relation, the religious institutions need a structure that is well known and mastered: firstly, we need a myth that tells the genesis of the primordial *hierophany*; secondly, we need a whole system of rituals that periodically allows the re-actualization of the first *hierophany*. When I use the word sacred, I am referring to the intense affective experience with the Otherness, whatever it may be. Eliade says in this respect : "[T]he manifestation of something of a wholly different order, a reality that does not belong to our world, in objects that are an integral part of our natural 'profane' world."[6]

The second theory I am referring to is Roger Odin's *attunement*. This notion is part of a larger framework consisting of several processes of fictionalization; that is to say, the processes that authorizes the text to be read

as a fiction. There are several kinds of *attunement*. However, I will use the following definition of *attunement*, which embraces the process more broadly: "The process that leads me to attune with the images and sounds given by the movie."[7] The movie leads to various types of affects. Therefore, depending on the intensity of those affects, there will be an *attunement*, a close and affective connection between the movie and the spectator.

The concept of *cinephany* offers some challenges, precisely because a *cinephany* does not occur necessarily and exclusively during the first viewing. Thus, my concept must be structured accordingly: first, there is what I call a *prefilmophanic cinephany*, which, for instance, can be experienced during the viewing of a trailer, creating high or low expectations regarding the full cinematographic experience to come. Secondly, there is the *cinephany in-genesis*, which is the *affective attunement* experience that happens during the first viewing in the theatre or in the living room. Finally, there is the *post-filmophanic cinephany*. Indeed, while watching a movie for the first time, some aspects of the story or some visual details crucial to understanding the whole plot of the movie may not be noticed. The first time a movie is watched, a *cinephany* doesn't occur necessarily each and every time; but if by chance it is seen a second time, a *cinephany* may or may not be experienced, or it can slowly develop through each viewing to become a total *cinephany* that will need to be re-actualized through other media. With this in consideration, I have to change the first definition I provided earlier by replacing *Every first viewing* with *The first sensory and/or intellectual awakening* (that creates a positive affective attunement when the viewer is specifically facing a fictional audiovisual production, regardless of the technological media or type of productions being used).

3. *The Matrix* as a Collective Intelligence

I will now use *The Matrix* universe as an example to support my claims. The reasons are obvious. Without digital technologies, *The Matrix Trilogy* and its related cultural products would not exist. With the first movie, a parallel can be drawn between what is shown, the technology used by the characters and all the groundbreaking technological innovations, and technologies that spectators are now used to manipulating in their daily life, such as the Internet. The spectator can easily relate to Neo and the other characters when they are surfing on the Net and in the Matrix. This would not have been the case if *The Matrix* were released during the 60's.

Spectators, who experience a *cinephany* while watching *The Matrix*, regardless if it is the first or the second viewing, will face many alternatives to re-experience it. Countless blog sites have popped up on the Internet, and most of them are still online to anyone who wants to discuss and share their own interpretation of the Matrix universe. Through this type of interaction, our relation to knowledge has changed with the emergence of digital

technology. Knowledge is accessible more than ever, and it serves the fan community pretty well. Pierre Lévy offers some interesting concepts regarding fan communities, particularly the concept of *collective Intelligence* and the *cosmopedia*. Lévy considers that knowledge is now de-territorialized. Henry Jenkins comments on Lévy's work as follow:

> Levy explores how the 'deterritorialization' of knowledge, brought about the ability of the net and the Web to facilitate rapid many-to-many communication, might enable broader participation in decision-making, new modes of citizenship and community, and the reciprocal exchange of information.[8]

Therefore, Levy defines the *Collective Intelligence* as *knowledge space*. Lévy wrote: "[N]o one knows everything, everyone knows something, all knowledge resides in humanity."[9]

4. *The Matrix* and its Spin-Offs

The results obtained when *Matrix* is entered in Google are impressive; there are over 41 million hits. Most of these hits on the *Trilogy* propose material ranging from glossaries to analyses that present, surprisingly, detailed arguments, dissecting every cultural, religious, and philosophical reference as well as addressing the aspect of reception. The movie itself uses existing and new technologies - such as the *bullet-time* effect, which is the slow-motion whooshing effect around Neo while he is dodging bullets. The story itself is also mostly relevant: *The Matrix* tells a futuristic tale of young rebels striking against the machines who use the human body as an energy source. To do so, the machines submerge all humans in a virtual dream world generated by a computer called the Matrix. I would like to point out the fact that the Matrix, as a computer, contains all the memories of every person physically living in the 23rd century, while at the same time connected to other memories of the 20th century. It is like watching a historical movie; your body as a movie spectator is firmly rooted in the present, but your mind is forced, virtually and voluntarily, metaphorically speaking, to experience what it is like to live, for example, during the American Civil War in *Gone With the Wind* (1939).

The movie spectator, afterwards, is also able to relive some aspects of his or her past viewing experience. One way to do so, which is relatively recent in media history, is to play the video game adapted from the movie. Indeed, feature films use video games as one avenue of promotion. However, for the release of Reloaded, the second film in the trilogy, the producers pushed this logic further with the *Play Station 2* video game titled *Enter the Matrix* (2003). The Wachowski Brothers took advantage of this new media

to complete the whole Matrix story. Instead of simply adapting their first movie into a video game, they shot entirely new scenes while shooting *Reloaded* and cut them into the video game storyline such as to complete and bridge the second and third features. There is also the *Animatrix* (2003) series, consisting of nine short anime films produced in Japan. They were first released on the Matrix's official Web site, one each week before *Reloaded* was released in theatres. For example, the CGI (Computer Graphic Images) anime short *The Last Flight of Osiris* merely hid its sequel status in the Matrix Trilogy. This short film serves as a prequel and justifies what is happening during the beginning of *Reloaded*. Other shorts, like *Second Renaissance Part 1* and *Part 2*, outline the genesis of the Matrix and describe why it leads to the events depicted in the feature films. Moreover, this series can help the aficionados to form and explore some thoughts approached by the cyberpunk trend, especially when it comes to understanding the relation between man and machine and all the ethical issues it raises. The fan will be most likely in need of a specific kind of reappropriation. Thus, he or she might create his or her own cultural product such as a fanfilm, or participate in a virtual community on the Web while playing the *Matrix Online* game, which starts exactly where the last movie *Matrix Revolution* ends. Henry Jenkins calls this type of uses *transmedia storytelling*, a phenomenon that he describes as: "[S]tories that unfold across multiple media platforms, with each medium making distinctive contributions to our understanding of the world."[10] All of these uses that aim, according to my research, to remember the *cinephany* would not be possible without digital technologies.

This brings me back to Lévis and his concept of cosmopedia. A long time ago, archaic societies were dependant on the elders to pass on the tribe's knowledge from one generation to the other. However, today, modern society makes good use of computer technology to archive and organize knowledge. Lévy terms this new cognitive organization mode cosmopedia. In his book *Collective Intelligence*, he explains the difference between the terms encyclopedia and cosmopedia, and why the latter is more appropriate today. Quoting Levis:

> Encyclopedia means 'circle of knowledge'.[11] Why designate the organized sum of our knowledge through the cosmos and not anymore within the circle? Rather than one-dimensional text, or even a hyper- textual network, we now have to deal with a multidimensional text filled with dynamic and interactive representations.[12]

Then he goes one step further saying that the actual communication world is crammed with many different ways to express the 'signified' other than the

traditional linguistic form. For instance, still images, animated images, sound, interactive simulations, interactive maps, etc[13].

5. Conclusion

In conclusion, digital technologies are now accessible to a wider group of users more than ever in media history. Almost everyone, at least in the Western countries, has access to a computer. Thus, the movie spectator is able, more than ever, to feed and relive his cinephany through the exchange of knowledge available on the Net, which is like a huge collective memory. The use of paper has territorialized the memory, and Internet has de-territorialized it. In the same way, the cinephany, as an affective memory of the movie, has been territorialized, since the only way the relive the experience traditionally - until the 80s and the *home theatre* era - was to go physically back to the theatre. However, digital technologies has freed it and de-territorialized the cinephany, making it more accessible to the spectator who wishes to recapture the original feeling outside the *Movie Temple*.

Notes

[1] L Manovich, *The Language of New Media*, MIT Press, Cambridge, 2000, p. 19.
[2] Ibid., p. 79.
[3] Amateur movie produced using borrowing narrative elements from popular and commercial culture without the explicit permission of the authors.
[4] H Jenkins, *Convergence Culture, Where Old and New Media Collide*, New York University Press, New York, 2006, p. 131.
[5] D Arsenault, *Narration in the Video Game: An Apologia of Interactive Storytelling, and an Apology to Cut-Scene Lovers*, VDM Verlag, Saarbrücken, 2008.
[6] M Eliade, *Le sacré et le profane*, Gallimard, Paris, 1965, p. 17.
[7] R Odin, *De la fiction*, De Boeck Université, Bruxelles, 2000, p. 38.
[8] H Jenkins, *Fans, Bloggers, and Gamers, Exploring Participatory Culture*, New York University Press, New York, 2006, p. 136.
[9] P Lévis, *Intelligence collective*, La découverte, Paris, 1997, p. 29.
[10] Jenkins, *Convergence Culture*, p. 293.
[11] Lévis, op. cit., p. 203.
[12] Ibid., p .204.
[13] Ibid.

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Can Web 2.0 shape Meta-Memory?

Alberto Sá

Abstract
The social features of recent Web 2.0 technologies applications can bear a strong relationship to memory production and can help to shape personal identity through emotional connections by synchronizing people's subjective experiences. The input of new media technologies into "how" and "what" to remember is a crucial factor influencing memory status in contemporary societies. The computer network is a performative agent of remembrance processes, and new and important criticism arises due to the externalization of personal memory into digital forms. This type of mediated memories circulates widely in mass culture and despite not having an organic basis; such memories can be interiorized by a person without having them experienced in real life, because of an involvement in cultural technologies. As those memories become an integral part of a personal experiences archive, can they act as a prosthetic element? In consequence, can an individual sense of meta-memory be affected?

Key Words: Collective Memory, Remembrance, Mediated Memory, Prosthetic Memory, Meta-Memory, Web 2.0.

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The skill consciously to remember experiences is a fundamental characteristic of individual and social well-being. Although always threatened by amnesia, the memory is an important cognitive ability because it forms the basis for knowledge and thought. The feeling of self is expressed by personality and identity, and is based on long-term memories of events; experiences and emotions lived in an individual or collective way, in proximity or in distance. The individual memory is formed by the coexistence, strained and not always peaceful, of several memories (personal, family, group, regional, national, etc.). Those memories are rooted in subjectivity and are internally constructed, but a person can only get consciousness of itself in communication with others.[1]

In a person, the notion of past and future is seriously compromised without the memorial fluid, which gives uniformity and continuity to the events. The mental canvas of past re-presentations does not remain stable but is in permanent construction, evolving from successive reinterpretations of the past over time, under the impulse of desires that are continually shaping a personal life. This alone should be enough to justify the academic interest in

understanding how digital technologies are affecting the nature of our processes of remembrance. Increasingly in the last century, the cultural patterns of communication have become technologically mediated, often merging old practices with new conventions: television, telephone, photo and video cameras, writing letters and the current version of e-mail, *sms* and posts. The role of digital media to capture both the individual and the collective memory should be interrogated. Further, to what extent the materials and the presence of subjective reflection on the web are transferred to a public and social memory, forming a memorial meta-representation.

1. The Ambivalence of Memory

The gradual development of civilizations in the twentieth century, would indelibly affect the mode and type of attention given to memory studies. In Western societies, progress based on industrialization, urban concentration and modernization of everyday habits weakened the traditional pillars - School, Church, Family and State – as guardians of the preservation and transmition of collective memory values. The decline of an oral tradition followed the disconnection between people and their ancestral roots, creating a "crisis of memory," a reflection of the cultural and political modernist context at the beginnings of the century that tended to disregard collective memories to welcome the future, its innovation and originality.

Following Pierre Nora's explication, as traditional memory weakened the need to collect the visible signs of what was before - evidences, documents, images, speeches -, became more assiduous. This profound sense of loss, anxiety and insecurity about the relationship between culture and past would trigger, by means of a complex mechanism of transfer, the fascination for *lieux de mémoire* - places where the memory crystallizes and heritage is consolidated. Accordingly, in the second half of the twentieth century, a number of changes of a political, technological, cultural and interpersonal kind affected the way by which people and societies forget and remember. The reflection of these changes into how societies and individuals read the past would set a real *boom of memory*, a tendency to enhance the capacity for memory in a variety of forms: criticism of official versions of history and recovery of areas of history previously repressed; demands for signs of a past that had been confiscated or suppressed; growing interest in "roots" and genealogical research; commemorative events and new museums; renewed sensitivity to the holding and opening of archives for public consultation. In addition, this period promoted the so-called *heritage industry*, as the representations and activities invoked in remembrance and in preservation or reactivation of the past were objects for instrumental use for commercial or governmental purposes.[2]

The systematic study of the memory theme tends to be interdisciplinary in the sense that there are many values to consider, from the

practices and support technologies to the mediation and consumerist relationship. Just because the boundaries of individual, social and psychological are of a nebulous nature, it follows clearly that conceptual and epistemological levels are extremely hard to reconcile in a scientific approach. A prospect of an interpretive display could be elucidated with the contribution of different (sub) disciplines approaches. Therefore, the purpose of this study is to achieve an interwoven analysis by incorporating new issues arising from the increasing technologization of the society, which directly affects the larger theme of memory.

2. Web 2.0: Socio-Cultural Practices Mediated

At the end of the last century, some conditions contributed to configure a new technological paradigm that made information as the raw material on which society operates.[3] These factors are simultaneously cause and effect of a broader phenomenon in the transformation of our material culture. The impact of global networks, and the continued increase in the bandwidth, contributed to reconfigure the role of the computer in western societies: not as an end in itself (type of workstation, as occurred in previous decades), but as a mediator to access applications in cyberspace. Both the phenomenon of *killer applications* and the plethora of services that characterize *Web 2.0* are well-know examples: the activities are now more web-based (the Internet as an operating system) and less in local hard disk.

Gradually, all processes of life and human culture have been directly shaped - although not determined - by the new technological environment and strongly influenced by the advent of the Internet. The proliferation of mobile devices with wireless connection allowed computer tools to be used outside the scope of private space, expanding horizons to the public arena. As information is a natural element of human activity, there was the immersion of new technologies in all processes of individual and collective existence, while bearing in mind the limitations imposed by the digital divide.[4]

Following from the above, the advent of the "second wave" of the Web, standardized by the buzzword "2.0", was a landmark in the era of *Open Access* that usually refers to the access via the Internet to material free for all users to read and use. In recent years, a number of projects and Web services have gained a particularly connected dimension, called *social software* that promotes and stimulates the group interaction through contact and collaboration between users in tasks at work or leisure. There are several variations of *social software,* which emphasize communication, on the one hand, or collaboration and / or social interaction, on the other.[5] What these tools promoted was the lowering of technical skills needed to access the benefits of information technologies.

In a simple and free way, millions of people participate in producing, sharing and exchanging these forms of media. Despite some

criticism that arose concerning this sudden enthusiasm for employing such technologies,[6] Web 2.0 has not only increased the communicative and audience dimensions, but also the appeal to subjectivity and affection.

For our purpose, it is noted that the traditional "shoebox" of analogue memory objects (photos, letters, and videotapes, for example) has increasingly become the form of digitized objects. Apparently, digital technologies have changed the way we frame the past into new sensory ways, affecting both the conventions of remembrance and of communication. In this way, the personal archive gains advantage in terms of access, visibility and scope. Although the presence of these technologies is not crucial by itself, however, they influence the preferences for preservation of certain kinds of memory potential in a given format / medium, or in combination between them. It is under this principle that the proliferation of mobile phones increased the immediateness and dissemination of photos or videos taken *in loco* and *in situ* to an unprecedented level. Taken as an example, and despite all the reflections around the changing newspaper environment, some optimistic visions recognizes that the availability and popularity of new media technologies is something that performs a new cultural practice, the participatory journalism. Such conditions, in the words of B. Franklin, "empower a growing army of citizen journalists, bloggers and readers wishing to post comments online, to construct a more pluralist and democratic debate about matters of public interest".[7] As an example of the Web's reporting power, one of the first pictures to be posted from the U.S. Airways plane crash into the Hudson River, on 15th January 2009, was taken by a citizen who was on a ferry, took a snap on his *iPhone*, and immediately uploaded it to *Twitter*, a micro-blogging service. Thousands of people viewed the picture in the following moments and many media organisations have since interviewed the author. It should be noted that a member of the public took the photo.[8]

Whether the Web's current impact on newspapers may be seen as a healthy form of active participation or simply as a marketing campaign, it is clear beyond doubt that the record of history has now new and important insights - from all to all - without being scrutinised by the sacralised narratives of religious or state authorities. Despite being little perceptible, the unlimited storage of memories supported by technology perhaps begins to correspond to the emergence of new rituals and new ways of socializing and experiencing memories.

3. Mental Constructions

It is important to examine how this technological platform in development, with its fragilities, recalls classic questions about "memory", forcing a reassessment of the traditional problems. The digitalization modalities have promoted a reinvention of the old rituals. The spread of

personal memory is, increasingly, an online task through the simultaneous use of multiple formats for presenting information (text, graphics, animation, images, videos and sound). The technologies of memory are increasingly mediated and massive forms of visual technologies.

The social features of *Web 2.0* applications can help to shape the feelings and personal identity through emotional connections. Some of the important functions have been the synchronization of the subjective experience with others and the consequent confrontation of value judgements. The cultural practices of blogging, the participation in forums with comments or in other cyber-places of public discussion like on newspapers websites, the deposit of personal videos on *YouTube* and the alike, a display of personal and family photo blogs, the labelling of metadata informal vocabulary (collaborative or social tagging and folksonomies), the creation of networks of social relationships through services that promote and streamline the interaction group (*Hi5*, *MySpace*, *FaceBook*, *Orkut*, *MSN Messenger*, *GoogleTalk*, *Twitter*...), the edition of "informational" contents with more or less scientific authority through the use of wikis, among others examples – all in general reflects the need to synchronize personal experience with the desire to fix remembrances and to revisit them over time.

The online participation has become an experience of real life, a construction of self mediated by tools for reflection and communication, of which *Second Life*, while metaverse, a universe within the universe, is the maximum exponent. *Twittering*, a news service of the ego that allows people to share information with the world the minute they get it, can be a constant update of oneself ("who"), their life ("what") and particularly about their whereabouts ("where"), for this practice reveals high affinity for mobile using wireless technologies for Internet access. It corresponds with insights about commentaries on daily life, which, in a sceptical sense, can reveal a strong sense of lack of identity and can suggest a level of personal insecurity. However, this constant sense of connection gives an instant and unfiltered outlet for self-expression and allows someone to follow another life's references, thoughts, moods, location, ideas or even projects; another opportunity provided by the Internet.

Overall, due to the dynamics of powerful databases that traces specific virtual connections on the Web, the facets of an individual gain a wider social projection, well explicit in the "long tail" effect: the pace of minorities (the originality and sophistication of individualism or niche market) is not obscured by the "dictatorship" of the majority[9]. The *World Wide Web* opened up space for new cultural practices fulfilling a social need to connect itself to the vast contents of the community, society and History.

As human activities are increasingly carried through and by the Network, the electronic records indexation allows the mapping of an individual in the cyber universe. "Existing" in the immensity of cyberspace

implies the ability to be found, to emerge from anonymity and from obscurity. The individual becomes exposed to the logic of relevance and ranking processed by search engine's algorithms (as Google's *pagerank*). In the Web environment, belonging to the "index" hasn't the ruthless stigma of the Catholic Inquisition sanction. However, there are not so few notices reporting conflicts with the viral spread of unwanted divulgation of private records or activities. Even more relevant is to know how far a person can eliminate the traces of their presence in cyberspace.

Overall, and in spite of further discussion, it is apparent that the digital tools challenge the assumptions of memory externalization, recalling the ancient controversy of Plato in his much-admired work *Phaedrus*. Instead of being confined to simple registration machinery for automatic storage and retrieval - reminiscences of Vannevar Bush's *Memex* machine[10] - the computers have allowed a new dimension as the technologies of self, with creativity and emotional potential. Such a conclusion leads to the next point.

4. Prosthetic Memory and Meta-Memory

Therefore, new and important considerations arisen in the face of the increasing externalization of individual memory within digital formats. These procedures are being used as aids to memory and reflect the techniques of our time. Instead of the classical Greek *ars memoriae*, we now trust in external devices, among them are the paraphernalia of *Web 2.0* services. These tools for recording and updating the past guide future memory and identity of users. Literally and metaphorically, they act as amplifiers of affect, while dramatically increasing the speed of communication and audience range. When in 1999 two students of Columbine School in Littleton, Colorado (USA) attacked a school with guns and explosives, the event was reported worldwide in real-time. Regardless of its updating speed, the online editions of local newspapers expanded their coverage to include views and comments, photos, messages of consolation and encouragement, and eyewitness accounts of the event, which were innovations in order to comfort and support the local community. Some of these procedures would soon be perceived as being citizen journalism and that potential could well able the international readers to understand the events through its local contexts.[11] Also in 7 July 2005, the British public's response to the underground and bus bombings showed how visitors to online news sites were willing and interested to contribute content. The BBC received 22.000 emails and text messages, 300 photos and several video sequences on the same day of the attacks. The dramatic scenes and videos dominated the news from the BBC, the first time when this kind of material was considered of greater confidence than professional content. Quantitative evidences seem to show that websites based on user participation generate more traffic than those sites unrelated to this concept.[12]

The emergence of online tools, as mentioned previously, that allows for broad participation in the creation and dissemination of user generated contents and symbolizes presence and subjective reflection on the Web, can stimulate the propensity to share feelings and emotions publicly. By this means, emotional memory subjectivity can be transferred from an autobiographical memory to a public memory, because it is exposed and shared. It also becomes social because it connects the private thoughts to the public resources of collective common experience. This transmission of memories can reinforce the feeling of belonging to a group and a culture, forms of representation that Halbwachs called "collective memory",[13] and that Assmann gives a more comprehensive attribute as "communicative memory", when related to its proximity to everyday, or "cultural memory", characterized by a larger temporal horizon.[14]

Inevitably, the media apparatus promote changes in the remembrance processes. The networked computer is an agent shaper of remembering. The digital tools can help to conceptualise memory as a process sketched out in time and prone to the vagaries of continued reinterpretation and reorganization. The electronic network driven by *Web 2.0* can have as effect on individual and collective memories, or even on the recombination of both. Therefore, we should look at these tools as instruments of creative reminiscence and as mnemonic aids: Jose van Dijck indicates that patients suffering from dementia and Alzheimer's have been encouraged, as therapy, to try to retain a sense of themselves through blogs, using the new media as a form of self-expression and sharing point of their experiences with others, through the underlying connectivity of the Internet.[15]

As the memory is always implicit in the act and technique of writing, some services now provided by the *Web 2.0* can provide intimate awareness of each other in the outside world, while providing signs for the past itself. Therefore, it should be considered as opportunities to evoke dimensions of a personal subjectivity through such means. When added to life, the proliferation of mechanical memory experienced and produced using technology can form a new consciousness.

The types of memory in digital form circulates in mass culture, and despite not having an organic basis, they can, however, be experienced by people without having living them, as a result of an involvement in a wide range of cultural technologies, such as the Internet, in this case. These types of memory are, therefore, prosthetic memories, becoming a part of the personal experience archive, flowing subjectivity and present and future time's relationships. These memories cannot be "natural" or "authentic" in a traditional sense, and are made possible by a mass culture capable of a wide dissemination of images and narratives, but they can organize and vitalize the body and subjectivity for those who have adopted them.[16] In this dimension, the forms of memory that go beyond the ethnic and political boundaries and

that are enhanced by the technological changes of the media in the globalization era can also be called "cosmopolitan memory".[17]

There is no memorial representation without different kind of traces. The innovative potential of the digital memory machine provides easy and immediate access to the path of life left by others, signed with traces a person leaves voluntarily or not, led by the irreversible turning point to the digital way of life of societies. Because it's quite easy to follow trends of user's web interests, the digital tools can help to taste the memories of a personality in change.

In everyday life, a person regularly requests multiple memories, recent or old, with greater or lesser degree of security and certainty. Joël Candau pointed the taxonomy of different forms of memory. Of these, I highlight particularly the meta-memory, that is, the representation that each individual makes of their own memory and the knowledge awareness, being able to highlight the features, interests, depth and gaps.[18] In this sense, by the meta-memory an individual can idealize its own memory, through a process of subjective awareness of themselves and aware of past membership and construction of identity, in distinction to that of others.

Digital media have the power to influence the brain process of perception and remembrance of experience. Thus, these digital tools, far from being mere external instruments of capture and repository, can help to build the concept of a past - both in terms of our private lives or as History in general, acting as meta-memory.

Notes

[1] M Halbwachs, *La mémoire collective*, A Michel (ed), Paris, 1997 [1950].
[2] P Nora (ed), *Les lieux de mémoire: la République, la Nation, les France*, Gallimard, Paris, 1997, and also, P Nora, 'L'avènement mondial de la mémoire', *Tr@nsit online*, no. 22, 2002.
[3] M Castells, *The Information Age: Economy, Society and Culture*, I - The Rise of the Network Society, Blackwell, Oxford, UK, 1996.
[4] E Hargittai, 'Second-Level Digital Divide: Differences in People's Online Skills', *First Monday*, vol. 7, no. 4, 2002.
[5] T O'reilly, 'What is Web 2.0. Design Patterns and Business Models for the Next Generation of Software', *O'Reilly (online)*, 2005.
[6] Keen talks about the evils of "amateurism" within public opinion (A Keen, *The Cult of the Amateur*, Nicholas Brealey Publishing, London, 2007). In the opposite way, Surowiecki underline wise decisions reached by the wisdom of crowds (J Surowiecki, *The Wisdom of Crowds*, Doubleday, London, 2004).
[7] B Franklin, 'The Future of Newspapers', *Journalism Practice*, vol. 2, 2008.

[8] The pictures of the plane crash into the Hudson River, in New York City, were taken by Janis Krums and uploaded to his *Twitter* account <http://twitpic.com/135xa> with the astounding commentary: "There's a plane in the Hudson. I'm on the ferry going to pick up the people. Crazy".
[9] C Anderson, *The long tail*, Random House, London, 2006.
[10] V Bush, 'As we may think', *The Atlantic Monthly*, vol. 176, no. 1, 1945.
[11] J Hall, 'Online Editions: Newspapers and the 'New' News', *Pulling Newspapers Apart: Analysing Print Journalism*, 2008, pp. 216-217.
[12] A Hermida and N Thurman, 'A Clash of Cultures', *Journalism Practice*, vol. 2, no. 3, 2008.
[13] Halbwachs, *La mémoire collective*, A Michel (ed), Paris, 1997, [1950].
[14] J Assmann and J Czaplicka, 'Collective Memory and Cultural Identity', *New German Critique*, no. 65, 1995.
[15] J Dijck, *Mediated Memories in the Digital Age*, Stanford University Press, Stanford, California, 2007, pp. 58-62.
[16] R Robin, *La mémoire saturée*, Stock, Paris, 2003. See, also, A Landsberg, *Prosthetic Memory: The Transformation of American Remembrance in the Age of Mass Culture*, Columbia University Press, New York, 2004.
[17] D Levy and N Sznaider, 'Memory Unbound: The Holocaust and the Formation of Cosmopolitan Memory', *European Journal of Social Theory*, vol. 5, no. 1, 2002.
[18] J Candau, *Mémoire et identité*, PUF, Paris, 1998, p. 11-15.

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Clickable Memories:
Hyperlinking and Memory Contextualization

Olivier Nyirubugara

Abstract
In the mid-1990s, memory institutions started massively digitizing their analogue resources to make them accessible on Internet. The efforts aimed and still aim at two things: preserving the fragile items by providing digital surrogates, and giving easy, instant access to materials regardless of time or space. Digitizing and providing access to digitized materials is not enough as the digitized materials originally came into being in a context, in an environment, in a time when other related events or experiences were taking place. In this paper, hyperlinks are considered from the pedagogical point of view, but before that, they are placed in their historical context with special focus on early thinkers' theories on the association of knowledge.

Key Words: Cultural Memory, Digitization, Contextualisation, Pedagogy.

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Memory, not only as the psychic capacity or faculty to retain and retrieve past information, but also as the ways individuals, groups, or societies make sense of their past, is and has always had the form of a network involving many agents and actors. At a personal, psychic level, one has mostly to rely on external reminders: a clock alarm reminds one that a particular activity is planned at a particular time of the day. A note in the diary or on a wall calendar takes over the alarm and reminds that the event will take place in a particular place, at a particular time, and for a certain duration. A similar network of *aides-memoire* exists at the collective level, where monuments, cemeteries, cathedrals, books, and other *lieux de mémoire* connect the members of a community to some aspects of their past. Many of these reminders of the collective past connect to one another in some ways, despite spatial and temporal distances that separate them. In the current digital age in which memory resources are [being] digitized and made available on the World Wide Web (Web), each individual resource needs a network of digital *aides-mémoire* that place it in a historical context. This paper discusses the theories about the association of knowledge and the pedagogical potential of hyperlinking when properly applied on cultural memory resources.

1. Association of Knowledge

In the late 1930s, George Wells was already complaining about the lack of interconnections in the knowledge management mechanisms: 'I dislike isolated events and disconnected details. I really hate statements, views, prejudices and beliefs that jump at you suddenly out of mid-air'.[1] In the 1940s, scientists and media scholars started advocating the entrustment of knowledge to memory machines that would not only store information in an ordered way, but also allow quick and easy retrieval. Vannevar Bush was the first to advocate a clear change in knowledge management and transmission in 1945, when he was proposing a way a machine - the Memex - and a medium - microfiche - could be used to facilitate storage of, and access to information.[2] Two decades later, J.C.R Licklider (1960) was to call for a 'symbiotic relation between a man and a fast information-retrieval and data processing machine' that would improve the thinking process. Bush was inspired by the model of the human mind, which 'operates by association' and, which, 'with one item in its grasp, [it] snaps instantly to the next that is suggested by the association of thoughts'.

While Bush was suggesting that the human mind could not be duplicated but should rather serve as a source of inspiration, Licklider was hoping for a future where 'human brains and computing machines will be coupled together very tightly', resulting in a partnership that 'will think as no human brain has ever thought'. Writing in the early 1990s, George Landow and Paul Delany confirm the similarity between hypermedia and the mind, suggesting that the former's electronic representation of human memory, fantasy and cognition is 'a much better model of the mind's typical activities'.[3] Pierre Lévy perceives the technologizing of knowledge management as a two-way process based on the principle that 'an intellectual technology nearly always exteriorizes, objectivises, and virtualizes a cognitive function, a mental activity', which, in turn, it reorganizes.[4] Building on Bush's and Licklider's theories, Douglas Engelbart devised a way to associate stored information using hyperlinks that could connect not only different documents, but also enable to link 'directly to something deep in a particular file' like a single word in a paragraph. Besides, he invented the point-and-click mouse that allows jumping from one item to another, 'like magic'.[5] Since then, hyperlinking has been the underlying principle behind the Arpanet, the US Defence Department project that later developed into the Internet and the Web. The more popular the Web becomes, the greater is the demand for multi-directionally linked contents in various formats.[6] The Web and its hyperlinking possibilities are the culmination of all these efforts that aimed to store the pieces of information in a logical way, on the one hand, and to allow easy access to them, on the other.

While initial efforts were almost exclusively targeting scientific records and information, the storage, access, and hyperlinking gains are

largely applied in other realms of knowledge, including cultural memory. In the latter case, Pierre Nora remarks, 'an invisible thread links objects which have no obvious connections […] and there is […] an unconscious organisation of collective memory which we have to make self-conscious.'[7] The past being a foreign country, David Lowenthal maintains that its vestiges 'become intelligible only when woven together as stories'. This can happen only if 'explanatory linkages' are made between the various vestiges. Although writing about a decade before the first cultural memory digitization initiatives, Lowenthal opposes the linear nature of narratives, arguing that they 'constrain historical understanding':[8]

> The auditor or reader has to follow a single track from start to finish. But awareness of the past involves more than linear movement; social, cultural, and myriad other circumstances are superimposed on the narrative, together with histories of other peoples, other institutions, other ideas […] historical narratives back-track to clarify causal connections.[9]

Digitization projects are massively bringing new materials to the Web, and these materials, generally located in distant places, could be related to one other. Josephine Bryant *et al.* note that the most interesting feature of digital materials is not only the facility with which they are integrated with other resources, but also the ability to cease to be isolated pieces and become a coherent and useful system of relationships.[10] It is also argued that 'historical value of an object depends not so much on the nature of the object itself as on its associations'.[11] Hyperlinking favours those associations and constitutes a powerful tool especially when it is properly applied to 'develop links between internal collections and external resources all from a seamless single access point'.[12]

There is a need, as Cameron and Robinson point out, for a substantial revision of the ways information is documented, since digital databases should be constructed and structured in a way that 'enables users to link information' and narratives to work together.[13] Even in their original or analogue forms and formats, cultural memory resources need some structure that 'clarifies, places things in context', because 'no physical object or trace is an autonomous guide to bygone times'.[14] Once interconnected, digitized cultural memory resources become a valuable education tool.

2. Pedagogical Tool

Beside the records that initially form[ed] one collection that could reunite thanks to digitisation and the Web, the online inter-connection of related and complementary materials is highly beneficial, especially for

educational purposes. Abby Smith hails digital technologies for providing extraordinary access to remote and hard-to-access materials, and, more importantly, for bringing together research materials that are widely scattered around the globe, allowing viewers to conflate and compare items that can be examined side by side.[15] It should be stressed that this optimism remains mostly theoretical, as many memory institutions still have to hyperlink their digital materials to internal and external related resources. One such case is the *Table clock* by Henry Jones, whose picture and explanatory text are on The British Museum's website. The 3-paragraph, text begins as follows:

> Following the introduction of the pendulum by Christiaan Huygens in 1657, table or bracket-mounted, spring-driven clocks became a popular furniture item for those who could afford them.[16]

The most important piece of information in this sentence is that Huygens' Pendulum Clock is the ancestor of Jones' Table Clock. The no-link text offers no other option to know more about the ancestor - the Pendulum Clock - before jumping to its descendent - the Table Clock. The Museum Boerhaave in Leiden, The Netherlands, not only preserves the original Pendulum Clock, but also has a Web page with its picture and a hyperlinked text to explain it.[17] The most striking example can be found on the American Memory's website, where for instance the learner can trace the different stages the 1863 Emancipation Proclamation went through. President Abraham Lincoln's initial hand-written manuscript begins with the title: 'By the President of the United States of America: A Proclamation' and goes on: 'I, Abraham Lincoln, President of the United States of America, and Commander in Chief of the Army and the Navy thereof, do hereby proclaim and declare that […].[18] The final version, which has entered history, has dropped 'A proclamation' from the title, and its body begins quite differently with: 'Whereas on the Twenty-Second day of September, in the year of our Lord one thousand eight hundred and sixty-two, a Proclamation was issued by the President of the United States […]'.[19] Astonishingly, none of the web pages refer to or link to the other, which makes the learner's task harder as it does not invite him or her to compare the two documents. There are even risks of stopping at the manuscript draft level, since the learner is not told that it is the beginning of a process, not its end.

This suggests that cultural memory institutions are adding little value to their resources by not 'presenting the information within a broader context estimated to be relevant to the information user'.[20] Pedagogically speaking, especially in this specific case of the Table Clock, 'there is a need to connect an object to an origin, a past, and a chain of events'.[21] This context-creating possibility is one of the major differences between analogue

media and their electronic counterparts. With analogue media, 'messages are often separated in time and space from their source and thus received out of context'.[22] Transferring cultural memory resources to electronic media, as most institutions are doing, is one stage that does not include that those institutions' uses of digital technologies defer from their analogue predecessors.[23] Fiona Cameron and Helena Robinson suggest that institutions still have to go a step further by transforming collection documentation into 'effective and sustainable knowledge environments', a step that can perhaps 'lead to unforeseen interpretations of collections'.[24] For this reason, cultural memory institutions have to position themselves as experience brokers and to work closely with educators to:

> enable the creation of a range of user contexts and preferences, drawing the user's attention to a specific object, its relations to others, and suggesting routes through information based on specific profiles […] Likewise, the tasks of collection managers may witness a greater emphasis on creating and linking digital resources.[25]

Demonstrating the power of hyperlinks as an organizing principle, Alexander Halavais explains that allowing the instant jump to other resources in collections of documents broadly on the Internet makes the hyperlink 'the basic element of organization for the Web'.[26] Despite being the basis of the Web, and thus something supposed to be self-evident on every Web page, Cameron and Robinson regretfully wonder why cultural memory institutions 'largely fail' to take advantage of digital technologies to provide broader historical contexts for their collections, and to exploit the inherent plural meanings embedded in collections.[27]

Moreover, it is in the advantage of cultural memory institutions to include as many links in their digital collections as possible, because the more hyperlinks to or from the page, the more authority it gets.[28] This explains why extensively hyperlinked Wikipedia is becoming more and more popular. About 10 percent [78 words excluding notes] of the 886-word article dedicated to Christiaan Huygens is hyperlinked to related articles. The hyperlinked key words include 'René Descartes', Huygens' friend; 'the University of Leiden', where he studied Law and Mathematics; 'light' and 'waves', which he extensively theorised; 'Blaise Pascal' who encouraged him to write the first book on 'probability theory' [also linked] ; the 'Pendulum Clock', his breakthrough discovery in timekeeping; and the 'Museum Boerhaave', where most of his heritage is preserved.[29] Even though such an anonymous user-generated piece of writing still poses the problem of accuracy and authoritativeness, there is no doubt that it provides the reader with a maximum of information about the person, his time, his environment,

his schooling, his oeuvre, etc. Each jump to another page provides a similarly hyperlinked text and pictures. Moreover, as Eric Picard puts, it 'lets them [readers] choose their own focus on what interests them, and ultimately consume media at their own pace - on their own terms'.[30]

In addition to the navigational function, hyperlinks guide the learner or reader to the particular resources that are relevant, and through which he or she traces a path that suits his or her interests.[31] For instance, a quick scan of the text allows him or her to detect what other important resources are available, and offers him or her the possibility to use forward and backward arrows, or to open multiple windows, to navigate through resources or have them side-by-side. From the Huygens page on Wikipedia, a user interested in the Pendulum Clock would most likely click on the 'Museum Boerhaave' link after reading 'The oldest known Huygens style pendulum clock is dated 1657 and can be seen at the Museum Boerhaave'.

Mike Thelwall distinguishes four sorts of hyperlinks: *selflink* is a link from any page in a site to any page in the same site; *inlink* refers to 'a link to any page in a site from any page in a different site'; *outlink* refers to 'a link from any page in a site to any page in a different site'; and finally *interlink* which refers to 'a link between two different websites'.[32] Herbert van de Sompel and Patrick Hochstenbach note that these links could be either static - with targets computed in advance - or dynamic - with targets assigned on the fly, and advocate the use of the latter or a combination of both, as they are likely to create a fully interlinked environment.[33]

Van de Sompel and Hochstenbach also remark that the Web's ubiquity has created new experiences that make it not 'comprehensible that secondary sources, catalogues and primary sources, that are logically related, are not functionally linked'.[34] Lévy calls these experiences a return to nomadic practices whereby, 'rather than following tracks and migrations within fixed domains [poorly or not hyperlinked Web pages], we leap from network to network, from one system of proximity to the next'.[35] This new form of nomadism - digital nomadism - requires not a physical presence of the learner - or digital nomad - in a memory institution, as 'telepresence technologies' enable them to follow digital tracks - hyperlinks - and thus to be 'simultaneously here and there'.[36] Beside the logical links that hyperlinks [should] make functional, the latter also speed up the search-and-finding process, as related pieces of information are always interconnected and easy to detect thanks to the hyperlinks' special features - generally blue-coloured and underlined. Hitchcock suggests that while speed is the most crucial feature of the Web, hyperlinks are its currency.[37] Angelina Russo and Jerry Watkins advise cultural institutions to emphasize 'learning opportunities' and be audience-focused in their digitization efforts, which proper hyperlinking can greatly and valuably contribute to.[38]

3. Conclusion

The few theories that explored the mapping of digital technologies for cultural memory and their hyperlinking potential are unanimous in pointing to its contextualisation and pedagogical values. Not only are items placed in networked environments, but also each user is given the possibility to become 'a spatial wanderer, traversing information and freely selecting trajectories and viewpoints, rather than a "passive," directed observer', whom memory institutions can seduce by carefully arranging arguments with the help of hyperlinks.[39] It was also stressed that boundaries between sister-collections are likely to, and should actually, vanish, but for this to happen, cultural memory institutions have to lay down cooperation strategies both locally and globally to monitor and detect interconnections among digital cultural memory resources. Once interconnected resources have been identified, they could be hyperlinked in a meaningful, pedagogical, coordinated, and multi-directional way.

Notes

[1] H George, *World Brain*, Methuen & Co. Ltd, London, 1938, p. 2.
[2] V Bush, 'As We May Think', *The Atlantic Monthly*, July 1945.
[3] G Landow and P Delany, 'Hypertext, Hypermedia and Literary Studies: The State of the Art', in *Hypermedia and Literary Studies*, P Delany and G Landow (eds), The MIT Press, Cambridge, 1999, p. 8.
[4] P Lévy, *Becoming Virtual: Reality in the Digital Age*, Plenum Press, New York, 1998, p. 50.
[5] D Engelbart, 'The Click Heard Round The World', *Wired*, Iss. 12.01. 2004.
[6] S Hitchcock et al., *Linking Everything to Everything: Journal Publishing Myth or Reality?*, Electronic Press Ltd, London, 1997.
[7] P. Nora, 'Entre Mémoire et Histoire: La problématique des lieux', in *Les lieux de mémoire I- La République*, P Nora (ed), Editions Gallimard, Paris, 1984, p. XVL : '[…] un fil invisible relie des objets sans rapport évident[…] Il y a un réseau articulé de ces identités différentes, une organisation inconsciente de la mémoire collective qu'il nous appartient de rendre consciente d'elle-même.'
[8] D Lowenthal, *The Past is a Foreign Country*, Cambridge University Press, Cambridge, 1985, p. 218.
[9] Lowenthal, p. 223.
[10] J Bryant et al., *Digitizing Cultural Resources: A Practical Guide for Public Libraries*, Bertelsmann Stiftung, Gütersloh, 2004, pp. 12-13.
[11] L Woolley, *Digging up the Past*, Pinguin Nooks Ltd., Harmondsworth, [1930], 1954, p. 16.
[12] Bryant et al, p.12.

[13] F Cameron and H Robinson 'Digital Knowledgescapes: Cultural, Theoretical, Practical, and Usage Issues Facing Museum Collection Databases in a Digital Epoch', in *Theorizing Digital Cultural Heritage: A Critical Discourse*, F Cameron and S Kaderdine (eds) , The MIT Press, Cambridge, 2007, p. 168.
[14] Lowenthal, pp. 224 and 238.
[15] A Smith, *Why Digitize?*, Council on Library and Information Resources, Washington, D.C., February 1999, p. 7.
[16] The British Museum, Table Clock by Henry Jones.
[17]Boerhaave Museum, <http://www.museumboerhaave.nl/>.
[18] American Memory, <http://memory.loc.gov/>.
[19] American Memory, <http://memory.loc.gov/>.
[20] H van de Sompel and P Hochstenbach, 'Reference Linking in a Hybrid Library Environment. Part 1: Frameworks for Linking', *D-Lib Magazine*, Volume 5, Issue 4, April 1999.
[21] F Cameroon, 'Beyond the Cult of the Replicant: Museums and Historical Digital Objects - Traditional Concerns, New Discourses', in *Theorizing Digital Cultural Heritage: A Critical Discourse*, F Cameron and S Kaderdine (eds), The MIT Press, Cambridge , 2007, p. 58.
[22] Lévy, p. 51.
[23] P Walsh, 'Rise and Fall of the Post-Photographic Museum: Technology and the Transformation of Art', in *Theorizing Digital Cultural Heritage: A Critical Discourse*, F Cameron and S Kaderdine (eds), The MIT Press, Cambridge, 2007, p. 31.
[24] Cameron and Robinson, p. 165.
[25] Cameron and Robinson, p. 185.
[26] A Halavais, 'The Hyperlink as organizing Principle', in *The Hyperlinked Society: Questioning Connections in the Digital Age*, J Turow and L Tsui (eds), The University of Michigan Press, Ann Arbor, 2008, pp. 42 and 53.
[27] Cameron and Robinson, p. 174.
[28] R M Henzinger, 'Hyperlink Analysis for the Web', *IEEE Internet Computing*, January-February 2001, p. 49.
[29] Wikipedia, <http://en.wikipedia.org/wiki/Christiaan_Huygens>.
[30] E Picard, 'Hyperlinking and Advertizing Strategy', in *The Hyperlinked Society: Questioning Connections in the Digital Age*, J Turow and L Tsui (eds), The University of Michigan Press, Ann Arbor, 2008, p. 159.
[31] Halavais, pp. 39-40.
[32] M Thelwall, *Link Analysis: An Information Science Approach*, Amsterdam, Elsevier Academic Press, 2004, p. 5.
[33] Van de Sompel and Hochstenbach
[34] Van de Sompel and Hochstenbach

[35] Lévy, p. 31.
[36] Lévy, p. 37.
[37] S Hitchcock, 'Web Publishing: Speed changes everything', in *Computer*, volume 29, issue 8, 1996, pp. 91-93.
[38] A Russo and J Watkins, 'Digital Cultural Communication: Audience and Remediation', in *Theorizing Digital Cultural Heritage: A Critical Discourse* F Cameron and S Kaderdine (eds), The MIT Press, Cambridge, 2007, p. 162.
[39] Cameron and Robinson, p. 179.

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Part III

Emergent Technologies and Systems for Capturing Private Memories

HyperAuthor:
A New Tool for Hypertextual Narrative Creation

Diana Espinal Cruces and Jose Jesus García Rueda

Abstract
In this paper we will describe HyperAuthor, a hypertextual fiction creation tool whose main aim is not just making the writing of this kind of literature easier for the author, but also producing a kind of narrative hypertext that encompasses the soundest features of this technology without missing some of the most important achievements of the traditional books and stories, reached after so many centuries of improvement. HyperAuthor is then a tool thought to create hyperfiction keeping always in mind that going too far nowadays may cause a loss of writing and reading quality. Our aim is to try to incorporate some new features that will help to foster the intimate relationship between the reader and the narration in this new scenario, at the same time eliminating the obstacles that these new features could bring. In this sense, HyperAuthor represents just a small step forward from the traditional book what, on the one hand, may contribute to increase the number of readers accessing this new kind of literature, and on the other hand, the time for these readers to get used to interactive storytelling decreases.

Key Words: Hyperfiction, Reading, Writing, Creation, Software Tool.

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1. Introduction: Reading and Writing revisited

For some time now, and more and more frequently, both researchers and authors have been very interested in the "future of the book", its death or its survival, and the way in which literature will adapt and take advantage of the new technological developments, being hypertext one of the best examples of a new way of communication that would not have been possible without digital media.

Hypertext is able to overcome the limitations of the traditional printed page. However, examples of hyperfiction nowadays show that we are still far from making the most of the advantages hypertext can offer. Usually readers get lost in an ocean of information without an apparent structure, or the limitation of the decisions readers can make often provoke in them the need to explore every possible link, not actually selecting, also.

No doubt, hypertextual writing is a controversial subject in these days. While for some authors it is a completely new world for readers and

writers, where narrative can be lifted into a more complete and satisfying communication tool[1], more intense and participative, for others hyperfiction is presumably a sound set of bells and whistles than tends to eliminate the richness of an infinite number of implicit reading possibilities, offering instead a reduced arrangement of explicit options.[2]

In this work we have tried to outline a third way: a kind of hyperfiction not so "hyper" that could jeopardize the implicit intimacy of reading but "hyper" enough to offer a new and ideally more satisfying writing and reading experience.

2. Hypertext and Literature

Hypertext is related to literature in many different ways. A long time before the development of technology made electronic hypertext a reality, many authors had already tried to create new ways of reading and writing by breaking the traditional linearity of the plot, however keeping themselves inside the limits of the printed page.

In fact, experts on hypertextual literary criticism as antecessors of the real hypertextual literature consider a series of authors and works. The works quoted as precursors of hyperfiction are innumerable, but among them, it is mandatory to emphasize works like *Finnegan´s Wake* by Joyce, *Pale Fire* by Nabokob, *Tristram Shandy* by Sterne, *The Castle of Crossed Destinies* or *If on a Winter´s Night a Traveler*, by Italo Calvino, *Rayuela* by Julio Cortázar or many of the *Ficciones* by Borges. Each of these works became famous because of its peculiar narrative structure as well as the fact that they all offer different non-sequential ways of reading.

Up to that moment, the printed book had always being conceived as a closed, complete and absolute work, with a defined beginning and end. However, these previously mentioned works suited the "open work" paradigm that hypertext gave place to, a paradigm in which the printed page's limitations were broken. The reader creates the work when she explores it, following a not predetermined path.

In this scenario, the possibility of a new way of cultural transmission implying important changes arises. In the same way that changes like the one from oral to written or the one related to the appearance of the printing press were really significant and still last nowadays, hypertext and its paradigm are transforming society in a process affecting each aspect of the everyday life, becoming a new support for saving "the memory of societies"; a kind of extended memory[3] in which literature has a role to play.

In the early 90's, the first real hypertexts were created based on this paradigm. However, these first works did not make the most of hypertext's power until the middle of the 90´s, when Landows's postulations became successful and so many authors started to experiment with hyperfiction. The most famous ones were Michael Joyce with *Afternoon, a story*[4], Stuart

Moulthrop with *Victory Garden* or Deena Larsen with *Marble Springs* and *Nine Vicious Little Hypertexts*.

Nowadays, the examples of hypertextual fiction that exist on the Internet can be catalogued in two different types[5]: explorative hyperfiction and constructive hyperfiction. The most important difference between them lies on authorship: while explorative hyperfiction has commonly just one author, constructive hyperfiction has several, thus requiring collaboration from each reader/writer and undermining the limits between author and reader.

Constructive hyperfiction works in a similar way to IRC (Internet Relay Chat), but in this case, several people carry out "conversations" at the same time with the aim to write a shared story. The immediate antecessor of this kind of fiction are role-playing games, which offer from the 70's creative entertainment based on postulates very similar to those of hypertext. As an example of this kind of fiction, the most named work is *Hypertext Hotel*, an electronic place of group creation created by Robert Coover.

The "wikinovels" are also considered as constructive hyperfiction. These consist on novels written in the same way Wikipedia is, for instance: that is, by several authors who are allowed to include new characters and plots as they wish. Another example of this kind of hyperfiction can be found in the "blogosphere", even though several authors may not always have created these literary experiments. This kind of literature attracts readers in a massive way because of several reasons: readers are willing to explore a new non-linear world of fiction, the story has no limits, and interaction and feedback become an important learning source for both, reader and author.

Explorative hyperfiction´s main characteristic is that an only author creates it, however the reader can still influence in the plot or, at least, in the order in which the information contained in the story appears. This allows the reader to take his own reading paths following the links she decides in every moment. This kind of literature, the one in which this paper will focus, is not completely matured, and some cons have still to be faced, as it could be the limitations of the decisions the reader can make or the perceived need to explore every possible path not to lose anything important.

Even theatre has also been influenced by hypertext, resulting in hyperdrama. In this world, Charles Deemer's work is especially relevant.[6] He was the first one in conceiving a play in which several scenes are performed at the same time. The printed page was not a good medium to express this, so he tried with hypertext, obtaining good results.

In this case is the audience who must decide, "what happens next", the traditional linear narrative explodes into branches, multiplying the action on a "stage" into simultaneous scenes occurring throughout a performance space. The bolted chairs of the audience are uprooted to give the audience mobility,

an opportunity to follow different branches of the narrative line as they unfold into different, often distant, areas of this expanded new "stage".

It can be said that there is no doubt the hypertext has influenced literature in a strong way. This influence has given place to several ways of understanding hypertext, all of them different and experimental, and all of them coexisting nowadays. Compared to traditional narrative, deeply rooted and matured, hyperfiction is still trying to find its own language, its own conventions. Our work intends to be just a small step forward in this long path to walk.

3. Hyperfiction… But not that Hyper

In that sea of pros and cons, of daring narrative experiments and traditional linear books on the screen, we set our approach: a hypertextual narrative new and innovative compared to the traditional one, by taking full advantage of hypertext's features, but at the same time inheriting the well-developed and deep-rooted characteristics of traditional narrative.

We are especially interested in two of these characteristics, quite related to each other: deep time and introspection[7], both referring to how reading is a trip inside of us that begins when entering the world of the story and its timing. As long as we want to preserve these in the new media, we should not take a step too far away from traditional literature, proceeding by little qualitative steps. Under that light, only two of the main features of hypertext will be used: the possibility of choosing among several options and the get-what-your-brain-is-asking-for-right-now advantage. In addition, we will use them in a somewhat restrictive way: any decision-making option in the hypertext must reinforce the deep time and introspection in the reading experience. That way we intend to amplify the communicative potential of the traditional literature without becoming overwhelming with a very different reading experience.

If we plan to offer different reading paths to the reader, we should wonder on the nature of those paths. For instance, it is a well-spread idea that one of the most appealing features of hypertext is that it will allow the reader to take part in the story, to change it or, at least, to choose its evolution in some way. However, it is our believe that to create good hyperfiction there is no need for including several versions of the same story in the same narration, or for making the story adapt to the decisions of the user. We can take a great of advantage from hypertext without boldly go that far. When a reader reads, she uncovers the story little by little, discovers what is happening and wonders what is about to happen… That fundamental feeling does not need of adaptative stories. The very need for knowing what is going to happen next is more than enough for making us enjoy the most.[8]

Instead, one of the best things hypertext can offer when used for telling stories is the chance of following a concept, and idea, a character, a

place or a particular sub-story that has particularly interested the reader. Not in vain, the very moment the reader's brain wishes to know more about any component of the story, is also the best moment to show it to her, as her brain is fully receptive to everything related to that particular component. This hypertext's feature will be basic in this work.

In general, when we talk of "interactive texts" we do not need to be too intensive in our efforts to provide strong interaction. Even with the most linear of the stories in the most traditional non-interactive and non-immersive of the books, the reading process of a good reader is never passive, being the interaction between the reader and the book always rich and strong, making the reading process deep and profound. That deepness must be favoured, and the typical main vectors in hyperfiction (transformation, immersion and action[9]) do not necessarily do it. What is more, sometimes they could offer somewhat deceptive possibilities for deepness: readers may feel involved in the story because they take part in it, but actually, they are not really linked, intimately linked, with the deep grounds supporting the story. A reader has the advantage of being both at the same time, observer and participant of a fictional universe. Being too participant could interfere with her observer privileges.

Deepness depends on the story itself, on its quality and intensity. If the story is good and is written in a sound way, it will completely satisfy the reader. Intensity and quality without interaction is ok, but probably interaction without good drama is not.

Just by using a bunch of pages in a linear fashion, a good writer can create a shiny mirror to reflect the inner world of the reader, or at least a part of that world. That way, by reading those pages the reader would be looking inside himself, discovering new things. Even if this point is not reached, at least the narration will be creating a fully rich world inside the reader, contributing that way to make readers more aware, to live very rewarding inner experiences. When the main action in the process of reading is moved outside, from the world of thoughts and feelings to the world of actions, readers might begin to stop reading and to start playing or acting. What, actually, is not a bad thing: playing is no doubt part of the literary game. However, reading cannot be just playing.

When transformation, interaction and action are too deeply sewed to the narration, they might tend to transform a literary experience into an almost real-life one. Living and acting in the outer world may be exhilarating, catching and intense, but these are probably not the only things a for which good reader searches. Reality, even if virtual, is reality, not literature.

As a conclusion, maybe hyperfiction should not focus on simulating reality, at least for the time being, no matter how fantastic this virtual reality could be. Hyperfiction should focus mainly on what has made literature one of the most elevated human creations: becoming a mirror of the readers'

souls. This target fulfilled any addition the hypertext can provide will lift literature up into new goals of perfection. These are the grounds supporting our work.

4. HyperAuthor, helping to just write… A Little Different

HyperAuthor is then a tool conceived to create hyperfiction keeping always in mind that going too far nowadays may cause a loss of writing and reading quality. Our aim was to try to incorporate some new features that will help to foster the intimate relationship between the reader and the narration, at the same time eliminating the obstacles that these new features could bring. In this sense, HyperAuthor represents just a small step forward from the traditional book, and that is positive in other two ways at least: on the one hand, it may contribute to increase the number of readers accessing this new kind of literature[10]; on the other hand, the time for these readers to get used to interactive storytelling decreases.

This tool allows for the creation of stories with a powerful and simple hypertext structure to be completed with mainly, but not exclusively, textual contents. That is to say, HyperAuthor aims to reinforce the idea that, when creating hyperfiction, the hyperstructure of the story is as important as the story itself, and its design must be taken into consideration previously and independently from the plot's one. Thus, HyperAuthor offers two different layers of design: structure and content, both with a graphical display. Let us explain each of them.

One of the principal arguments used against hypertext is that, if it is not well designed, it could easily result in a messy network composed by blocks of contents with no apparent relation among them. To avoid this possibility, and so the reader's feeling of getting lost in the story, the minimum unit to work with during the construction of the hypertextual structure is the sequence. That means authors will not be able to create the structure by including independent nodes and then linking them. Instead, the tool forces the existence of a main linear structure, which must be the first one in being included in the work area and which will be the one that makes the story go on. Some other sequences can be incorporated to the main one, breaking in this way the linearity of the narration.

In this point, another important conflictive aspect of hypertext should be taken into account: the readers feeling of being "missing things" when a certain reading path is followed because of activating a link. The rest of the links contained in the same piece of text are in some way discarded, and readers could feel impotence about the fact of leaving important things on the way. In this sense, the tool restricts in some way the kind of structures that can be incorporated to the main one, giving the author the option to choose among a close set of basic structures. All of these structures can be as complicated as the author may wish, but all of them have to end in the same

node in which they started. In this way, every single link included in the text can be followed by the reader, if wished, because the activation of one of them will necessarily end in the same piece of text it started in. This does not imply that each link has to be followed to read the story, but it just gives the reader the opportunity. This structure is often referred to as "open loops".[11]

Whenever each of these structures breaking the linearity is introduced, the tool adjusts the connections in the graph in order for it to remain conveniently connected. The link between the first node of the recently introduced sequence and the main one is marked as "empty", allowing the independency of the two planes of design (structure and contents) and reminding the author that this graphical link should have its correspondent real link created in the text of the origin node using the nodes editor. All this is illustrated in Fig 1.

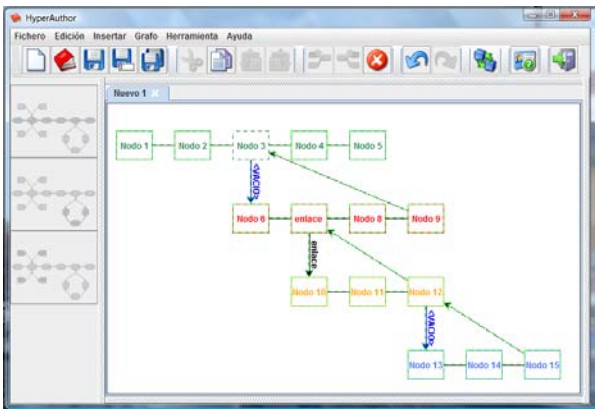

Figure 1: Creating a Hyperfiction Structure in HyperAuthor

As it has just been said, the content module consists of a nodes editor. This module of the tool works similarly to a conventional text editor, allowing for the insertion of formatted text, images and links in a very intuitive way, not assuming the author has any technical knowledge. However, some new features have been added to carry out specific tasks: a browser mode gives the author the possibility of enabling or disabling the activation of links, and an auxiliary tabbed pane can be used in order to visualize at the same time the text of a node and the text of the target node of one of its links, as seen in Fig 2.

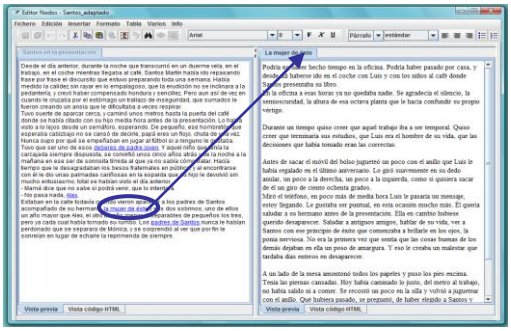

Figure 2: Viewing Two Nodes in the Nodes Editor.

As a complement to the authoring tool, a reading tool called HyperViewer was developed. This tool allows for the visualization of hyperfictions created with HyperAuthor, introducing some specific features that help to make hypertextual devices more transparent to the reader.

In HyperViewer, two different kinds of navigation can be distinguished: when the reader moves himself inside a linear sequence, he uses the options next and previous. Instead of having specific links for that purpose or concrete buttons, it is only needed to click on the right or left third of the screen and a new node will be visualized, as proposed by Rodríguez de las Heras.[12] The inclusion of a logical division of the screen including the forward and backward zones helps the reader not to distract his attention from the story, and apart from that, these clicks can be used as a metaphor of turning a new page.

The central zone of the screen is used for the second type of navigation. In hypertextual reading, every single word should have the same value for the reader when she first reads it. Moreover, each node with its text and images conform a unique significant unit, and the reader needs to capture its whole meaning before any navigational decision can be made. The tool forces this behavior by "hiding" the links when a node is first presented. Therefore, when the complete node has been read, a click on the central zone will make the links appear, or, if no link has been included, the backward and forward zone will be highlighted. A click on one of the links will open a new branch and the reader leaves the linear sequence she was in to follow a new idea, concept, character, etc.

As a final remark, this visualization tool offers a history of already visited nodes under "My history" title. In this way, the reader not only knows in every moment which nodes she has already visited and in which order, but also is able to go back to any of them by just clicking on its name.

5. Conclusions

Human beings have always been looking for an external memory, being literature and books one of the best achievements in this searching. Now technology offers a new and sound option: hypertext. Blending them in an intelligent way may open new and exciting paths. Hyperfiction may become the way in which future generations will transfer their values, symbols and habits.

However, there is still a long way to walk before hyperfiction can be considered a matured literary tool. In this times in which people are doing their best to adopt and adapt the "digital style of living", taking full advantage of all the features of hypertext in order to create literature radically different to that we are used to may mean asking too much from the reader. We should advance slowly, discovering little by little the language of this new and powerful media.

This work has been an attempt to face the creation of new and exciting hyperfiction without going too far away from traditional literary conventions and achievements. For helping in this task, we offer HyperAuthor, a tool that restricts the technical possibilities of the writer without restricting her creativity.

Traditional literature is matured and well developed. Hyperfiction is new but extremely promising. Merging the best of these two worlds, we should be able to set a solid path for the development of a completely new narrative.

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Disclosing cultural Heritage over iDTV

Tom Evens

Abstract
This paper investigates the sustainability of cultural programming via interactive digital television (iDTV). Although it contributes to the creation and development of national identity, the share of culture in total television programming has been shrinking dramatically due to increasing competition. However, emerging technologies appear as innovative methods for the distribution of culture. Within the project discussed in this paper, we organised a market pilot, using an existing video-on-demand (VOD) platform for the large-scale delivery of performing arts recordings. As a result, viewers were able to retrieve cultural heritage videos in a 24/7 on-demand environment. Although the VOD market is generally expected to boom within the next years, little is known about the actual demand side of audio-visual cultural heritage and the expectations of its users. Based on a large-scale survey, we were able to forecast the valorisation potential of such a platform and discovered drivers and thresholds influencing the future use of these interactive services. Furthermore, tracked data enabled us to analyse the platform's actual use. However, this paper emphasises on general lessons learnt from the market pilot dealing with pitfalls and opportunities concerning the implementation of iDTV as a new exploitation means for audio-visual heritage footage.

Key Words: Cultural Heritage, Video Footage, Performing Arts, iDTV.

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1. Televised Arts Programming Strategies

Since the launch of television in the late 1930's, the merits and hazards of broadcasting performing arts on television have been widely debated. However, during its early years the medium seemed ready to embrace all types of entertainment with both classical and popular performers regularly appearing in front of the cameras.[1] In Western Europe, the transmission of cultural and educational programmes was traditionally considered as one major argument to legitimate the establishment of public service broadcasting (PSB).[2] According to Blumler, "*public broadcasting should define itself as an influential factor in cultural reproduction and renewal"*.[3] Indeed, by supplying a uniform, highbrow culture in order to enlighten citizens, European public service broadcasters have contributed to the creation of a national identity and to the preservation of national culture.[4]

This is often considered as the core of PSB's cultural-educational mission. However, although all European public broadcasting institutions are primarily based on these cultural values, every consensus lacks on the implementation of these values in programming strategies.[5]

In the United States on the contrary, the enthusiastic spirit surrounding the medium was soon replaced by a more industrial- economic broadcasting approach illustrating the often-complicated relation between television and cultural programming. Commercial networks, aiming to attract the greatest number of people for its advertisers, began to limit arts programmes because of its small and therefore unprofitable audiences. But profit-making and audience rating concerns no longer affect exclusively commercial broadcasters' programming strategies.[6,7] Due to the liberalisation of television markets and the rapid emergence of commercial channels since the 80's, the total share of cultural programming on public television in Europe has been diminishing too. Because of the increasing competition from commercial channels, the cultural assignment of PSB increasingly is filled in with popular culture, thereby casting out the so-called highbrow culture forms such as opera, theatre, ballet and dance.[8] This evolution causes less programme diversity and due to the intense battle for audiences, public as well as commercial television contents are becoming quite alike, which is indicated as the convergence hypothesis.[9] In today's competitive media environment, arts programming is becoming more and more banned from the television screen because of its small audience base.

This is also the case in Flanders, the Dutch-speaking part of Belgium. Despite its celebrated status for covering cultural issues since the 1960's, the public service broadcaster has drastically reduced its attention to cultural information and performances compared to its heydays.[10] However, according to well-reputed experts the supply of performing arts in Flanders is of the highest quality in the world, counting theatre, ballet and music ensembles with an international reputation such as Anne Theresa de Keersmaeker, Jan Fabre and Wim Vandekeybus. Artists may have several motivations to put their works on television: cultural (increased exposure), educational (audience development), economic (revenues) and in some cases artistic (TV as art form itself). Nevertheless, little airtime is reserved for these artists although many cultural venues and companies have archived their productions and guest shows. In the traditional linear broadcast world, it thus seems almost a mission impossible to transcend this decreasing spiral. However, television is still seen as the most appropriate medium for the wide-scale distribution of cultural experiences. This feeds hopes that new emerging technologies such as iDTV or the Internet could become alternative gateways to distribute cultural experiences to a wider audience and to revive cultural programming. As culture evolves to become digitally consumed, these technologies create opportunities for the cheap and easy delivery of

cultural content. Experts claim that digital television services currently start from pole position to distribute high quality and full-length heritage videos with mass appeal.[11]

In this paper, we report on a market pilot using an existing video-on-demand (VOD) platform for the large-scale delivery of performing arts videos. First, we briefly present some of the main results of our survey executed among 678 digital cable television subscribers, for whom the pilot was available. Second, we critically discuss major implications of our pilot study. The combination of such a unique pilot environment with extensive user research provides us in-depth knowledge not only of value for scholars interested in user attitudes towards cultural programming and consumption, but also for cultural and industrial stakeholders planning to get involved in such services in the future.

2. Methodology

The market pilot, running from May until August 2008, relied on the VOD platform of the digital cable television provider in Flanders Telenet, which has a market penetration of about 25% of all television households. The pilot began with ten videos, including dance, classical music and jazz performances, and in August five additional videos were added. One video was offered as a teaser free of charge, other performances were offered at prices ranging from €0.5 to €2. Due to the limited character, no specific promotion campaign was established although a single press statement was released.

Prior to the market pilot launch, we conducted an electronic survey among 678 digital cable households to gauge for their interest and expectations about this supply. This way we were able to investigate the valorisation potential of such a platform and to profile potential (non-)users in terms of socio-demographics, cultural consumption and (digital) television viewing habits. In order to overcome overestimations of an innovation's potential, which are primarily based on traditional one-question-intention questions, we applied the Product Specific Adoption Potential (PSAP) scale to obtain a reliable segmentation forecast. This scale is an intention-based survey method in which respondents are allocated to adopter segments based on their answers on a general intention question and on respondent-specific tailored questions gauging for their intention for optimal and suboptimal product offerings.[12]

Furthermore, we were able to track user data to reveal current customer facts concerning the actual usage of the VOD service. Based on these insights, we will evaluate our segmentation forecast and present some lessons learnt to improve the efficacy of such a supply.

3. Survey and Field Trial Results

Without going too much in detail, our survey results indicate that there exists a realistic partial market potential among one third of the digital cable TV market today. 3.7% of the respondents were revealed as an innovator or as a person that would immediately use and pay for the service as soon as this becomes available. Another 30% was identified as early adopter, a large segment that would probably not be among the very first to adopt, but having a considerable need, interest and willingness to pay that is large enough to expect them to adopt shortly after the innovators. These segments are likely to take up the service rapidly because of practical, social, economic or other reasons.

When an innovative technology does not proceed to convince less innovative segments, the market remains limited to innovators and early adopters, as was the case with many applications such as WAP and Nokia N-Gage. If the front segments are quite small sized, innovations risk ending up as a failure, which may have commercial and financial implications. When these segments are of a substantial size, a business model can be developed to reach full market. In this case, we notice some decrease in potential and a substantial lower interest and willingness to pay among later adopters. Therefore, full market acceptance may not be that self-evident since cultural naysayers will be hard to persuade to try this interactive content. Other people may have financial or even technological reasons for not using new technologies. However, the actual size of the market will depend on the applied introduction strategy, marketing decisions such as price, content, communication campaign, and future competition by other content providers.

More important, we found that frequent cultural participants, which can be equalled to cultural lovers, were the most likely to adopt this television service. The opposite is true for non-participants, the so-called cultural naysayers, who seem barely attracted by the performing arts supply. This is illustrated by the fact that more than 60% of this group belong to the least innovative segments. Sporadic participants, who make out about 80% of our survey sample, remain rather inconclusive about the supply although the proportion of its early adopters among this segment is still considerably high.

Research data, provided by the involved telecom operator in the project, enabled us to gain insight in the actual market demand during the pilot. In total, 2663 performances were ordered with the free teaser counting 2248 views. Furthermore, we tracked 453 users with at least two performances viewed, which brings the total amount of unique users to 2210. This simply implies that certain people have ordered the free teaser several times. Despite the shortage of publicity, nearly 900 people demanded this teaser the first month although this figure dramatically fell to 355 in August. This indicates a declining interest in the service, for which we will try to develop some strategies for a successful product launch in the next section.

4. Lessons Learnt

Although one could be disappointed by these results in first instance, we do not share this pessimism because we believe that the pilot study supports our rather optimistic market forecast. The results prove that there is a wide and diverse public interested in paying for cultural video footage on television under certain conditions. During the pilot, a considerable part of the forecasted innovator segment was reached although we cannot expect the market potential is realised within only four months. Especially not when running the service during summer months when audience figures have proven to be considerably lower compared to the other months. We also need to consider the potential competition from the Summer Olympics that may have lured away attention from the service. In other words, timing of product launch and promotion strategies is often essential for reaching a high market penetration.

Furthermore, neither the telecom operator nor the cultural institutions involved in this project have heavily promoted the service because of its temporary character. After all, the impact of marketing, advertising and promotional strategies can hardly be overstated when launching new consumer services wherein both content aggregators and cultural institutions can play an important role. Next to a close cooperation, content aggregators and cultural institutions can raise product awareness among their audience (subscribers, customers…) by efficient and attractive communication about the supply. Therefore, the extensive profiling of users through segmentation forecasting provides communication specialists with valuable input to set up marketing campaigns to target audiences more efficiently. Audience expectation management thus becomes increasingly important among service providers.

It also seems that well known 'cultural brands' are somehow necessary to drive up consultation of the portfolio. The integration of performances of Ultima Vez, Wim Vandekeybus' dancing company, really proved to be a driver for adoption, especially because this organisation is widely known within the creative sector; however, this may not be the case for the general public. Including strong brands is crucial to target and reach a broad public, which goes beyond the culture-minded, highly educated and well-earning audience that is often associated with culture participation. For this reason, a musical was also inserted, which acted as one of the most popular items in the library. Nevertheless, questions remain about what is supposed to be a 'culture A-brand' and which effect very famous performances and artists can have on the adoption of such a platform.

Another major finding is that relatively few digital TV subscribers are willing to pay for this supply since the majority of items were retrieved free of charge. Nevertheless, 415 items were sold, which is in fact an unexpected success. Therefore, this pilot's evaluation is a bit ambiguous: on

the one hand, the pilot confirmed that such a specific content supply can never attract mass market, but we found a relatively large amount of paying customers on the other hand. This indicates there is a medium-sized but strongly interested target public for interactive arts content.

Another major conclusion we can draw from the results is the declining interest for the items during the pilot. While there were above 1000 consultations in May, this amount had nearly halved in August. Nevertheless, the increasing demand figures in August compared to July demonstrate that more supply possibly generates more demand. Therefore, content providers are encouraged to manage their portfolio in such a way that the supply is gradually updated with new attractive content in order to keep leveraging benefit for returning customers. Above all, this continuity approach has proven to act as one of the key factors for the general success of VOD platforms in Flanders.

Despite the large amount of cultural institutions in Flanders, we only gathered some fifteen-performance recordings, which is rather limited. Furthermore, the pilot supply was not very representative due to the absence of theatre and the dominance of dance performances. The major conclusion is that very little arts performance footage is ready for multimedia distribution. This has much but not exclusively to do with copyright issues. Indeed, uncertainty exists about the copyright status of recorded performances. In the past, some of these rights were insufficiently registered so that opportunities to (re)distribute this kind of cultural content have been diminished. Therefore, cultural institutions try to avoid risks and prefer to avoid prosecution by not distributing this content. Technical factors are undoubtedly another explanation for this manifest absence of distribution-ready content. It seems hard for these institutions to implement the fast-changing technological developments, especially in the field of data transcoding and formatting. After all, the creative sector is rather sceptical about transforming 'potential' content into distribution-ready footage and exploiting limited resources (time, people, money…) to lower these legal and technological thresholds, especially not when success is not guaranteed. This is because subsidised cultural institutions' cost structure is suffering from these overhead costs and that there is little optimism about new exploitations practices for audio-visual footage (DVD, internet, iDTV…) in an economic sense.

A final conclusion, which is closely related to the previous one, is that such a service implies high initial costs. Within the scope of this pilot, only existing productions and recordings were applied. In other words, no new exclusive content was produced only for this purpose, which has of course drastically reduced production costs. In our opinion, such a platform must provide exclusive content. This is especially true given the tight competition from other entertainment resources. However, we have strong

doubts about the economic viability of a platform providing exclusive cultural content. Secondly, as hard negotiations for content clearly illustrate, the time needed to bring all the content together to the platform multiplied administration costs. Especially the absence of knowledge about copyright issues was responsible for these high administration costs, which will only increase in the case of rights clearance by the service provider. Lastly, transaction costs, which are inherent to VOD, limit profit margins. This may affect revenues and profits of both service providers and cultural institutions.

5. Discussion

By means of this pilot, we not only aimed to prospect future revenue streams, but especially investigated patterns to deepen, broaden and renew the concept of cultural consumption. The cultural sector is characterised by a rigid participation divide whereby non-participating strata of the population are hard to target. Thanks to the recent digitisation of media and culture, new and virtual practices of cultural consumption arise, which go beyond traditional and physical access to cultural supply. Hence, the debate goes whether enjoying a theatre performance via television instead of attending it live in a venue should also be understood as cultural participation. The extensive user segmentation carried out in this research project shows out that frequent cultural consumers are most likely to take up this interactive arts service while the potential among non-participants seems rather minimal. This implies that (non-) participation behaviour of the latter is mainly the same in a virtual context. Nonetheless, we found a small proportion of non-participants willing to adopt the service, which supports earlier findings that there exist people who seldom or never physically participate to cultural performances but who are willing to participate in a virtual way. On the contrary, we can set hopes that this virtual acquaintance with culture will stimulate these exclusive virtual participants (the so-called non-participating participants) to experience and enjoy arts performances in real-time one day…

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Part IV

Virtual Spaces of the Past

Biography as an Interactive 3-D Documentary

Daniel Riha

Abstract
The recent availability of rapid prototyping tools for an interactive 3-D applications development enables exploiting this advanced technology in other research sectors outside traditional ICT.

This paper explores an interactive 3-D documentary as a medium that in the frames of crossmedia approach may become a representational form for purposes of a biography. Such interactive 3-D simulation is not limited just to serve for representation but for analytical works alike.

Ianziti understands a biography as a genre that may help to explore individual experiences of social change and become an effective means for recapturing and understanding an important dimension of human and social experience. Codified as memorable moments the living memories may prevail in an interactive 3-D simulatory space with accuracy while keeping high emotional impact on the user. Designed as a deconstructive knowledge space, the interactive 3-D form may function as a comparative tool and hypotheses playground.

Key Words: Biography, Spatial Narrative, Documentary Production, 3-D Interactive Environments, Cultural Transition, Prague.

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1. Introduction

This paper explores an interactive 3-D documentary (3-D ID) as a medium that in the frames of crossmedia approach may become a representational form for purposes of a biography. Such interactive 3-D simulation is not limited just to serve for representation but for analytical works alike. This issue is discussed in the relation to the specific documentary production that approaches a representation of the Prague lives of the select Bosnian artists during early post-communist era of 1990´s.

Gary Ianziti understands a biography as a genre that may help to explore individual experiences of social change. He points out to the work of the historian Renzo De Felice. He has argued that a biography is "the best way to reconstruct the fabric of a specific social reality." He continues: "Within a research perspective of this kind, life stories acquire the potential to become sites for the study of social change over time."[1] For Ianziti, a biography shall "become an effective means for recapturing and understanding an important dimension of human and social experience."[2]

In this context, the biographical portrait of the Prague lives of Bosnians in the 1990s may gain relevance not simply as a representation of individual fate, but it can also evolve into an alternative mirror expressing the character of socio-cultural changes of that era.

The Bosnian artists' productions reflect the City of Prague's socio-cultural transition during the 1990s in a unique way. The moments of protagonist's daily activities possibly express the substance of the Prague life in 1990´s and offer the differentiating characteristics via the Bosnian eye-lens. The medium of the 3-D ID offers a challenging environment for the cultural-historical simulation.

Such an environment, in the discourse of the game studies, relates to *realist videogames* as understood by Galloway, where games "reflect critically on the minutia of everyday life, replete as it is with struggle, personal drama and injustice."[3]

2. 3-D Medium for Interactive Documentary?

The documentary project's theoretical approach is grounded in Raessens's defence of the appropriateness of the real time 3-D medium for the documentary genre. Raessens defines a documentary game as follows: "simulations have to contain textual and contextual indications that we must switch to a 'documentarizing lecture (Odin)'."[4] Documentary games, for Raessens, shall block the fictionalizing process and "contain historically accurate images in which the status as documentaries is explicitly established in a specific cultural space."[5] By 'cultural space' he means project-related websites and interviews, for example. According to Raessens, a 3-D ID may be used to stimulate a documentary lecture in cases where it contains both textual and contextual instructions. The crossmedia design approach offers 'documentarizing' information distributed over multiple information channels. This approach represents a very suitable solution for an incorporation of contextual information.

Raessens emphasizes a semi-pragmatic dimension of documentary film that refers "to the ways in which spectators or users are part of the structure and meaning of films that they treat as documentaries."[6] For Raessens, *a space of communication* is created only "if designer and player of the game adopt the same role."[7] Raessens introduces idea of 'faction' as the combination of 'facticity' or 'documentarity' and the joy gained during the playing of videogames.

Raessens further points to poststructuralist historiography: "These historians argued that historical representations can never be 'objective' but always will be present-day reconstructions."[8] Raessens argues that interactive 3-D documentary is "situated somewhere between both ends of the spectrum."[9] According to Raessens, a 3-D ID does not represent reality in an

objective way, but it is, at the same time, "more than just subjective impressions of the artists involved."[10]

On the grounds of the above-listed arguments, the author is convinced that the approach to the biographic documentary as the 3-D is valid for representational documentary purposes.

3. The Attributes of 3-D Interactive Documentary

For Grierson, a perfect documentary shall be based on a strong storyline and dramatization rather than discursive presentations. Grierson's approach influenced Dankert & Wille to reformulate the concept of the documentary as follows:

> the documentary film is a fact film (a representation of the real world) which is dramatic in form, organised around a story (an interrelated sequence of events) and making a statement about some aspect of the reality depicted.[11]

Dankert & Wille then define the interactive 3-D documentary as "a dramatized representation of (selected aspects of) reality, created by one or more 'directors' (or authors in the wide sense of the word) in order to communicate statements ('views') about that reality."[12]

The documentary form, as understood by Renov, is "the more or less artful reshaping of the historical world."[13] Renov described *the poetics of the documentary* as "four fundamental tendencies or rhetorical/aesthetic functions attributable to documentary practice: to record, reveal, or preserve; 2. to persuade or promote; 3. to analyze or interrogate; 4. to express."[14] Following Raessens, these four discursive functions are already present in recent 3-D ID productions in various forms: the preservation of the traumatic experience,[15] the persuasion of the players of the inhuman conditions of immigration-detention centers,[16] and the expression of the paradoxical position of historical character.[17]

The available factual resources about the Prague lives of Bosnian artists call the designer to implement the aforementioned discursive functions into the 3-D ID design. The implementation process of distinguishing identified and proven facts from fictional productions will be realized with the use of design constraints that highly decrease the possibility of fictionalizing discourse.

This production will attempt to utilize poetic, narrative and cultural-historical elements of poetry, literature, art works and relations in the urban lives of the selected Bosnian artists living in Prague through spatial settings, but it does not restrict itself to the 3-D form only. The embedded narrativization must be implemented across multiple information channels.[18] The 3-D ID production must be crossmedial in its nature and present

contextual information that enables users to switch available information contents into the above-mentioned documentarizing format.

The authenticity of the characters and their behavior will be based on the interpretation of their poetic and literary productions and on the analysis of biographical materials and interviews.

In terms of traditional documentary theory, the production approach presented here relates to the reflexive mode[19] of reality representation during the production process. Dankert & Wille recognize this mode as the most self-aware: "It plays on a meta-level with conventions regarding film language, genre and audience expectations. The very presentation of the story poses a variety of questions concerning the relationship between form and content; reality and fiction; true and false."[20]

4. Design Principles

Dankert & Wille propose an interesting model of reflexive content exploration for the interactive 3-D documentary, where a user has to act in a foreign environment as if he or she belonged there, but without the necessary knowledge and experience. The interface shall then provide the tools for overcoming a user's unknowledgeable state. They propose encyclopaedias, explanatory discourse, tutorial guides or similar constructs for breaking the illusion of total immersion.

In the presented concept, the user will select one of the three Bosnian artists and be introduced to the representation of their identity characteristics. The user would have to accommodate to the different artist-character's personalities and therefore explore the theme through various, although often intersecting, points of view. Different character selections, where the user is not forced to adopt one role, will lead to a multifaceted perspective.

Nitsche and Thomas recognize two advantages of variable interactor positioning:

> the gameworld can be experienced through the eyes of multiple characters that explore the theme of the game in different ways and therefore allows for a multi-faceted thorough exploration of the fictional universe; and changing player-positioning supports character-driven interactive conflicts - a feature clearly under-developed in videogames so far.[21]

Increased user's emotional involvement in the virtual environment might function as a prerequisite for the true adoption of informative and narrative contents made available. Ankersmit´s sublime experience connected with dramatic events that cause change might be here taken into account: "These

are the moments when present and past separate and the past is born as it were. 'The sublime' refers to the original meaning of the word when the pleasant and the terrible occur simultaneously".[22]

Variable interactor positioning brings a benefit to the replay function and calls the user for a deconstructive exploration.

According Dankert & Wille the expressionistic approach that draws attention to itself as style and aesthetics might support such a deconstructive exploratorium:

> An audience on one level experience the unfolding of a plot and a story line, and on another level, an expressive "commentary" pointing to the fact that this *whole thing* is clearly an *artificial construction*, and not a make-believe story for you to step right into and be absorbed by.[23]

For Dankert & Wille these characteristics relate the expressionistic approach to the "reflexive" documentary mode of production and representation that creates a kind of "transparency". In addition, this mode following them designs "interruptions in a flow (continuity) or deconstructs a linear story-line, conceived to seduce the spectator to believe in the complex statement about the world made by the (writer-) director of the documentary."[24]

The 3-D ID then might be utilized:

> as a source of information on many levels, provided for the user in a multilayered fashion free to be explored from a personal point of view, at any time and anywhere, in an individual rhythm and tempo. The pleasure of the 'narrative' is replaced by the pleasure of playful interaction (with elements representing facts, fiction or faction).[25]

The production's essential 3-D content will include important locations that will represent real town places, but this environment is not planned as a simple reconstruction of the Prague's cultural landmarks.

Fuchs understands interactive 3-D as a genre in which de-categorisation and re-classification may be positively implemented. Fuchs declares, "The gamers, not designers, set the reference point of individual interpretation. The gamer navigating the space in an individual way describes the objects of experience in re-shaped contexts (8, p. 4)." Following Fuchs, knowledge spaces attempt "as space and time overcoming, trans-cultural and anti-rational games to produce what Warburg intended with his '*Library for Cultural Studies*' (8, p. 9)." Fuchs argues further about Warburg's methodology: "Warburg's research emphasized to gain relevant knowledge on materials of timely open-ended origin through *process of collage*. Equally

Warburg used to relocate locally disparate objects, narratives and symbols (8, p. 3).” According to Fuchs, videogame designers may apply, in a similar way, Warburg’s method of time-collage and space-collage to evoke ‘amazed experiences’ for their users.

The scale of this production does not allow for the design of complete or partially complete hyper-maps of the Prague’s virtual cultural geography in relation to the selected Bosnian authors. The presented project will experiment with the application of the collage method in an attempt to integrate geographically and culturally dislocated cultural landmarks and items. The choice of places and artifacts for spatial design will remain consistent with character’s daily activities.

Jenkins introduced in the enacted narrative concept, inspired by Eisenstein’s concept of "attractions", the idea of *micronarratives* in videogames that communicate their main themes and which work towards increased emotional involvement by the user through a series of short narrative units, recalled in user’s mind as "*memorable moments*".

The information resources to be implemented in the 3-D ID medium have often fragmented character. Micronarrative elements may so present an important feature that will support the comprehension process of the 3-D ID space into the user’s grand narrative.

5. Conclusion

The interactive 3-D space in this documentary production is becoming a part of the discourse that will function itself as an expressive element. However, the embedded narrativization must be implemented across multiple information channels (interactive 3-D, websites, web 2.0 services, webcasting and other) to present contextual information that enables users to switch available information contents into the above-mentioned "documentarizing lecture".[26]

Notes

[1] G Ianziti, ‘Re-Thinking Biography’, in *Proceedings of Social Change in the 21st Century Conference*, Centre for Social Change Research, Queensland University of Technology, 21 November 2003, 17 p. Link: <http://eprints.qut.edu.au/archive/00000131/01/Gary_Ianziti.pdf>.

[2] Ibid. p. 13.

[3] A R Galloway, ‘Social Realism in Gaming’, in *the International Journal of Computer Game Research*, volume 4, issue 1, November 2004, p. 5.

[4] J Raessens, ‘Reality Play: Documentary Computer Games beyond Fact and Fiction’, in *Popular Communication*, *4*(3), Lawrence Erlbaum Associates, 2006, p. 215.

[5] Raessens, p. 221.
[6] Ibid, p. 220.
[7] Ibid, p. 223.
[8] Ibid, p. 221.
[9] Acceptation/disregard of videogames as the media of the historical representation D.R.), Ibid, p. 221.
[10] Raessens, p. 221.
[11] H Dankert, and N E Wille, 'Constructing the Concept of the "Interactive 3D Documentary": Film, Drama, Narrative or Simulation', in *Virtual Interaction: Interaction in Virtual Inhabited 3D Worlds*, L. Quortrup (ed). Springer, London, 2000, p. 10.Dankert and Wille, p. 10.
[12] Ibid, p. 11.
[13] Raessens, p. 220.
[14] Raessens, p. 222.
[15] 9-11 Survivor, Cole, J., Caloud, M., Brennon, J. *9-11 Survivor*. Videogame Modification based on Unreal Videogame Engine. Select Parks, 2003. Link: <http://www.selectparks.net/911survivor/>.
[16] Escape from Woomera.
[17] Waco Resurrection.
[18] Interactive 3-D media, websites, Web 2.0 services, webcasting and other.
[19] Nichols in *Representing Reality: Issues and Concepts in Documentary*, 1991 calls them 'Modes of Representation' and proposes four types: 'expository', 'observational', 'interactive' and 'reflexive' (cited in Dankert and Wille).
[20] Dankert and Wille, p. 14.
[21] M Nitsche and M Thomas, 'Stepping Back: Players as Active Participators', in *Proceedings of the. First Digital Games Research Conference, Level Up*, DiGRA Library, Utrecht University, Utrecht, 2003, p. 2, alt. 28.
[22] Raessens, p. 222.
[23] Dankert and Wille, p. 26.
[24] Ibid, p. 26.
[25] Ibid, p. 27.
[26] Raessens, p. 222.

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Bill Viola's *Passions* Series and the Sensualisation of Experience

Maria Lakka

Abstract
The text engages with Bill Viola's video piece *The Quintet of the Astonished* from *The Passions* series viewing it through the prism of the problem of the fragmentation of experience. Viola's work distinctively incorporates time and new media in order to intensify perception and to create a contemplative affection-image. In the view presented here, the work reflects the problem that arises from the implementation of new media for the intensification of perception: it brings forth the sensualisation of experience rather than its embodiment. Embodiment and sensualisation do not refer to an authentic and a false mode respectively but to the possibility of rendering an intense visual perception communicable to affective experience. The author argues that new media art extends the frame by enveloping temporality and the body in a perceptually intense experience; but it is the fracture of the frame that allows for re-embedding perceptions to experience.

Key Words: New Media Art, Bill Viola, Experience, Sensualisation, Embodiment, Walter Benjamin.

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1. Introduction

Art in the twentieth century has been characterized by a wide variety of art movements and a plurality of means of expression that led to the development of new art forms (i.e. performance, video art, light art, sound art, land art etc.) in parallel to the traditional ones. Although such variability prevents us from creating unified conceptual schemata to interpret different artistic practices, we can trace some common tendencies driving their aspirations. One such tendency is art's movement to extend its frame, to challenge and surpass its status as a representation of something else and become in-itself a presentation, an event. To envelop the viewer and her experience in the total work of art that will merge all the senses in its reception, memory and action in order to fulfil the utopian goal of fusing art and life. This is already evident in early twentieth century cubist collages, which attach everyday materials (cloth, newspaper, sand) on the surface of the painting and thus challenge the function of the surface as a representation.

Moreover, the extension of the frame and the creation of a greater illusion of reality are closely linked in their actualization with the advent of

technologies of image reproduction such as photography and cinema. Photography's catalytic effect lied in its capacity to inscribe the exact instantaneous image of reality, to extract a part from the spatiotemporal co-ordinate and to reproduce it in new contexts. Evolving from photography, cinema adds movement in the image thus increasing its illusory effect. What renders a technologically produced illusion problematic; however, is not its falsity vis-à-vis the authenticity of a lived reality, nor its artificial, mediated creation but mostly its intrinsic connection with the fragmentation of experience. The latter, has been identified as a key symptom of modernity. Walter Benjamin described it as the substitution of the spatio-temporal continuous flow of experience (Erfahrung), where experience is formed, preserved and becomes as a whole, for the event lived (Erlebnis), which is extracted from the flow of experience and continuity is reconstituted externally through the addition of successive instants.[1] Such fragmentation testifies to the atrophy of experience and the demise of its value vis-à-vis knowledge but what renders it problematic is the increasing impossibility of communicating experience. The event lived becomes disembedded from experience as immanent whole and can only be communicated as information.

New media art often places an emphasis on the themes of temporality and the body that becomes manifested not merely in the content but in the structure of the artwork. It is exemplified in the rise of video installation art in the 1990s, which by unfolding time and extending in a three-dimensional space envelops the viewer in the reception of the work. The rise of this form for art's presentation was rendered possible by digital technology and the increasing possibilities offered for greater control and co-ordination of images, sounds and movement. Conceptually, however, it makes part of a much broader process in the course of art that challenges representation and strives to overcome the fragmentation of experience.

By enveloping time, addressing the whole body rather than the eye alone new media art attempts to create an embodied perception that will redeem the wholeness of experience. The emphasis placed on the role of time in the presentation and reception of the work, the temporal manipulation and orchestration of images that increasingly gains precedence over their content, aims at reuniting isolated and fragmented sense perceptions in an embodied self, by grounding them in a new experience of time.

In what follows, I will present Bill Viola's video work The Quintet of the Astonished from The Passions series. In this work, Viola attempts to create the affection-image through extreme temporal manipulation and intensification of perception: he exploits the contemplative qualities of slowness, the sensuous qualities of the close-up and the oversaturated colours of digital technology. The paper will argue that the work reflects the problem that arises from the implementation of new media for the intensification of

perception: it brings forth the sensualisation of experience rather than its embodiment. Once more, embodiment and sensualisation do not refer to an authentic and a false mode respectively but to the possibility of rendering an intense visual perception communicable to affective experience.

2. The Disembedded Lightness of the Passions

The title of the series recuperates a theme that has inspired much of the devotional painting of the Middle Ages and Renaissance, namely the representation of extreme emotional states. However, at the same time it implements the latest media technology. These works do not imitate the old paintings with new means but rather, i) explore the relation constituted between new media, time and the body, and ii) make us contemplate upon the shift in the mode of reception between a religious painting and the new media work. Moreover, unlike his earlier video installations, Viola presents these videos on a flat LCD screen encouraging an allusive relationship to paintings in the mode of reception.

More specifically, the Quintet of the Astonished is a medium close-up video of a group of five people, standing close together and undergoing the experience of an intense emotion, which like a thread traverses each one of them while simultaneously holding them together. It was shot on 35mm film at high-speed (384 fps), transferred to digital video and played back at normal speed (24 fps channelled through video's 30 fps). The result is a radically slowed down movement and a highly resolute expression, exposing us to the minute details of its occurrence, which pass imperceptibly not as a result of our lack of attention but rather because they stand outside the temporal threshold of normal perception.[2] Shooting at 384 fps, the camera's eye perceives roughly 16 times faster than humans do; this inhuman perception when translated into human perception (video's 30 fps) analyses what we contract and thus brings to conscious visual perception what was formerly only unconsciously perceived. Thus, it explicates what was contracted and implicit in vision.

Figure 1: Bill Viola 'The Quintet of the Astonished', 2000, Video Rear Projection on Wall-Mounted Screen, © Bill Viola, Photograph: Kira Perov.

Technology is used in order to expand human perception, to surpass the threshold of natural vision and to bring into sight what Benjamin called "an optical unconscious". Not only did Benjamin recognize that photography can "bring out those aspects of the original that are unattainable to the naked eye yet accessible to the lens, which is adjustable and chooses its angle at will"[3] but also he stated that "for the entire spectrum of optical and now acoustical perception the film has brought about a similar deepening of apperception".[4] However, how do we pass from a broader perception to a deeper apperception? Moreover, to go back to Viola's pieces, what are not simply the perceptual but the affective consequences of the radical temporal transformation? Mark Hansen, in his book New Philosophy for New Media, discusses Viola's work and writes:

> [w]hen the viewer takes in this intensely oversaturated temporal object, the guiding mechanism of cinematic temporality - the perceptual coincidence between the flux of the film and that of consciousness - gives way to a kind of affective contagion through which consciousness, by being put face-to-face with what it cannot properly perceive and yet what constitutes the very condition out of which the perceivable emerges, undergoes a profound self-affection. In this incredibly intense experience, consciousness is made to live through (affectively, not perceptually) the very process through which it continually emerges, from moment to moment, as a selection from a nonlived strictly contemporaneous with it.[5]

Hansen believes that in this video piece we are made to perceive the (normally unperceived) process from which perception emerges, and that through this encounter with its affective double, consciousness "undergoes a profound self-affection". The latter assumption however, may be questioned since it equates conscious perception - and thus knowledge - of the affective substratum of perception with the experience of affection itself; or in Benjamin's terms he identifies the knowledge of experience with experience itself.[6] Viola's technique consists in analyzing what our normal perception contracts; yet, it only brings into vision what was already there, visible in principle since the beginning.

Hansen explains, "by oversaturating the now with information, [new media] enlarges it, and by enlarging it, catalyzes the self-affection of consciousness that is constitutive of time-consciousness".[7] However, in this way, he makes the passage from perception to affection or from perception to apperception, a matter of continuous quantitative expansion.[8] Hansen's view not only homogenizes all difference and reductively equates the immanence

of experience to a uniform field of information (and therefore knowledge) but it also entrusts the utopian view of the liberated man to the hands of technology. At the basis of his thought there is an unarticulated futurist faith that technology will liberate us, instead of questioning the complex ways in which technology expands our human capacities by externalizing and restricting what was formerly part of the inner life of memory.

Benjamin was much more careful vis-à-vis such an easy identification between perception and apperception and rendered their relation more complex when he wrote that:

> The enlargement of a snapshot does not simply render more precise what in any case was visible, though unclear: it reveals entirely new structural formations of the subject. So, too, slow motion not only presents familiar qualities of movement but reveals in them entirely unknown ones 'which, far from looking like retarded rapid movements, give the effect of singularly gliding, floating, supernatural motions. Evidently, a different nature opens itself to the camera than opens to the naked eye - if only because an unconsciously penetrated space is substituted for a space consciously explored by man.[9]

What are these new structural formations of the subject that digital technology may reveal in us?

Viola uses the close-up shot and slowness. In the Cinema books, Deleuze identifies the close-up as the affection-image, arguing, "the affection-image is the close-up and the close-up is the face". He explains that what renders especially the face an affection-image, is that it «has had to sacrifice its motoricity in order to become the support for organs of reception". In other words, the face is a relatively immobile (compared to the rest of the body) and dense (considering the fact that most organs of reception are concentrated on it) receptive surface, where micro-movements interact and enter into «intensive series".[10]

The close-up is the face not because it usually shows the face but because it shares its characteristics. Moreover, he adds, "The close-up does not tear away its object from a set of which it would form part, of which it would be a part but on the contrary it abstracts from all spatio-temporal co-ordinates."[11]

The close-up abstracts because it isolates and extracts the part from the whole (spatially i.e. the face from the body, and temporally i.e. expression of the face from action) and thus it suspends action.[12] It does not suspend action in the film but first, the action of our eyes. This suspension of action constitutes the relative immobility of the close-up shot. The flowing time of

looking then is not explicated in action but remains implicated and condensed and thus intensified. This is the virtual capacity of the close-up to enfold movement in expression. What renders it a virtual rather than an actual capacity is the fact that it is dependent upon the constant alternation of shots that will implicate our vision (as well as our desire to see) in a rhythm that will become intensified in the close-up or extended in the long shot. For a constant close-up shot soon becomes consolidated because vision appropriates the new situation and we remove the intensity (and desire) of the look.

Viola also uses slowness in an oversaturated image (shot with a high-speed camera that gives it high definition). Slowness gives an aerial aspect to the image of the passions. It extends and relaxes action (of our eyes) and therefore allows time for contemplation. The eyes can rest upon the unfolding image, viewing the details of facial expression as instances or durations of floating matter.

The close-up function has removed the viewer from the action that provoked the expression of these emotions and thus he cannot engage and live through the process that would justify them intellectually, as would be the case in a narrative. The causes of pain or the process that triggers it are nowhere visible and therefore the viewer cannot participate or share these emotions. Instead, what he is made to live through is abstract time and the generation of bodily movements as expressions of pain. Moreover, the estrangement brought by slowness is not alternating with different speeds and therefore becomes consolidated and consumed within the aerial quality of movement. The violence of the passions is evaporated in an image of light movements, saturated colours and expressive faces that can only abstractly connect to experience.

However, it is also quite difficult for the viewer to participate in the work in any other way. The polished luminous images of brilliant colours create an oversaturated visual environment and explicate all folds that when implicated or enfolded allowed space and time to the viewer to fill (feel) them. Similarly, the exposition of every minute detail in facial expression not only unveils the mystery implicated in expression but also leaves no fragment for the viewer to participate with imagination and inner life.

3. The Extension of the Frame by New Media

Compared to early paintings to which these works allude we discern the main parameters of the shift in aesthetic experience. We are visually stroke by the clarity and vividness of colour in Viola's videos. One might say that new media restores to a vibrant perception the luminosity of things normal perception has lost. Nevertheless, the difference now in the perception of colour is a sense of 'flatness', or immateriality of the image. The dense shine of oils, a certain coarseness of the layers of paint, a 'weight'

colours carry on the surface of the canvas, such invisible sensations residing on 'oil on canvas' render light and matter adjacent to the coloured surface. On the plasma screen of digital technology, colours assume a sleek quality yet flat, a luminosity without matter. The material substratum of the painting, a materiality that remained contemplated, allowed the painting to embody a visually perceived tension between the image and the matter that constitutes it. In addition, it is through this tension that even the most spiritual depictions may immediately connect to the flow of our sensory organs in the perception of material reality and thus become embodied, appropriated in experience.[13]

Film and video on the other hand, lack painting's tactile density but incorporate materiality in movement. By adding movement, these media extend the frame of the artwork. The frame of the painting divides a space for the image and thus opens up to a different temporality that will be unfolded by the viewer in contemplating the work. Painting envelops temporality only virtually in the arrangement of the composition and the colours of the surface, which orientate the attention of the viewer and the movement of the eyes. Nevertheless, the viewer is let free to bring his temporality in experiencing the work and to concentrate and fill in with his inner life the spatiotemporal distance between him and the painting. Because it is contemplative, his experience opens to an infinite space and time.

Despite the LCD screen and its illusory two-dimensionality, video's frame is no longer spatial but spatio-temporal. It does not only structure the object of vision but also the temporality of looking. Time, enveloped in the movement of the eyes and in the movement of consciousness, becomes enframed. The extension of the frame in the dimension of time merges the space of representation and presentation, satisfies our desire for the creation of an illusory reality and absorbs us within. It does not erase the gap between representation and presentation constituted by the frame, but rather tends to make it transparent thus concealing the fact that it forms the highest point of artifice.

Nevertheless, this absorbent illusion fails to become part of experience. It is no longer a matter of art being less persuasive than reality, of not producing its faithful resemblance, of lacking the intensity of its sensations. What it lacks is the tension that can only be generated by fracturing the frame and preventing the totality of experience. It is by opening up this tension, not by overcoming it but by residing on it, that isolated perceptions or sensations may create their way to connect to the flow of experience and raise an embodied critical reflection. Viola's videos testify not to the failure of new media to engage the viewer in a contemplative mode but to the need to create its indexical fracture.

Notes

[1] See W Benjamin, 'On Some Motifs in Baudelaire' in *Illuminations*, H Arendt (ed), H Zohn (trans), Fontana Press, London, 1992, pp. 152-196. The same problem in different terms is addressed by Henry Bergson's philosophy. Bergson temporalized experience in a radically new conception of duration, and argued that time cannot be reconstituted as a succession of instants because time differs in kind from space. See H Bergson, *An Introduction to Metaphysics*, T E Hulme (trans), Hackett Publishing Company, Indianapolis, Cambridge, 2001. Also his *Matter and Memory*, N M Paul and W Scott Palmer (trans), Zone Books, London, 1988.

[2] The basic cinematographic principle of running the film at 24 fps corresponds to the requirements of the active body and the conscious perception of movement. Movement however, happens constantly and continuously far beyond this limit, and this excessive aspect of its constitution we (subconsciously) contract it *in* our (conscious) perception.

[3] W Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', in *Illuminations*, H Arendt (ed), H Zohn (trans), Fontana Press, London, 1992, p. 214.

[4] Ibid. p. 229.

[5] M B N Hansen, *New Philosophy for New Media*, The MIT Press, Cambridge, Massachusetts, 2004, p. 265.

[6] On the problem of conceiving experience as the object of knowledge see: W Benjamin, 'On the Program of the Coming Philosophy', in *Selected Writings*, vol. 1, 1913-1926, M Bullock and M W Jennings (eds), The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 2000, pp. 100-110.

[7] Ibid.

[8] In other words, Hansen repeats the same obliteration of heterogeneity that Bergson had accused of associationism. Associationism believes that we reach memory gradually, associating our perceptions with ideas connected through the principles of similarity and contiguity. Similarly, for Hansen we can get from perception to affection simply by expanding our perception. Bergson, however, absolutely insisted on the *discontinuity* of the passage from perception to memory despite the continuity of the reverse process, namely from memory to perception. For Bergson's critique tp associationism see: *Matter and Memory*, supra.

[9] W Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', in *Supra*, pp. 229-230.

[10] "It is this combination of a reflecting, immobile unity and of intensive expressive movements, which constitutes the affect." G Deleuze, *Cinema 1: The Movement-Image*, H Tomlinson and B Habberjam (trans), The Athlone Press, London, 1992, p. 87.

[11] Ibid. pp. 95-96.
[12] For Bergson the suspension of action, this is the orientation of the body, opens up to memory, spirit or the virtual.
[13] For an extended presentation of this tension embodied in painting's surface see E Kallai, 'Painting and Photography', in *Photography in the Modern Era: European Documents and Critical Writings (1913-1940)*, C Phillips (ed), The Metropolitan Museum of Art, Aperture, New York, 1989.

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3-D as a Medium for Virtual Memorialization

Lois Hamill

Abstract: On May 28, 1977 the Beverly Hills Supper Club in Southgate, Kentucky burned with the loss of 165 lives. This is the third deadliest supper club fire in U.S. history. The current property owners will not permit a memorial built on the original site of the club. What other options are there for a memorial? This presentation examines web or virtual memorials in general, and then presents four specific websites related to regional or national American tragedies. Finally, the author describes an innovative website which combines a virtual memorial and interactive archival components including a 3-D virtual tour of the Beverly Hills club. The website is based on an archival collection being created at Northern Kentucky University, USA.

Key Words: Beverly Hills Supper Club, Virtual Memorials, Web, 3-D Virtual Tours, Interactive, Archives

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On Saturday night May 28, 1977 the Beverly Hills Supper Club in Southgate, Kentucky burned down. Within a matter of a few hours, 165 people were dead and over 200 more were injured in the third deadliest supper club fire in U.S. history. The Beverly Hills nightclub was billed as "The Showplace of the Nation." The lavishly appointed club regularly attracted the most popular entertainers in the country. People from around the region came to visit the club. Singer John Davidson was scheduled to perform the night of the fire.

Southgate is a small community near Cincinnati on the Kentucky side of the Ohio River. Approximately 3,000 people lived in an area less than 1.5 miles in size.[1] This tragedy touched the lives of many people locally and in the region, either directly or indirectly. Many people still living in the area today remember the event. Despite three investigations and a court case, the cause of the fire is still in dispute. As I write, a panel appointed by Kentucky Governor Steve Beshear is considering whether to reopen the investigation into the cause of the fire.

What was left of the club was demolished within days of the fire. The property was sold, but it remains largely as it was after the razing. Nature has been allowed free rein. The site is overgrown. The fire, the people who were lost, the physical place still has the power to evoke strong emotions nearly thirty-two years later. For some there is the question of justice on

behalf of the dead. For others there is the desire to create a memorial for the dead and the living.

This event is still a festering wound in the life of the community it affected. People who want to talk about the fire have not been able to do so in a satisfactory manner. If this were possible, perhaps the community might be able to work through the event and find closure. Over the years, several wooden crosses visible from the road have been erected. An historical marker was dedicated on the thirtieth anniversary of the fire, but neither of these has brought satisfaction to those who remember. The current property owner does not want a memorial constructed on the property itself and has denied requests for one.

This is how matters stood in late 2007 when the staff of the W. Frank Steely Library of Northern Kentucky University became interested in this tragic fire. The Beverly Hills Supper Club site is approximately ten minutes from the university. The Eva G. Farris Special Collections and Schlachter Archives Department collects archival records about the history of northern Kentucky. It was known that a body of records about this event existed and that the owners might be willing to donate their records. Key individuals connected to the tragedy were getting older. Information might be lost if action wasn't taken soon to collect and preserve the historic record.

Creation of a tangible, physical archival collection could in itself be considered a memorial. Establishment of a collection increases the likelihood that the event and those who perished will be remembered. It provides the opportunity for individual, private collections to be joined together to form a more comprehensive collection. This collection would be publicly accessible to all and preserved according to professional practice and standards. Although this option may theoretically appear satisfactory, from an emotional perspective, it probably is not.

It has been a common practice to erect a physical monument to serve as a reminder of an individual or a group of people who have died; gravestones for individuals, memorials for soldiers who died in war. A visible, physical object may remind people of the lives lost and perhaps the event which caused the loss. It has been said that as long as a person is remembered by those who remain, the deceased is not entirely gone.

Historian Eelco Runia states that "Commemoration hinges on the idea that acts of people are committed by *us*" - not personally, but as members of the same group, nation, culture or species as the one who brought about the catastrophe which resulted in the deaths being commemorated.[2] Runia theorizes that commemoration tries to answer the question "who are we that this could have happened?"[3] How could another human being like us commit an evil act resulting in shootings, bombings, war, and ultimately premature death?

A natural death is different from the premature death of a person who would have continued living except for the actions of others. Premature death is always tragic because it did not have to happen; it was caused. This is the catastrophic death Runia discusses.

All deaths are worthy of being remembered or commemorated. Typically, there is always someone left behind who grieves over the loss of the departed one. As one part of a healthy grieving process, those who remain will remember the one who has left. If she is or they are comforted by a visual reminder of the departed, it is not an unreasonable desire.

In the case of intentional, catastrophic death, yes, people do ask "How could such a tragic or evil event have happened?" People try to reconcile the question of how another like them could have intentionally caused an event of which they believe themselves incapable. How could another be like them and yet cause such harm? Does this suggest that they also have the same potential, if they are like the perpetrator? This is an uncomfortable line of analysis.

Perhaps one motive for memorializing tragic death is not only to remember the deceased, but also to remember the evil humanity is capable of lest we forget and commit it ourselves. Or perhaps it is a public act of atonement to say that we are sorry one like us committed this act to others of us.

It is not always possible to create a physical memorial to tragic deaths, as has been the case with the Beverly Hills Supper Club fire. Members of the community affected by the tragedy may not be able to travel to the physical location of the event, or the location may no longer exist. Whatever the reason, other options exist. With the advent of personal computers, the evolution of the web and its popularization, virtual memorials have been available since at least 1995.[4]

According to psychologist Pamela Roberts, virtual memorials currently exist in several forms. Individual free standing web pages are created by anyone with the tools and skills. These are limited only by the creativity and resources of the author. Web rings link individual pages which share a common quality - typically either the relationship of the deceased to the author or the cause of death. The visitor can click from one individual memorial to another in a ring until he or she returns to the starting point. Generally such web memorials have virtual guest books or email links to contact the author. Since most web rings are maintained by volunteers who create them as part of their grieving process, there are usually no charges for the memorial pages.[5] For the same reason, reliance upon volunteers, these web pages are potentially shorter lived and may experience technical problems.

Personal web pages such as these are contrasted with commercially produced and or maintained web memorials. Web cemeteries began about

1995. In this paradigm, a service creates and maintains the web memorials usually for a fee. The virtual cemeteries "evoke images of traditional cemeteries, with pictures of cemetery gates or gardens on their opening pages." Visual unity from one memorial to another with similar features and navigation can create a sense of place and to an extent, community; "as with traditional cemeteries, other losses and the people who mourn them are nearby." In the manner of physical cemeteries, their virtual counterparts list the name of all the memorials they maintain.[6] Thus visitors can browse the virtual cemetery and see who else is memorialized there similarly to touring a traditional cemetery.

By contrast to web cemeteries, "online memorial sites" tend to have a selection of templates for memorial design resulting in greater diversity among the memorials.[7] These sites do not list all the memorials they maintain, making browsing more difficult. Their pricing model resembles that of a newspaper obituary, longer running or more elaborate memorials cost more. Consequently they may "provide less sense of community than web cemeteries because of their potential lack of permanence, increased diversity, and more limited access to other memorials.[8]

In his article 'In Digital Rembrance: Vernacular Memory and the Rhetorical Construction of Web Memorials', author Aaron Hess compares and contrasts physical memorials with virtual web memorials.[9] Physical or non-digital memorials are often created by institutions and represent an "official" response to a tragic event. The internet affords ordinary people greater opportunity to express their memory of, their personal interpretation of the same event. Privately created virtual memorials highlight differences in responses to events and differing interpretations of history and public memory.[10]

Virtual memorials blur the line between private and public grieving. Private individuals may create them to help the individual work through his or her grief, yet they are situated in a very public place where others may stumble upon the memorial. Often, the virtual memorial is designed to be public, allowing and even inviting others to participate in the memorial process. Visitors are given the unique opportunity not afforded by physical memorials to help construct the memorial thru the submission of comments, anecdotes, photographs or other material.[11]

Hess also discusses the question of durability. While weather may chip away and erode a physical monument, a virtual memorial is subject to lack of maintenance or money for web hosting fees, hackers or the intrusion of commercial ads to support the memorial. The ability to easily replicate and quickly spread digital material is a factor which potentially increases the life of a virtual memorial. Physical memorials may be built of sturdier materials than a digital file, but they are also not likely to be reproduced nor are they

easily redistributed.[12] Each type of memorial has strengths and weaknesses when compared with the other.

Traditional archival collections exist in physical formats and reside in boxes sitting on the shelves of a repository. Just in the last ten years or so, archivists have started changing the way they interact with their collections, how they exhibit them and make the material accessible to researchers, and how they permit researchers to interact with the archival records. Finding aids have been put on the World Wide Web. Images and texts have been scanned to create digital surrogates available on the web. One motive for these changes has been to increase access to the records. The question of access is a traditional one. With the development of the Semantic Web 2.0 some archivists are now experimenting with the ways in which they engage or interact with their researchers. Archivists ask patrons to identify photographs or otherwise contribute their expertise to the repository through interaction with material presented on the web.

Let us turn now to examine several websites created in response to regional or national American tragedies. The most well known, recent national tragedy is the terrorist attack commonly referred to as "9/11". Two thousand nine hundred and seventy-four people died. Many more experienced the event personally or knew someone who did.

The September 11 Digital Archive was constructed by historians at the Centre for History and New Media at George Mason University in partnership with the American Social History Project at the City University of New York.[13] Site content was contributed by thousands of ordinary people. Visitors to the site added images, documents, voice mail and other digital files documenting their experience of this event. The site also collected oral history recordings and photographic images from several exhibits and projects as part of its content. Finally, the site also includes links to reliable sources of factual information about the event and websites about 9/11. The site was designated by the Smithsonian Institution as their official repository for digital material related to 9/11.[14]

The September 11 Digital Archives is a well designed website which is just what it says - a digital archive. The site collected and continues to collect archival records - in digital format. The records are collected through donor interaction with the website. Site visitors interact with the archival records presented on the website. Although the website documents a tragedy which caused many deaths, it presents this event from an historical perspective; it does not memorialize the dead.

The Interactive Vietnam Veteran's Wall is a web memorial which replicates the real/physical memorial. The website developers added indexing and social networking capabilities.[15] Visitors are able to interact with the website and leave comments for others to see and respond to. The site uses photographs from the National Archives, but is not connected to that archives

or the official/physical Vietnam Veterans' Memorial. The site appears to be run by a business which makes original documents available with social networking capabilities. There are no archives whatsoever associated with the virtual memorial.

The Interactive Vietnam Veteran's Wall is a combination of historical information and commentary by site visitors. Each name which appears on the physical monument is listed on the website. Information about each deceased person, over 58,000, has been indexed in a variety of categories. Visitors search by category and look for people. If they find someone, they have the ability to leave a text comment. There is no individual page for each dead soldier. It is not apparent whether comments added by visitors about an individual actually are collected in one spot with other information about that individual to be viewed as a comprehensive unit. Although this initially appeared to be a web memorial, upon closer examination, it operates more like a database about people who all have the common quality of having died in the same war. This is also the only commercial website of those analyzed here. Some pages have ads or require a paid membership to access.

Syracuse University created an archive dedicated to the 1988 bombing of Pan American flight 103 which blew up over Lockerbie, Scotland.[16] Thirty-five students from Syracuse University studying abroad were among the 270 killed. This is a traditional archives composed of paper records, and audio and video materials. The finding aid for the collection is available thru the website.

Web memorials have generally been created by private individuals for the purpose of memorializing an individual about whom the creator cared. Archives have collected archival records and created traditional collections about tragic events. This is not new. The Pan Am 103 Archives at Syracuse University is an example of a traditional archival collection documenting a tragedy. The webpage for this collection combines information about the collection and a memorial aspect in the form of the name list of all who died in this bombing. The collection is not digital. Researchers use it in the traditional manner, in person at the repository. This really isn't a web memorial.

Virginia Polytechnic Institute [Virginia Tech] created a digital memorial for the thirty-two students/faculty shot to death on their campus in April, 2007.[17] This site includes a memorial page for each decedent with a photograph and biography approved by their family. There are links to footage of the dedication of a physical memorial on the university campus, related university links and support services. Individuals worldwide sent condolences to Virginia Tech as did many American colleges and universities. Visitors can read these messages.

The Virginia Tech webpage is clearly intended as a memorial to the dead from that tragedy. The web memorial consists of digital records which the site visitor can access from anywhere in the world. These records were not solicited thru the web memorial though, the site is not interactive. The records were received by other means. They include the individual memorial pages, footage of the physical memorial dedication, and condolences. There does not appear to be an archival collection connected to the web memorial. This web memorial shares a lot of common qualities with the privately created web memorials. The two distinctive qualities are that this memorial was created by an institution and it memorializes a larger group of people than a simple private web memorial would.

Since late 2007, the library staff at Northern Kentucky University has been working to build an archival collection about the Beverly Hills Supper Club fire in the Special Collections and Archives department. In the Fall of 2007, a faculty learning community was organized to introduce faculty members to new software and technology as a way to encourage their use in the classroom. As a participant in both these activities, I conceived of the idea to use 3-D technology to virtually recreate the Beverly Hills Supper Club as it looked just prior to the 1977 fire using archival photographs and other available records. Technical support for the project is being provided by staff and work study students in the Office of Instructional Design in the College of Arts and Sciences.

One major goal for this project is to create a virtual memorial for those who died in the fire since efforts to create a physical memorial are at an impasse. A virtual 3-D Beverly Hills circa 1977 will be created. The names of those who died in the fire will be listed. I am optimistic that family and friends will contribute something for each of the dead, a story, a remembrance, a photograph. My hope is that this website will become more than just a virtual memorial to the dead, that it will become a place where those affected by this tragedy can "meet," to remember, to talk, to further the healing process, to remember the dead, and to teach the living about this event in the life of the region's history.

The website will be interactive. Visitors will be able to leave text messages or photographs on a message board. The messages and photographs may be about people or events from the night of the 1977 fire or they could be happier memories from before the fire. The memorial will be enriched and expanded by the community of those who visit and what they leave. It will become what they make of it.

A second goal of this project is to document the history of the Beverly Hills fire, the roles of individuals and categories of people involved and the impact the fire had on the community. The 3-D recreation will enable people to see what Beverly Hills looked like. Archival records are being used to make the recreation as historically accurate as possible subject to technical

limitations and the availability of historical information. Factual information will supplement the visual component. At a later stage of the project, oral histories [audio files] of interviews with people who were at the fire or otherwise involved will be added to the website. The archival collection is being developed primarily to support historical research about this event. The web site will be used to ask for people willing to be interviewed for the oral histories and potential donors to the archival collection. When the archival collection is processed, the finding aid for the collection will be included in the website.

How does the Beverly Hills Supper Club website under development by Northern Kentucky University compare with the web memorials previously discussed? This site will be a unique blend of a memorial and an archive which documents the history of the event which caused the death of the people being memorialized. This will be a non-commercial memorial created by an institution with no personal connection to the deceased. The memorial will be created for the benefit of the local community of which the university is a part, and for historical purposes. The site will allow visitors to interact with the memorial aspect, the historical aspect or both. Visitors will be able to leave photographs, memories or other comments about the deceased, the event or Beverly Hills. They will also be able to take a virtual walk through a 3-D reconstruction of an historic building, contribute to the historical accuracy of the structure, or comment on the fire.

A traditional paper based archival collection will serve as a springboard to new and unique interactive capabilities on the website. The collection finding aid will be available on the web. Select materials from the collection may be digitized. It is anticipated that oral histories will be conducted and selections available on the website. The site will expand on traditional archival interaction with donors. Visitors will be asked whether they would be willing to be interviewed about their experience of the fire or whether they have material they would be willing to donate to the collection.

The site will go beyond the typical due to the interaction between visitors and the website. Visitors will be encouraged to contribute to the site. For example, if the archival collection does not have a photograph of a particular aspect of the Beverly Hills club, there may be some blank walls in the virtual recreation. An individual who has a photograph of that section of the building could submit a digital copy to the website to fill in the void. Some visitors won't have experienced the event personally, but will have an interest anyway. They will be encouraged to chat and add their knowledge. The most unique contribution of this website will be the opportunity to walk through an historically accurate 3-D recreation of a building which no longer exists. This website may not be the first archival website to encourage patrons to interact with the material presented to them; however it will be

among the first wave. The Northern Kentucky University archives may be the first archival repository to present a 3-D virtual tour of a historically accurate building recreated through the use of archival records.[18]

Notes

[1] Wikipedia entry for 'Southgate, KY', last revised Jan 6, 2009, viewed on Feb 3, 2009, <http://en.wikipedia.org/wiki/Southgate,_Kentucky>.
[2] E Runia, 'Burying the Dead, Creating the Past', *History and Theory*, vol 46, October 2007, p. 316. Runia contrasts "acts of people" with "acts of God."
[3] Ibid.
[4] P Roberts, entry for 'Memorial, Virtual', Encyclopaedia of Death and Dying, last revised 2007, viewed on January 3, 2009, <http://www.deathreference.com/Me-Nu/Memorial-Virtual.html>.
[5] Ibid.
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] A Hess, 'Digital Remembrance: Vernacular Memory and the Rhetorical Construction of Web Memorials', *Media, Culture & Society*, vol 29, September 2007, pp. 812-830.
[10] Ibid., p. 815.
[11] Ibid., pp. 820 and 825.
[12] Ibid., pp. 821-822.
[13] This website is located at <http://911digitalarchive.org/>, viewed on January 24, 2009, J T Sparrow, 'On the Web: The September 11 Digital Archive', in *Public History: Essays from the Field*, Revised Edition, J B Gardner and P S LaPaglia (eds), Krieger Publishing Company, Malabar, Florida, 2004, p. 403.
[14] Centre for History and New Media at George Mason University in partnership with the American Social History Project at the City University of New York, viewed on January 24, 2009, <http://911digitalarchive.org/>.
[15] Footnote, last update 2009, viewed January 25, 2009, <http://go.footnote.com/thewall/>.
[16] Syracuse University, Syracuse, NY, viewed January 24, 2009, <http://archives.syr.edu/panam/>.
[17] Virginia Polytechnical Institute, and University, Blacksburg, VA, viewed January 24, 2009, <http://www.vt.edu/remember/>.
[18] I believe there are other virtual tours on the web. What I think is unique is that the virtual tour is of an historic building which existed once, but no is longer, is being authentically recreated, and that the tour/building is related to

an archival collection about the building, all of which is being presented by an archival repository.

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Part V

Archiving and Disseminating Community Memory Data

Is There a Way Back or Can the Internet Remember its Own History?

Marcus Burkhardt

Abstract
As we shift from analogue to digital media as the predominant means to express ourselves and to communicate with each other, the question how we construct personal and cultural memory in and of cyberspace becomes increasingly important. Considering the ephemeral nature of digital information in the Internet, this paper asks how the vast amounts of digital information in this global communication and information network will be memorized. The paper focuses on the Internet Archive's effort to preserve the entire Internet for future generations. Facing the risk a "Digital Dark Ages", the Internet Archive was founded in 1996 by a group of visionaries around Brewster Kahle, at a time when years of the Webs history already have been lost forever. Converging with the "database logic" of the new media, the Internet Archive does not form a narrative of the Internet's history. Drawing upon a media archaeological approach, some technological and conceptual means underlying the Internet Archive's attempt to preserve the entire Internet is discussed. The paper concludes asking what kind of memory we can gain by accessing the Web Archive.

Key Words: Internet Archive, Digital Heritage, Digital Preservation, Media Archaeology.

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1. Introduction

In the 1990s, the Internet quickly became an important part in many of our lives. As we shift from analogue to digital media as the predominant means to express ourselves and to communicate with each other, the question how we construct personal, collective, and cultural memory in and of cyberspace becomes increasingly important. Early in the history of digital media, Ted Nelson put forth a vision of a global information network that he conceived as a never forgetting document space. He began working on his project Xanadu in the 1960ies and it is still not finished today. On the project's website we can read, "We need a way for people to store information not as individual 'files' but as a connected literature. […] Documents must remain accessible indefinitely, safe from any kind of loss […]".[1] Nelson suggested that in the realm of the digital, nothing would need to be lost anymore, as digital media would allow us to create a universal

archive of everything. Nelson's vision entered at least to a certain extent the cultural imaginary of our time. Yet, considering the ephemeral nature of digital information in the Internet, we need to ask how these digital memories will be memorized. Does the Internet have a memory of its own? The paper discusses some chances as well as challenges of reading the digital past in the present. Hereby I will focus on the Internet Archive's efforts "to prevent the Internet […] from disappearing into the past".[2]

2. Digital Heritage

Texts, images, and media products in general cannot be merely understood as documents. They are monuments as well. In 1969, Michel Foucault made this famous claim in his Archaeology of Knowledge.[3] The Foucaultian approach prevailed in German media theory and led to the establishment of a media archaeological line of thought and research.[4] Expanding upon Foucault's archaeological approach, media are to be understood as the technological means to create cultural monuments and hence define on an operational level the law of what can be said. Hereby the media archaeological approach explicitly refers to Foucault's concept of the archive, which marks the goal of his methodology. Foucault himself was unaware of the media technological dimension of the formation and transformation of statements. This is not surprising as his inquiries end in the midst of the 19th century when the printed book and the painted image were still the dominant means of expression.

Since then new media technologies such as photography, film, typewriter, gramophone, radio, television, computer, Internet etc. have been developed. Consequently, the archaeological approach needs to address these medial changes in the way we express ourselves. In order to achieve this goal, we need to inquire media archaeologically, which is, according to Ernst, the task Foucault has left to us. Thus, the task is, as Wolfgang Ernst emphasizes, to study the forms of memory as operations of storing, processing, and transmitting information.[5] Hereby, the focus shifts from the factuality of actual statements to the virtuality of possible statements. The historical a priori of the archive in the sense of Foucault is thus no longer investigated in the institutional archives and libraries that preserved what has been said, but it is inquired as the material media technological means of information storage, transmission, and processing.

With the rapid shift from traditional analogue media to new digital media throughout the last 60 years, new possibilities as well as new challenges for the goal of preserving cultural heritage arose. As was already shortly pointed out, the idea of universal archives was reinforced with the advent of digital media. This idea lingers on until today and it resulted in startling projects that address the vision of universal archiving on different levels such as *MyLifeBits* that is run by Gordon Bell at Microsoft and the

Google Library Book Search Project. Yet, these attempts to create universal archives and libraries are, at least to some extent, undermined by the material constraints of digital media.

In 1998, Danny Hillis warned that we are at the verge of a "digital dark age", pointing towards the serious challenges we face with regard to our digital heritage.[6] Put simply, digital information does not last forever or, how Jeff Rothenberg put it, [d]igital information lasts forever, or five years, whichever comes first".[7] A large amount of digital information has already been lost. Day after day, hard drives and other storage media break down and the data stored on them often cannot or will not be recovered. The threat of data loss hence is a serious drawback of the glorious digital age.

In 2003, the UNESCO adopted the "Charter on the Preservation of the Digital Heritage" at its 32nd General Conference. Hereby, it is acknowledged that "resources of information and creative expression are increasingly produced, distributed, accessed and maintained in digital form".[8] As digital media become increasingly important, artefacts that are created by means of and for presentation with those technologies have to be recognized as "unique resources of human knowledge and expression"[9] and thereby become a crucial part of cultural heritage. It is a heritage, however, that is ephemeral in nature. The obsolescence of hard- and software contribute to this as well as the uncertainty regarding responsibilities, methods and legal implications of digital heritage. Digital preservation, thus, is acknowledged as a technological as well a societal and cultural problem that has to be addressed on two levels. First, digital artefacts have to be preserved for future generations and, second, accessibility of those artefacts has to be ensured.

3. Internet Archive's Utopia

Let us now turn from digital media in general to the Internet in particular. On the technological level, the Internet is an infrastructure or framework for computer-mediated interpersonal communication as well as computer-mediated publication of data, information, and knowledge. Conceptually, the Internet can be understood as a *docuverse*, that is, the sum of all documents and information posted on the net.[10] One of the basic characteristics of the Internet's content is its dynamic development. As every user is allowed to publish (nearly) anything he or she wants in the Internet and as everybody is able to change or remove this information freely, the web as a whole can be understood as a dynamic entity that, indeed, has a history of its own.

Early in the history of the WWW it became obvious that the life span of information accessible in the Internet is extremely short. Various numbers on how long information ordinarily lasts in the Internet can be found in scientific papers, magazine and newspaper articles, and online. According to Peter Lyman, the "average life span of a Web page is only 44 days, and 44

percent of the Web sites found in 1998 could not be found in 1999".[11] Ironically, Lyman had to admit that many of the sources he based his claim on had already disappeared from the web as well.

In 1996, a group of visionaries around Brewster Kahle founded the public non-profit organization Internet Archive. As the organization's website archive.org states, the main goal of Internet Archive today is to provide "Universal Access to All Human Knowledge".[12]. In this context, the Internet Archive attempts to preserve the entire Internet for future generations. This is probably what Internet Archive is still best known for today.

Archiving the entire Internet is by no means a trivial task and it is worth looking at the technologies and concepts that underlie the Internet Archive's attempt to preserve the Internet's past for future generations. What are the rules or practices that govern the passing on and transformation of online information those constitute the archive in the Foucaultian sense?[13] Thus, what can be found in the web archive of the Internet Archive? Using the so-called *Wayback Machine* on archive.org one can find snapshots of all web sites that are stored in the Internet Archive's web servers taken at different times in different intervals by typing in the desired URL and only that. These snapshots are created by a technology called web crawler, which is a software application that crawls through the net starting at certain entry points and following the hyperlinks on the websites to move from page to page and from site to site storing all the information retrieved on the servers along with some descriptive metadata. The first complete crawl through the Internet, according to Kahle, took about one year.[14] Today it still takes several weeks to compile a copy of the web.[15]

The Internet Archive takes a holistic approach to the web-archiving challenge. Instead of archiving only specific web sites that seem of historic importance, they strive to get it all. This is part of the Internet Archive's promise to preserve the Internet and not just the valuable web sites. This suggests that the archive is non-selective in what will be preserved and what not. They just get it all. However, is this really true?

Of course, it is not and Kahle admitted to this in a 1997 article about the Internet Archive published in Scientific American. He stated:

> The text, graphics, audio clips and other data collected from the Web will never be comprehensive, because the crawler software cannot gain access to many of the hundreds of thousands of sites. Publishers restrict access to data or store documents in a format inaccessible to simple crawler programs. Still, the archive gives a feel of what the Web looks like during a given period of time even though it does not constitute a full record.[16]

How reliable is this "feel of completeness" the Internet Archive gives us? Is it true that only those web pages are excluded that underlies the obstacles of restricted access, copyright law, and weird format? Again, the answer is no. So, what else cannot be found in the Internet Archive?

First, the Internet Archive preserves only what is called the surface web. Underneath what is visible at the surface of the web exists another web, consisting, on the one hand, of restricted web pages and, on the other hand, of databases that contain vast amounts of information that can be retrieved through web sites, but are not accessible as web sites. This would not be much of a problem if this so-called Deep Web would not contain most of the information in the Internet.[17] Furthermore, due to the rapid development of content management systems and weblogs, a great percentage of today's web content is generated dynamically from databases at the time of access. Thus, what a web crawler mirrors is only a small part of the possible web pages that could have been created from the database. The Internet Archive's approach to the web is document-oriented and everything that is not a document with a specific URL will not be included in the archive. As the Internet develops, more and more content is contained in databases and the Internet Archive becomes less and less reliable in giving us a feel of how the Internet was a at a certain time. In the age of Web 2.0 this becomes especially problematic, because most of the Web 2.0 services are database driven and only few of them follow the document logic imposed by the Internet Archive.

Second, web crawlers are software applications. Like all software applications, some work better than others do, but none of them is flawless. Programming always is a trade off between technological constraints and conceptual ideas. Thinking, for example, about the competition between search engines gives us a pretty good insight into the technological selectivity of web crawlers. In the late 1990ies and early 2000ies, a number of so-called *search engine wars* took place, and what the search engine providers were fighting about was how good their own crawlers searched the web.[18] One crucial factor for the usefulness of search engines is how many web pages they have indexed and how many pages hence possibly can be found. The web is smaller according to search engines that have fewer pages indexed. As every search engine provider uses web crawler applications like the Internet Archive we can safely conclude that their own crawlers underlie the same constraints. As a result, what future generations will remember of the Internet's past is technologically biased. To a certain extent this is due to conceptual decisions that are made when one opts to use web crawler applications to gather archival data.

As Mike Thelwall and Liwen Vaughan showed in 2004, a country imbalance exists in the Internet Archive. While 92 percent of the US websites were in the archive, there was only a probability of 70 percent for websites from China, Singapore, and Taiwan to be included in the Internet Archive.

Interestingly, Thelwall and Vaughan showed that this country imbalance was due to the biased link structures on the net.[19] That is, for regions of the web where web pages are only loosely interlinked it is less likely for these pages to be included in the Internet Archive.

4. Today's Memories of the Internet Archive's Past

After having briefly discussed the technological and conceptual means underlying the Internet Archive's attempt to preserve the entire Internet, I want to discuss the question what kind of memory we can gain by accessing the Web Archive. I will address this question by looking at the Internet Archive's memory of itself.

Being interested in the history of the Internet Archive, one might turn to their website to get some information on this topic. Yet, only little information on the history of the Internet Archive can be found there. The "About IA"-page just states that the organization was founded in 1996 and that it has broadened its scope in 1999 to not only preserve web pages but also texts, images, films, and software. The Internet Archive does not provide information on how it developed over time. That is, it does not tell its own history. However, why bother, if there is an archive containing the history? Converging with the *database logic* of the new media, the archive does not form a narrative of its own history in particular and of the Internet in general, it presents history as a list of items that can be looked at and compared.[20] Yet, turning to the Wayback Machine one finds only very little information on the history of Internet Archive as well and in this little information apparent contradictions.

Considering for example the question how the web archive grew in size over time, information was posted on the main page of the Archive between 1997 and 2001. During this time one could not only find information on the size of the archive but also information on which dates to which these numbers relate. Since then information regarding the current size of the web archive has vanished from the Internet Archive's main page and can only be retrieved from the FAQ section of the website. Furthermore, the information is not dated anymore. Reconstructing the growth of the web archive over time based upon these numbers reveals a surprising insight. Depending on when the Internet Archive's website was accessed contradicting information could be retrieved on how big the web archive was in March 2001. Figure 1 presents an estimate of the Internet Archive's growth drawing from (disagreeing) information by the Internet Archive itself. The graph was generated using information posted on the archive's website archive.org between 1997 and 2005.[21] Surprisingly, on March 31st, 2001 the website stated that the web archive had a size of approximately 42 terabytes at this time. Yet, on November 10th of the same year this information was changed, stating that the web archive had a size of 107 terabytes in March 2001 (hence

the diverging lines in 2001). This information retrieved from the Internet Archive's web archive is contrasted with a reliable claim by Arms et al. that the web archive had a size of 544 terabytes as of August 2005.[22] Yet, in August 2005 Internet Archive claimed on its website to have gathered already about one petabyte of web data, that is, about twice as much data as stated by Arms et al.

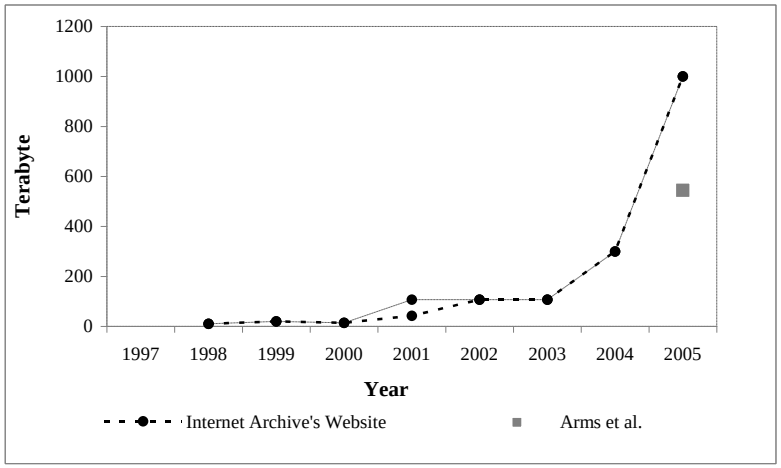

Figure 1: Growth of the Internet Archive's Web Archive

This sheds doubt on the reliability of information contained in the Internet Archive's web archive. Various explanations could explain these inconsistencies, but none of them can be preferred based upon the information in the web archive. Yet, there is a seemingly easy solution to the problem at hand. If we want to know how big the web archive was at a certain point in time, we cannot only rely on the information contained in the archive, but we could also gather information about the archive. By retrieving information on when crawls have been conducted and how much information has been gathered during this time, the growth of the web archive over time could easily be reconstructed. Yet, this leads to another problem. Until today, access to the web archive is only possible using the Wayback Machine that provides an interface, which allows users to retrieve the version history of a specific URL. A full text search of the archive or alternative ways of accessing the archives data are not provided to the general public. A more thorough access is promised for researchers from different fields upon request. Since December 2003, however, the Internet Archive is in the process of redesigning the researcher interface and, thus, cannot "process any new researcher requests".[23] Barriers to access pose an obvious hindrance to

our memory of the Internet's past. Without sufficient means to access the web archive our memory of the Internet is lost as well.

To conclude, starting with the general call for preserving digital artefacts for future generations I went on to discuss the Internet Archive's contributions to this goal. Indeed, the Internet Archive's collection is an invaluable resource for our future memory of the Internet's past. Taking a closer look at the technological and conceptual principles of the Internet Archive's web archiving project, challenges for preserving the entire Internet were discussed. After all it became clear that we might have to say farewell to the visions and promises of a universal archive.

Notes

[1] Anonymous, 'What Is Xanadu?', <http://www.xanadu.com.au>, viewed on 03.10.2009.
[2] Anonymous, 'Internet Archive', <archive.org>, viewed on 03.10.2009.
[3] M Foucault, *The Archaeology of Knowledge and the Discourse on Language*, Pantheon Books, New York, 1972.
[4] See for instance W Ernst, 'Medien@Rchäologie (Provokation Der Mediengeschichte)', in *Schnittstellte: Medien Und Kulturelle Kommunikation*, G Stanitzek and V K Wilhelm (eds), DuMont, Köln, 2001, pp. 250-67.
[5] W Ernst, 'Medien@Rchäologie'.
[6] See S Brand, 'Escaping the Digital Dark Age', *Library Journal*, Vol. 124, 2, 1999, pp. 46-48.
[7] J Rothenberg, 'Ensuring the Longevity of Digital Documents (Revised Version)', <http://www.clir.org/programs/otheractiv/ensuring.pdf>, 1999, viewed on 21.07. 2008.
[8] Unesco, 'Charter on the Preservation of the Digital Heritage', <http://portal.unesco.org/ci/en/ev.php-URL_ID=13367&URL_DO=DO_TOPIC&URL_SECTION=201.html>, 2003, viewed on 09.04. 2008.
[9] Ibid.
[10] T H Nelson, *Literary Machines*, Mindful Press, South Bend, 1982.
[11] P Lyman, 'Archiving the World Wide Web', *Building a National Strategy for Digital Preservation*, <http://www.clir.org/pubs/reports/pub106/pub106.pdf>, 2002, viewed on 10.10.2008, pp. 38-51, p. 38.
[12] Anonymous, 'Internet Archive'.
[13] Foucault, *Archaeology of Knowledge*, p. 127.
[14] B Kahle, 'Preserving the Internet', *Scientific American*, vol. 273, 3, 1997, pp. 72-73.

[15] W Y Arms et al, 'Building a Research Library for the History of the Web', in *Proceedings of the 6th Acm/Ieee-Cs Joint Conference on Digital Libraries*, 2006, pp. 95-102.
[16] Ibid.
[17] M K Bergman, 'The Deep Web: Surfacing Hidden Value', in *BrightPlanet.com*, <http://brightplanet.com/white-papers/119.html>, 2000, viewed on 10.11.2008.
[18] D Sullivan, 'Search Engine Sizes', <http://searchenginewatch.com/2156481#current>, viewed on 01.21.2009.
[19] M Thelwall and L Vaughan, 'A Fair History of the Web? Examining Country Balance in the Internet Archive', *Library & Information Science Research,* Vol. 26, 2004, pp. 162-76.
[20] L Manovich, *The Language of New Media,* MIT Press, Cambridge, 2001.
[21] Anonymous, 'Internet Archive'. The Wayback Machine was used to retrieve the main page of archive.org for the following dates to gather information the graph is based on: 10.11.1997, 10.13.1999, 04.08.2000, 03.31.2001, 11.10.2001, 05.27.2002. After 2002 information on the current size of the web archive appeared only in the FAQ section of the website. Data for 2003 to 2005 have been retrieved from archived versions of the FAQ page for the following dates: 09.08.2003, 06.09.2004, and 08.01.2005.
[22] Arms et al., 'Building a Research Library for the History of the Web', p. 96. Arms et al. are engaged in a project to create a research library using the data of Internet Archive's web archive. Hence, the authors had direct access to the data of the web archive and did not have to rely on information by Internet Archive.
[23] Anonymous, 'Internet Archive'.

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Browsing through Memories: The Online Disclosure of Oral History in Flanders

Laurence Hauttekeete, Tom Evens & Erik Mannens

Abstract
To date, Flanders is dramatically lagging behind with disclosing its oral history collections. Despite recent attempts undertaken by cultural heritage institutions to make audio collections more accessible over the Internet, the widespread dissemination of this historical sound archive is still bound to happen. This article evaluates the current situation in Flanders regarding the preservation and dissemination of oral history collections, based on discussions with stakeholders. Furthermore, we assess the feasibility of an innovative disclosure application by means of a SWOT analysis. As a result, we were able to assess the advantages and drawbacks of an innovative application and relate these features with interesting trends that might influence online disclosure of heritage collections in the future. With our findings, we hope to inspire cultural heritage institutions to digitise, to open their audio-visual collections and to give feedback about possible pitfalls for similar archiving projects.

Key Words: Cultural Heritage, Oral History, Digitisation, Disclosure Application.

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1. Introduction

To date, Flanders is dramatically lagging behind with using innovative tools to facilitate access to oral history collections, which bring together unique testimonies and shared memories about the region's history. With these collections, we refer to audio recordings of spoken word, interviews and testimonies.[1] Despite recent attempts undertaken by several heritage institutions to make this historical sound archive more accessible over the Internet, the widespread dissemination of oral sources is still bound to happen.[2,3] Instead of risking the synchronous and expensive development of similar applications by several institutions, it seems more efficient to exploit a common trajectory. This allows the heritage sector to enjoy scale effects from cross-sector partnerships. However, research should reveal the feasibility of such a shared, innovative system and its possible implications for a more efficient preservation, inventory, disclosure and valorisation of oral history in Flanders.[4]

This article mainly focuses on digitisation, metadata and disclosure issues related to spoken word collections. In first instance, we give a short overview of today's situation regarding the preservation and dissemination of oral history in Flanders and map the opinions of its institutional users. Therefore, we set up a quantitative survey amongst 19 heritage institutions and archive libraries and interviewed representatives from 12 national and international heritage institutions face-to-face (amongst which British Library Sound Archive, Dutch Institute for Sound & Vision…).[5] This way, we were able to gauge for current and future visions concerning the disclosure of oral history in Flanders. Moreover, this allowed us to evaluate the technological and in particular organisational feasibility of an innovative application by means of a SWOT analysis.

2. Disclosing Spoken Word Collections in Flanders

Although there is a wide range of producers of spoken word recordings, little is deposited within archive institutions. This is partly because Flanders lacks any institution explicitly assigned to support the preservation and disclosure of this oral collection. In addition, we found a large discrepancy between archives on the one hand and heritage institutions on the other hand regarding the amount of recordings, growth and disclosure of collections, the presence of contextual information and its degree of digitisation. Moreover, all Flemish institutions involved in the project indicated that these spoken word items only represented a marginal part of their total collection and were barely prioritised within everyday work practices.

Whereas archive institutions (assigned to preserve all kinds of heritage materials) store a few hundreds of interviews and testimonies, the heritage sector (primarily focused on stimulating cultural heritage participation amongst citizens) only holds a handful of spoken word items. However, on the production level the collection of the latter quickly grows thanks to the participation in recent heritage projects, whereas archives' collections are hardly updated with new material. Above all, we noticed that the growth of oral history collections largely remains dependent on new projects and therefore on the provision of public subsidies.

In the practice of archiving spoken word recordings, high importance is attached to the availability of so-called contextual information. Clustering the identification card, the contents card, the transcription, the contract and the recording itself is crucial to situate, identify and evaluate the item. Nevertheless, we should mention that interviews are transcribed less and less because of its labour-intensive character. In this perspective, automatic speech recognition acts as a promising alternative for this time-consuming practice in the near future. This technology has already been applied in the Dutch heritage-archiving project Choral for example.

The shortage of legal contracts between interviewer and interviewee causes unclear conditions for future consumption, which heavily challenges online distribution of oral history items. Since a large number of recordings date from the pre-Internet era, most contracts leave no opportunities for online (re)use and distribution. As a result, further valorisation of these recordings is hampered despite their scientific, socio-cultural, historical, educational and even economic value.

To date, the sound archives seem hardly digitised although digitisation is required for developing an online disclosure mechanism. This shortage is especially true for archives' tape-based collections, which have often been acquired through donations decades ago. Due to the enormous effort requirements (time, money, people…) to digitise these analogue materials, this essential process is seldom prioritised within everyday work practices. On the contrary, because heritage institutions have been involved in oral history projects only recently, they own in most cases born-digital recordings. In addition, smaller collections allow these organisations to digitise their analogue material much faster. Nevertheless, we discovered that the overall sector urgently needs more knowledge and resources to digitise the existing analogue items rather than starting up new oral history projects.

The large differences concerning the digitisation level between archive and heritage institutions are also reflected in the extent of disclosure and accessibility to a wider audience. In this context, we refer to disclosure as the structured classification of materials, allowing a quick and efficient search by employees, users or other stakeholders. Together with digitisation, a thorough, standardised description system is indispensable for making cultural heritage items accessible via Internet. In this context, we found that the investigated institutions all have a systematic and structured archiving policy, intended to maximise the disclosure of collections, although we remark that spoken word collections are better searchable within archives compared with heritage institutions.

As mentioned, an adequate disclosure mechanism demands a standardised metadata model or at least the consistent use of key words and labels. After all, the description of materials (both regarding content and form) should result in an optimal 'browse and search' of the collection and should facilitate the exchange of heritage materials. The standardised metadata models now being used within the investigated institutions are predominantly ISAD(G) and ISAAR. However, a few organisations have chosen to use a self-made model.

3. Toward an innovative Disclosure Application for Flanders?

Despite the scattered implementation of several metadata schemes within the cultural heritage field, we discerned a clear call for one standardised metadata model for describing heritage materials, both when it

comes to content and form. This structured approach should permit a more efficient cooperation between various institutions. Nowadays, such cooperation is not that evident due to the different description mechanisms and search procedures that are implemented. A shared metadata model would certainly be a step forward and would permit to browse heritage materials scattered over all institutions via only one search engine, based on common metadata.[6] Moreover, the implementation of a standardised metadata model reflects the current tendency to describe materials as briefly as possible, for an obvious time-saving reason. Concise and more general metadata, bundled in a standardised metadata model, should thus be considered.

Also possible in an innovative disclosure application is the storage of the digitised audio materials in a joint repository, but we found that the heritage sector is not very enthusiastic about this feature. Institutions argue that a joint repository endangers some basic principles of archiving, especially when it comes to origin and structure. More specific, they fear the context wherein the item has been produced to be lost. Another more implicit reason is certainly the institutional control, whereby institutions wish to retain their influence and decision power on their own collection.

4. SWOT Analysis of the innovative Disclosure Application

We evaluated the feasibility of an innovative disclosure application by means of a SWOT analysis, which is a strategic planning method often applied to assess the strengths, weaknesses, opportunities and threats involved in a project. The internal factors are described in terms of strengths and weaknesses, while the external analysis deals with opportunities and threats. The figure below summarises the main findings, obtained by means of an environmental analysis including a questionnaire, interviews and literature reviews.

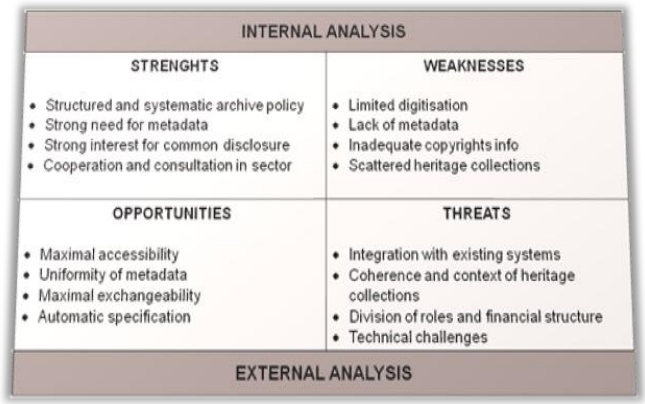

Figure 1: SWOT Analysis of the innovative Disclosure Application

A. Strengths

The idea of a structured and systematic archive policy to disclose heritage materials as efficient as possible is undoubtedly the most important strength. Institutions are well aware of the fact that this attitude should be omnipresent within the organisation, leading to an optimal and efficient disclosure, for internal as well as external purposes in the (near) future.

Among institutions, there is a strong need for a standardised metadata model for the annotation of heritage materials. Furthermore, given the tendency to describe collections as briefly as possible, the current ISAD(G) standard no longer seems appropriate, so a modular metadata standard should be considered.

Together with a greater demand for standardised metadata, we also noticed a strong interest for a common disclosure application. The suggestion of making the scattered materials collectively available, linking the various databases and disclosing them via one search engine, is loudly applauded by the sector.

Finally, the established although modest cooperation between institutions in certain projects form a fruitful basis for further negotiations about the implementation of a uniform metadata model and the development of a common disclosure application.

B. Weaknesses

The lack of digitised heritage material is one obvious weakness. Moreover, given the intensive character (time, personnel, budget…) of converting older analogue items into a digital format, this issue is no priority for the large archives. The absence of sufficient digitised material is in this perspective a clear barrier for the successful development of a common digital disclosure application.

Furthermore, the lack of metadata can be considered as a second weakness in the current policy of safeguarding oral sources. Too specific, inconsistent and/or absent metadata hinder an efficient description, an optimal disclosure, a productive cooperation with other institutions and the fluent integration of different operating systems.

Another bottleneck is the intellectual property. Given that institutions often deal with old material, many problems arise concerning copyright and intellectual property rights. As a result, dissemination and valorisation via Internet is not that obvious.

Lastly, we should mention the strong fragmentation of collections scattered over numerous institutions. Over time, the latter have been developing their own practices for describing and disclosing their material, hindering a joint disclosure policy. Moreover, this kind of decentralisation often leads to the inefficient use of resources.

C. Opportunities

The creation of an innovative disclosure application clearly enlarges the availability, accessibility and repurposing of different kinds of historical items. By means of a common disclosure on the Internet, Flanders' unique heritage collection may become visible for a variety of target groups, suitable for different purposes: scientific, educational, cultural, media… In this perspective, an easy accessible, user-friendly, structured and up-to-date system is essential for the further valorisation and democratisation of 'rich' multimedia content from the past.

Secondly, the current fragmentation when it comes to metadata models could be overcome and could lead to a shared model that rises up to everyone's expectations and that meets the different needs, possibly inspired by international best practices. In general, regarding content and format, metadata should be more concise.

Such a shared minimal metadata set also offers more opportunities for a closer cooperation between institutions, concretised in the easy exchange of materials. Again, this fosters a greater visibility of the valuable collections leading to a better representation within the educational, socio-cultural and political field.

Finally, the development of a shared disclosure application provides a fruitful basis for exploring new (fully) automatic attribution methods for metadata creation, which can optimise the digital workflow within institutions.

D. Threats

One possible major threat is the incompatibility of the current applications. A joint disclosure system implies an integration of the present applications into one global model. The absence of a uniform metadata model and the diversity of file formats are factors hampering an easy technical integration process.

In addition, attention should be paid to the connection between materials and the context in which they are recorded, conserved and disclosed. After all, reducing heritage items to mere consultable files could harm their historical value, which is determined by the context and the connection with other collection items.

Above all, the role of the different actors involved should be precisely defined and any vagueness about the cost structure of digital archiving and disclosure should be avoided. In advance, financial agreements should be made, taking into account the position of the particular institution within the whole cultural heritage sector.

Another technical challenge is the continuous support and update of such an application. Systems should update themselves to the changing

environment, preventing some kind of rigidity. Therefore, future-orientation and flexibility are important issues when developing the application.

5. Concluding Remarks

The current situation in Flanders regarding the preservation and disclosure of oral history collections is in many ways an ideal starting point for the development of a shared disclosure model. Nevertheless, our research has also revealed some major barriers, which can obstruct the future of this project. The weaknesses, such as the poor rights management and the limited digitisation, should thus carefully be scrutinised when developing this kind of application.

Furthermore, the establishment of an application exclusively designed to disclose spoken word collections should be questioned. After all, the institutions mentioned that taped memories and testimonies only make up a minimal part of their heritage collections and are of no priority within the daily workflow. Consequently, a much more broadened approach is proposed for implementing common disclosure, taking into account the wide spectrum of heritage materials such as text documents, pictures, videos, artefacts… This way, collective memory becomes accessible via one searchable database. We believe such a 'one-stop-shop search engine' bringing together the total heritage collection, which is nowadays scattered over numerous institutions, should be the ultimate goal. The current tendency to link separate databases meaningfully should therefore not be ignored. The coupling of the iconographic, audio-visual and textual memory would optimise people's access to the scattered heritage collections by means of only one mouse click. As a result, interested users can then search and consult text and audio-visual fragments, as easy as searching in Google.

Nevertheless, the development of a shared metadata scheme applicable for all types of heritage materials seems the biggest challenge. After all, the accurate description of moving images, pictures and text seems a titanic job. Nevertheless, we stay convinced that one global application should become the dominant disclosure model for the future.

Secondly, the benefit a completely new application would leverage in comparison with current systems must be investigated. To date, some archives are already united via certain databases and disclosure applications (e.g. ODIS or LIBIS-Net). Therefore, an extension on the existing and implemented systems should be considered.

A similar remark can be made concerning the metadata models. Although the current ISAD (G) standard does not fulfil everyone's needs and expectations, it is a good starting point for a more demand-driven model. In this perspective, the development or implementation of an all-embracing metadata scheme should be an adaptation of existing models, in order to ensure compatibility. In addition, further research should demonstrate the

automatic creation of formal metadata (for instance by use of speech recognition).

Finally, we should not neglect the user in the creation of an innovative disclosure application. Due to the time-consuming character of cataloguing and describing, we nowadays see more and more the evolution to involve outsiders (volunteers, seniors, etc.) in the process of describing cultural heritage. The rise of Web 2.0 even radicalizes this trend, in which we notice a shift from a passive user towards a more interactive participant. The user can deliver its own content, has some control over the format and decides how something should be described (*social tagging*).

Above all, new forms of accessibility and a greater offer can result in an enlargement and renewal of the public.[7] A virtual introduction leads not only to a stronger interest, but also to a more improved accessibility for persons who are physically not (or no longer) capable to consult the diverse array of art and heritage collections.

To conclude, the digital disclosure of archive and cultural heritage sources offers a unique opportunity to stimulate the interest in and the use of cultural heritage. Moreover, the richness of the Flemish cultural heritage sector is being uncovered and it leads to a better conservation, more intensive use and further academic valorization.

Notes

[1] B Wever and P François, *Gestemd verleden. Mondelinge geschiedenis als praktijk*, Vlaams Centrum voor Volkscultuur, Brussel, 2003, p. 1-5.

[2] R Vande Winkel, *Bewegend geheugen, een gids naar audiovisuele bronnen voor Vlaanderen*, Academia Press, Gent, 2004, p. 1-3.

[3] R Vande Winkel, 'Mondelinge historische bronnen in Vlaanderen. Een stand van zaken en enkele beleidsaanbevelingen', *Mores*, volume 1(2), 2005, p. 9-14.

[4] J Walterus, 'Vlaams onderzoek naar ontsluiting van mondelinge bronnen', *E-data & research*, volume 1(2), p. 7.

[5] T Evens, L Hauttekeete and E Mannens, 'Surfen naar het verleden: de ontsluiting van mondelinge historische bronnen in Vlaanderen', *Faro*, volume 1(1), 2008, p. 26-32.

[6] A Imhof, 'Using International Standards to develop a Union Catalogue for Archives in Germany', *D-Lib Magazine*, volume 14 (9-10), 2008, p. 3.

[7] K Berte, L Hauttekeete and G Nulens, 'Broadband for Culture, Culture for Broadband', in *Proceedings of ECREA's: 2nd European Communication Conference. Communication Policies and Culture in Europe*, Barcelona, 2008, p. 1-6.

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The Digitization of Audiovisual Archives: Technological Change within the Structures of Reproduction.

Thomas Nachreiner

Abstract
Taking up Frank Hartmann's notion that so far digitization is rather an organisational translation than a cultural revolution[1], this paper scrutinizes the implications of the digitization of film and television stocks in a framework of cultural change. Starting out with the role of the archive in modern culture, the first part of this paper highlights its alteration in the light of technical change. Secondly, the potential impact of digital technology on film and television archives will be described embedded in the genealogy of audiovisual (re-)production. The third part of the paper then distinguishes different development strategies due to the different provenience of the archives, while the fourth part subsequently aims at explaining the continuities and discontinuities as a reciprocal permeation of technologies and institutions.

Key Words: Digitization, Film Archive, Television Archive, Cultural Memory, Mediology.

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1. Archives and Cultural Memory

"Riens n'est moins sur, rien n'est moins clair aujourd'hui que le mot d'archive"[2] Jacques Derrida states, pointing at the contemporary change in archiving techniques. While Derrida in his Foucauldian notion of *archive* emphasizes rather the concept than the institution, German historian Wolfgang Ernst grasps the idea of confusion on an institutional level. According to him, electronically stored media virtually erases the traditional distinction between archive, library and museum and thus trigger the dissolving of the archive as a repository of knowledge and culture.[3]

While database technology presents an overarching organisational innovation especially, it is by no means the first transformation the archive has undergone. Derived from the Greek *αρχειου* with its notions of government and provenance, the Latin word *archive* in the modern era has come to refer not only to public records but also to the entire corpus of material remains that the past has bequeathed to the present.[4]

Besides the ongoing transformation of classical notions of originality instilled by reprographic technology, the archiving of audiovisual materials in particular seems to be diametrically opposed to the classic

concept of the archive: their final purpose is their instantaneous diffusion in the spatial dimension, rather than legitimizing or documenting the operations of a certain institution.[5] In this sense, the blurring distinction between library and archive is not necessarily due to electronic storage, but seems already to be inherent to moving images.

By abandoning the archives link to institutional power its character conforms to the definition given by Michel Foucault - whose concept was inspired by the French *Bibliotheque Nationale* anyway - as a "system of formation and transformation of assertions".[6] While his concept is meant as a category of discourse theory and thus is not explicitly applicable to concrete institutions and specific collections, the analogy between his description of the discursive archive as a process of continuance, modification and update to the *modus operandi* of the modern (media) archive is striking. In this sense, the archive collects and selects material for continual storage, modifies it through its organisational strategies, and enables its discursive update by providing access. Put in the framework of German cultural studies, it forms the basis of diachronic cultural transmission by connecting the external storage memory with the discursive function memories of society.[7]

The interface function of the archive can therefore be described in two ways, which will inform the further discussion of digitization in this paper. On the one hand, archives have to ensure the physical stability of their inventories, which means the preservation of the storage carriers; and on the other hand, they have effectively to ensure the intellectual stability of their content, which describes the establishment of archival order most commonly presented by the catalogue. Relating to these two components digitization takes direct effect in the (audiovisual) archive, which is why an analysis of the impact of digital technology has to center around the modes of intellectual and material organisation, especially in their transforming character.

2. Archives and the History of Audiovision

However, since digitization is not a solely technical process, a short digression concerning the audiovisual pre-history of digitization will prepare the ground for the discussion of these impacts. Especially for an understanding of the workings of the audiovisual within a framework of cultural memory, it is useful to introduce a perspective that emphasizes "the interrelation of technology, organisation (including economics and politics) and aesthetics of media"[8] instead of merely highlighting singular aspects. This interrelation, seen as part of an overarching "discourse of cultural industry"[9], can be described as "audiovisual mediasphere"[10] in which the audiovisual archive operates as an interface and source of audiovisual reproduction. In the following, this role of the audiovisual archive is briefly

analysed against the background of the techno-economic history of audiovisual reproduction.

The foremost concern of archivists of any kind is preservation. Looking at the development of preservation throughout audiovisual history, one gets the picture of an ever-decreasing storage life. While film is regarded as being rather stable with a storage life of over a hundred years if stored in favourable conditions - though chemical decay like the *vinegar syndrome* is quite an unpredictable problem - the endurance of magnetic (video) tape is significantly lower with an estimation of 30 years. A factor of particular uncertainty is therefore the lack of reliable experience or long term testing with all new formats, leading to a situation where horror stories like *NASA*'s loss of approximately one million data tapes of early space flight history predominantly shape the perception of electronic storage media.[11] After all, what became clear in the course of format evolution from film to tape to digital files is that the quest for longer lasting carriers is obviously in vain. Because of this realization, archives are faced with developing strategies for forth copying information instead of preserving carriers - a task that became increasingly difficult and costly in the face of ever-growing amounts of produced footage. A task now (at least potentially) being transferred to so-called tape libraries, reproducing unstable carriers automatically.[12]

However, with the ongoing succession of different formats the succession became a problem of preservation in its own right. While film standards remained rather constant in their predominant fashions of 16mm and 35mm, video technology with its significantly faster innovation cycles saw a varied recursion of the problem: due to the lack of Quadruplex, Type-C and Type-B tape machines, archives have experienced increasing problems in maintaining access to TV-recordings from the 1960s to the 1980s. The question of reproduction becomes inherently a question of conversion - especially since the problems of television multiplied once again with digital production and broadcast techniques: decisions for and against different broadcasting standards (e.g. *PAL*, *NTSC*, *SECAM*) and tape formats (e.g. *DigiBeta*, *DVCpro*) now are complemented by struggles for the right file formats and standardized High Definition resolution. In this sense, the archive as an interface can be seen as a converter - diachronic for older format generations and synchronic for material from/for countries with different technical norms or different media platforms.

So far, the prevailing perspective preferentially focused on the basic requirements of preserving and distributing high quality materials necessary for professional re-use of audiovisual materials. Yet, a look at the restructuring of audiovisual archiving seems to suggest that the more profound change lies in the possibilities of access to footage stocks. Until the advent of cheap and broadly available tape technology like *VHS*, the research for stock shots could only be done by going into the archive, searching the

card catalogues and screening the film footage itself. Tapes then allowed archives to operate in a more agency-like mode: Requests from producers could be handled increasingly by the archivists themselves, then providing preview material on low-quality formats like *VHS* or *DVD* later on from which the required clippings were chosen. This meant a noticeable decrease in costs and time that met the demands of an accelerated rhythm especially in television production. Against this background, the online publication of catalogues as searchable databases with integrated preview videos can be seen as a further concession to the audiovisual industry's demand for ready-made footage for just-in-time production.

This development runs parallel to an ongoing extension and segmentation of the audiovisual market: programming around the clock and the increase in television channels led to a situation in which the permanent availability of audiovisual products coats a factual scarcity of images.[13] Linked in with this, repetition of whole programs and replication of clippings in changing contexts became constitutive for today's audiovisual culture. Besides the higher demand for factual footage by extended news coverage, documentaries, and magazine programming, the increase in television channels and lately web platforms triggered a significant increase in advertising that relies heavily on stock footage. Subsequently audiovisual archives adapted the strategies of stock photography agencies for selling pre-fabricated stock footage and vice versa, photo agencies like *Getty Images* extended their scope from photographs to video and film. Online databases thereby foster the idea of unmediated access to the holdings, first for research via preview materials and increasingly, with the option of purchasing and receiving high quality materials directly through the internet.

Thus from an overarching perspective, on one level digitization can be seen as a strategy of automated preservation, and on another level it can be portrayed as the paradigm of developing new access and distribution tools. In the following section, different configurations of these potentials will be outlined.

3. Configurations

The factual implementation and use of digital technologies is dependent on several factors that oscillate between the archives' institutional layouts, their specific holdings and their economic potential. Accordingly, digitization strategies are highly differentiated between film and television archives, public and private archives and even simply between small and big archives.

Looking at Germany, one of the central institutions for audiovisual archiving is the Federal Archives Film Archive (*Bundesarchiv Filmarchiv*), forming one of the biggest film archives worldwide with approximately one million reels in its repositories.[14] Its rather defensive stance towards

digitization is primarily expressed by the fact that there is no coherent database accessible via the internet but only singular non-database catalogues for specific holdings. Though working with a media asset management system that allows online publication of audiovisual material, the adjustment for online access is not planned. The explanation given is the ongoing synchronization of different holdings under with respect to their metadata - the archive still has to cope with the integration of the German Democratic Republics film archive due to German reunification.

Seen from another perspective, the institution has no economic ends: the archive does not hold the copyrights for most materials, but only acts as a preserving agent while the distribution of usage rights owned by the archive is transferred to different distribution companies (*Transit Film*, *Wochenschau GmbH*, *DEFA Film*) who opened their sales catalogues to different degrees. However, in the framework of its cultural duties the *Bundesarchiv Filmarchiv* is involved in overarching projects for improved access to audiovisual heritage: on a national level this is among others the online database *filmportal.de*, which gives an almost complete account of the German film production throughout history. On a European level, the most recent project is *filmarchives-online.eu*, which combines metadata provided by different archives from different countries thus creating one coherent database. Thus, the *Bundesarchiv Filmarchiv* certainly merges databases and the internet as tools for opening its collections to the outside world, but only to a limited degree and mostly in the context of specific projects. Consequently, new possibilities for exploitation are not anticipated beyond the archives contribution to public cultural policy in online environments.

Within this setting, the digitization of footage is coupled to sporadic demands: The scanning of film reels and their conversion into a high definition format takes place on request, but in terms of preservation, digital formats are categorically deemed as not *future-proof*. For 35mm film, the surplus of digitized versions is limited, since at least negatives of good quality achieve a higher resolution than the 1920 x 1080 of the current standard of *Full HD*.

That the issue is not about digital archiving itself not being *future-proof* can be observed by looking at different examples of television archiving. Starting with the shift from analogue to digital newsrooms in the late nineties, digital television production subsequently triggered digital television archiving. Though video images are still recorded onto video tape first, it is no longer the prevailing storage media. After usage for production, video tapes entering the archive are read into the computer, useful/important parts are listed by shot and indexed, and the clipped footage is stored on data tapes (e.g. *SAIT-2*) in so-called automated tape libraries (e.g. *Petasite S200*). The crucial point here is, that in this process video tapes (like *DigiBeta* or *DVCpro*) are no longer stored, but deleted and re-used for as long as is

feasible, while the image information is stored on mass storage media, that will be automatically replaced by the storage system whenever showing signs of abrasion.

Besides generally speeding up production processes and providing a steady instantaneous availability of all archived material, the additional benefit of this technique is clearly the possibility to create preview materials as a side action while storing material. Thus in the daily operation of television archives, like *ITN Source* or *CNN Image Source*, the collection and selection of materials leads not only to the update of the internal database, but also to the update of the web catalogue. While internal demands for a quicker and extended procession of footage triggered digital production, this system became coupled to a distinct form of further exploitation based on digital mass storage. Barring the factual use of this feature, even the transfer of high quality material directly to the customer is possible via the web.

Yet, the availability of mass storage does not automatically imply the digitization of complete stocks. For instance, *ITN Source*, administrating an estimated 750,000 hours of film and video footage all together, had digitized about 6000 hours by the end of 2007. The latest calculation for filling the current disposable storage capacity of 100,000 hours concluded that 13 years of 24/7 video importing would be necessary. For the time being this means that digital archiving will be inevitably accompanied by traditional analogue archiving and thus by the well-known risk of losing audiovisual stocks through physical decay. In contrast to the overall digitization of daily production, the digitization of older materials thus can be seen as a highly selective long-term process. Furthermore, not all digitized materials are shown in the web catalogue. Due to legal restriction - from personality rights to copyright issues - only a 'cleaned' cut out of the digitized stocks finally is represented on the web.

Yet, these platforms form nodes of advertency in the footage market, which is about to be restructured along several lines: First, a process of concentration is taking place. Big players like *ITN Source* are acquiring at the distribution rights for all kinds of collections to fill and broaden their own repertoire. This also implies the merging of the formerly separated fields of editorial footage and advertisement stock shots. Second, this process is taking place on a global scale - the development of marketing platforms on the web is usually guarded by establishing offices in the major media centres around the world and the making of strategic alliances with local partners in different countries to enter national media markets. Third, this leads to a new pricing system - flat pricing for cutouts is promoted in opposition to the traditional per-second-pricing. Thus, similar to other branches of the (information) economy, an overall trend for rationalization can be observed.

4. Continuities

Interestingly, despite the tendencies of concentration, the system of audiovisual reproduction shows a remarkably high viscosity regarding certain structures. On the one hand, this is due to the stability of distribution structures, as the example of the *Chronos-Media Archive* in Germany shows: Holding stocks of forty years of documentary production and by acquiring additional collections, especially about the history of Berlin, *Chronos-Media* has worked as a footage provider for German television for several decades now. In the course of continuing cooperation, preferentially with public documentary programming a certain amount of the archive's footage was stored in German television archives. The production practice of television now shows the tendency that footage already at hand is prioritized for new productions. Most notably, news and magazine programming tend to resort to well-known shots, while it is the well-funded and investigative documentary projects that try to find and activate new (old) footage. Thus in many cases it is only the previously used footage that becomes re-licensed, leading to an aggregation of the visual language of historical documentary that culminates in few but steadily used visual stereotypes.[15] From the perspective of the archive, this is definitely not an incentive to convert their stocks to newer formats on a larger scale. It is rather the concrete demand that leads to an update in format and thus to a large extent technical updates are eventually influenced by public interest for certain content.

Another strand of continuity, hardly reflected in the respective workings of cultural memory, is the factual adaptation of new technologies and the subsequent techniques by people acting in the specific field. Projected onto the practices of re-using archive footage the question is posed, whether and to what extent digitized footage and databases are used. For digitized high quality footage, the situation is quite simple regarding the aforementioned switch to digital technology in television production. Since the footage is digitised anyhow for editing, it does not matter whether the archive, the production company or a broadcaster does it. However, an exemplary moment of retardation concerning the distribution comes with the increasing spread of High Definition programming: though digital delivery even of broadcast quality footage is thinkable in times of broadband capacities of several *megabits per second* it is not considered practicable in many cases. For instance, uncompressed *HDCAM* footage has data rates up to 880 Mbps, significantly limiting the potential of conventional broadband lines as distribution medium at least when considering larger footage requests. Thus, usually clippings from film are scanned and are rather conventionally read out on *HD* tapes that are eventually delivered via couriers to customers.

Moreover, even online databases and online previews are only partially accepted by professionals. Since the advent of *VHS* a system became

established in which specialized researchers, either freelancing or employed by archives themselves, act as brokers between the archive content and the producers. For them online research certainly simplifies their work, especially for larger projects. However, in such cases deeper research beyond digital holdings is rather the rule than the exception.[1620] Seen from this perspective, online access to archive catalogues has so far only limited consequences since researchers continue to be the pre-selectors for the producers and because digital holdings still represent only cut outs of the entire archives.

The stable structures of 'big' television programming indicate that it is rather the *long tail* of advertisement agencies that are the primary target of digital footage marketing. The flat catalogues of commercial stock shots, rather than with the deep historical archive serve their demands. Accordingly, television archives scour their daily input steadily for footage potentially meeting advertisement standards: iconic pictures and recognizable patterns presented in current video aesthetics, de-contextualized at best and thus re-usable in arbitrary contexts.

5. Conclusion

As we can see, digitization of audiovisual heritage overall is very different from being realized. Most materials remain on their 'original' carriers, waiting for their sporadic conversion when demanded. Though television archives approach the task of digitizing larger parts of their holdings, for the time being this only presents a rather small proportion of audiovisual heritage all together. Especially since distribution structures based on the legislation of intellectual property remain rather stable, the digital rebuilding of the archive as such can be said only to have a minor influence on the constitution of cultural memory. While low quality materials can be accessed freely, though commonly stamped with watermarks, the access to high quality material for further media production stays bound to the traditional economics of the audiovisual. What can be observed is the merging of formerly separated audiovisual fields like advertising and documentary programming by trend, at least when considering the structures of footage supply. In a way, the *depth* of the archives databases is combined with the *flat* compilations catalogue in the tradition of stock photography agencies. In this sense, digitization is clearly an economically driven revolution enabling the archives to meet more of the demands of the audiovisual industry in a faster way, rather than to increase public access.

Notes

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[3] W Ernst, *Das Rumoren der Archive*, Merve, Berlin, 2002, p. 13.
[4] A Assmann, 'Das Archiv und die neuen Medien des kulturellen Gedächtnisses', in G Stanitzek and W Vosskamp (eds), *Schnittstelle. Medien und kulturelle Kommunikation*, DuMont, Cologne, 2001, pp. 268-270.
[5] C Saracco, *Politique des archives audiovisuelles*, Bauhaus University, Weimar, 2002, p. 179.
[6] M Foucault, *Archäologie des Wissens*, Suhrkamp, Frankfurt a. M., 1986, p. 188: „System der Formation und Transformation der Aussagen".
[7] A Assmann, *Erinnerungsräume. Formen und Wandlungen des kulturellen Gedächtnisses*, Beck, Munich, 1999, p. 20.
[8] Hartmann, *Mediologie*, p. 111.
[9] S Zielinski, *Audiovisionen. Kino und Fernsehen als Zwischenspiele in der Geschichte*, Rowohlt, Reinbek, 1989, p. 13.
[10] Hartmann, *Mediologie*, p. 111.
[11] M Warnke, 'Digitale Archive', in H Pompe and L Scholz (eds), *Archivprozesse: Kommunikation der Aufbewahrung*, DuMont, Cologne, 2002, p. 274.
[12] D Schüller, 'Jenseits von Petabyte: Zum weltweiten Speicherbedarf für Audio- und Videoträger', in *Bericht der 18. Tonmeistertagung Karlsruhe 1994*, Saur-Verlag, Munich, 1995, p. 859.
[13] M Bruhn, *Bildwirtschaft: Verwaltung und Verwertung der Sichtbarkeit*, VDG, Weimar, 2003, p. 53.
[14] F Beyer, *Filmarchive in Deutschland: Zugang und Bestandsnutzung*, Vdm Dr. Müller, Saarbrücken, 2006, p. 37.
[15] W Holly, 'Ich bin ein Berliner und andere mediale Geschichtsklischees', in U Schmitz et al. (eds), *Wissen und neue Medien. Bilder und Zeichen von 800 bis 2000*, Erich Schmidt, Berlin, 2003, pp. 227-230.
[16] V Massignon, *La Recherche d'Images. Méthodes, sources et droits*, DeBoeck, Bruxelles, 2002, p. 10.

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Part VI

New Media and Representations of the Past

Data as Memory and Memory as Data

Karen Frostig

Abstract
"Data as Memory and Memory as Data" compares various strategies of inquiry about the author's grandparents, their expulsion from Vienna and subsequent murder in the death camps of Eastern Europe. The paper deals with issues of memory consumption, co-production and preservation, as well as with the author's emerging transnational identity as an Austrian citizen, working with Holocaust memory. Identified as a digital memory artist, the author compares human memory with digital memory, discussing her reliance on both, in the development of a series of memory panels for *The Vienna Project*. "Data as Memory and Memory as Data" discusses a sequenced process of engagement that evolves into new media cultural production. The essay documents the author's efforts to preserve her family's memory within the larger context of genocide awareness and prevention.

Key Words: Holocaust, Memory, Visual Art, Genocide, Culture, Jewish, Digital, Photography, Archive.

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1. Introduction

Written in my multiple roles as an artist, researcher, educator and social activist, "Data as Memory and Memory as Data" compares various strategies of inquiry about my grandparents' expulsion from Vienna and subsequent murder in the death camps of Eastern Europe. The essay deals with issues of memory consumption, co-production and preservation, as well as with my emerging transnational identity as an Austrian citizen, working with Holocaust memory.

"Data as Memory and Memory as Data" focuses on the mechanics of memory consumption, retrieving and preserving memory in the digital age, as well as memory production, fabricating a series of memory panels developed to re-inscribe the memory of my murdered grandparents back into present-day Vienna. My discussion addresses two forms of memory, one human and the other digital. One that is largely interpersonal, invokes secondary witnessing[1] and manifests as art, and the other that is linked to databases, scanners, hard drives, software programs and inkjet printers, and manifests as art. My paper compares and contrasts human memory, tied to organic and subjective processes migrating over cyclical time, with digital memory, presented as accurate and relatively stable within a discreet and still undetermined stretch of linear time. I employ human as

well as digital memory in the production of a series of memory panels for *The Vienna Project*.

2. Human Memory and Digital Memory

One developing a coherent conversation about human memory, a fractured, fragmented, transitory, dream-like state of mind, presents an enormous challenge. Memory implies looking back. However, new investigations into memory reveal that it is no longer perceived as a stable entity, following a linear trajectory.[2] Memory blurs the boundary between now and then, and here and there. It is not limited by directionality and roams freely in space between moments in and out of time. While memories, like fingerprints, are unique, belonging to individuals, memories are also plural, belonging to places, nations, regions, and people.[3] Memories are both real and imagined, and found and created.

The Vienna Project signifies the process of "re-membering" as in reconstituting my membership back into Austrian society as a new Austrian.[4] The human impulse to "re-member" may also be akin to what Figlio characterizes as "wish fulfillment."[5] This form of memory is aligned with retrieving lost material, restoring lost relationships, honoring ancestry, bearing witness and creating closure around loss or trauma.[6] Friedlander assigns the term "common memory" to convey a similar sentiment, suggesting that memory can be used "to establish coherence and closure, generally aimed at presenting a redemptive stance".[7] As these ideas demonstrate, public memory is emerging as a relatively new field. Situated in a postmodern, technologically advanced environment, time is perceived as a window not a barrier, and memory becomes a new threshold, ripe for interrogation.

Lambek refers to memory as "the golden mean of responsible memorial practice."[8] Within this formulation, the practice of memory takes on an instrumental function that includes a different set of actions: disrupting complacency, provoking dialogue, reworking historical events, animating various narratives in an effort to rewrite history, empowering viewers as "audience participants," and deterring closure.[9] This version of memory corresponds to what Friedlander calls "deep memory," referring to memories, which "continue to exist as unresolved trauma just beyond the reach of meaning."[10] Deep memory is persistent and can be transmitted from generation to generation, as intergenerational trauma.[11] The artist can harness traumatic memory to achieve a series of activist goals, as was the case with *The Vienna Project*.[12]

Electronic media presented a different assortment of challenges in *The Vienna Project*, which produced a new series of unexpected outcomes. Beyond the fundamental tasks of retrieving and storing information, I discovered that digital processes could actually be used to deepen systems of

remembering in both the personal and collective realms, as well as in their crossover.

Formal research began in 2004. I consulted with various archivists about Xeroxing, scanning and storing the letters before I even hired a translator. Scanning historical documents meant that I needed to locate low light, archival-sensitive scanners used by museums when recording light-sensitive material. Concurrently, I began using online resources, including databases, membership to an assortment of online list-serves, e-newsletters, and online social networking groups. Online research occurred in conjunction with email correspondence to various archivists and foundations. The research created a network of connections to Vienna and Riga. Inevitably, the next step was to visit actual crime-sites and arrange face-to-face meetings with archivists in Vienna, Riga, Berlin, Washington DC and Israel. Internet research, direct contact with various scholars, as well as visits to original sites, led to the creation of a series of multi-modal memory panels entitled "Erinnerung aus dem Exil/Exiled Memories." Next, I will examine the distinctive structure of digital memory and the way that structure informs the creation of the memory panels.

Computer-generated, digital memory presents as a dispassionate and relatively stable network of electronic connections, subject to modification through calculated human intervention. Digital memory, developed as solid-state flash memory, contains a different set of unknowns. Although presumed to be "solid" or stable, it too is transitory, degrading over time, rendered inaccessible through continuous updates in software, and possibly subject to complete and sudden erasure during a single electrical surge triggered by a nearby electrical storm.

Longevity of digital memory is projected, not guaranteed. Transmitted through pixels and code (0111010110100101), in contrast to neurons and synapses, short-term recall of digital memory promises to be exact, resistant to partial distortions, and transferable from desktop to desktop or server to server, along specific memory channels. Short-term digital memory is robust, bypassing the more vulnerable presentation of human memory, which is constrained by the basic inconsistencies of subjective recall, intrapsychic experience,[13] disease and the aging process.[14] The breaches and gaps in human memory seem to have no immediate corollary with the production of digital memory. While digital memory does not appear to interact with emotional experience or the human aging process, it is responsive to manual manipulation.

In human memory, absence signals content. In digital memory, absence is equated with nothingness, a blank screen of missing data. With that said, removing encoded memory from the data banks of a computer is daunting. Traces of digital memory are curiously tenacious, superficially analogous to the persistence of memory, reported by survivors of trauma.[15] It

is important, however, to note that this and other aspects of digital memory discussed in this paper may soon undergo a revolutionary technological development, known as "thermal memory".[16] Information will be preserved and stored as "phonons," preserving information and avoiding degradation over time.

Despite inevitable changes in the structure of digital memory, human perception of time as an immutable force seems forever wedded to our understanding of human memory, which operates both in real time and out of time sequences. In contrast, digital memory occurs in virtual time. While human memory relies heavily on imaginative and cognitive processes as well as sensory experience, digital memory can be manufactured on the desktop, responsive to hand gestures, mouse clicks and keyboard activity. Conversely, it can be argued that artists, living in real time, engineer digital memory. The interaction between real time, virtual time, and reconstructed time was a key component in the development of the memory panels, further manipulated by me in an effort to create a critical presence within the formal structures of memory.

3. Conclusion

"Data as Memory and Memory as Data" discusses a sequenced process of engagement, moving from an initial phase of online research to an ethnographic model, evolving further into new media cultural production. The project has inspired numerous collaborations, as well as stimulated new dialogue between children of perpetrators and children of survivors. Functioning as artist, researcher, educator, and activist, the paper documents my effort to preserve my family's memory within the larger context of genocide awareness and prevention.

Notes

[1] The artist as secondary witness refers to artists who rely on vicarious memory to produce work derived from Holocaust legacies. D Apel, *Memory Effects: The Holocaust and the Art of Secondary Witnessing*, Rutgers University Press, New Brusnwick, New Jersey, 1995, pp. 3-8. The work discussed in the essay "Data as Memory and Memory as Data," also speaks to the "post-war generation's preoccupation with not having been "there" but still being shaped by the Holocaust." J Young, *At Memory's Edge: After-Images of the Holocaust in Contemporary Art and Architecture*, Yale University Press, New Haven, CT, 2000, pp. 9-10.

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[3] History is differentiated from memory on a number of grounds; history claims to be both public and objective, and irreversible. S Radstone & K

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[5] K Figlio, *Regimes of Memory*, Routledge, New York, 2003, p. 152.

[6] "Getting to the beginning: identification and concrete thinking in historical consciousness." Ibid, pp. 152-166.

[7] Young 2000, p. 14.

[8] M Lambek, 'Memory in a Maussian universe', in *Regimes of Memory*, Routledge, New York, 2003, p. 213.

[9] Ibid, pp. 202-216.

[10] Young, 2000, p. 14.

[11] Apel, 1995, p. 3, 11.

[12] Apel posits that the "art of secondary witnessing examines the transmission of Holocaust experience as a form of secondary trauma and deals with the tensions and discontinuities between the past and the present.", Apel, 1995, p. 12.

[13] Novick refers to the "return of the repressed" regarding the delayed reaction to Holocaust trauma. P Novick, *The Holocaust in American Life*, A Mariner Book, Boston, 1999, pp. 2-3. Although repressed memory is paramount to Holocaust trauma, human memory is subject to a wide range of intrapsychic interference, that include suppression, embellishment, exaggeration as well as unconscious, pre-conscious, inhibited, dissociated, recovered and "false" expressions of memory. D Schacter, *The Seven Sins of Memory: How the Mind forgets and remembers*, Houghton Mifflin Company, Boston, 2001, pp. 61-87.

[14] Neurological and neuromuscular diseases resulting from stroke, epilepsy and the aging process itself also compromise human memory. National Institutes of Health, accessed 15 February 2009 and available from: <http://www.nih.gov/about/almanac/organization/NINDS.htm>.

[15] Schacter, 2001, p. 174.

[16] P Barry, 'Digital Memory gets Hot, in Theory', *Science News: Magazine of the Society for Science & the Public*, 175, 2009, p. 10.

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Re-Writing Literary Past in the Digital Age

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Abstract
The digital media have brought along new challenges for representing literary history as a part of cultural memories. Literary history in the digital space could be conceived as an information environment of texts and source materials, drawing together collections of archival materials. In order to preserve the coherence of cultural memory, these models should take into account some canonical elements of literary history, *e.g.* periodisation, and the models of literary history will work better if they contain a balance of texts and the historical background necessary to understand them. When searching for the ways to re-write literary history in digital form, we need to take into account new cultural practices emerging in the production of electronic texting and we must rely on the practices already existing in digitisation of cultural heritage in memory institutions. Cultural and literary past can be presented and visualised with all different accompanying objects, *e.g.* texts, manuscripts, biographies, photos. This could mean the creation of principally new units of cultural knowledge. In the article, we present theoretical considerations regarding the realisation of the proposed model, connected with the text of the Estonian national epic, the 20th century literary history, and the context of the digital generation.

Key Words: Cultural Memory, Literary History, Digital Archives, Non-linear Writing, New Media.

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1. Introduction

The concept of knowledge has become an inseparable part of modern human culture; it has been said that the Internet has transformed knowledge into a global library and made it into a circulating hypertext. According to Umberto Eco, it has created an explosion of semiotic fireworks.[1] This process is global with respect to the consumption of culture, but local regarding the creation of digital content. Thus, Marshall McLuhan's phrase "the medium is the message" should also be considered when memory documents are re-mediated in the digital environment of new media.[2] Below, we will examine the new cultural practices, used to represent the past from the viewpoint of memory institutions that hold and preserve large collections documents.

Our approach is based on the thesis that the opportunities offered by the digital era are already having their effect not only on the representation of single memory objects (photos, etc.), but also on the traditional memory narratives. The previous large memory narratives, having the function of depositing and making accessible the past, include also literary history - most commonly in the book format. While so far, they have been presented in the form of subjective narratives of one or several authors, then now the digital space allows the restructuring of these narratives into interactive information environments. We have tested the opportunities offered by such re-writings in the creation of three different web projects on Estonian literary history, starting from 1997, bearing in mind the new media generation. The concept of the new media generation focuses on young people who have been growing up with digital technologies and whose needs and habits of new media consumption have been studied with sociological methods.

2. Digital Generation?

As a starting point to re-writing the literary past, the concepts of audiences and readers may seem slightly odd, but when we look at the newness theoretically brought on by digital technologies, then it is through the active audiences and actors that the de-linearization of the literary history can be brought. One of the concepts used for constructing active audiences is the idea of *producers*[3] - users who are at the same time active also in the collaborative extending and furthering of the content. The notion gives hope for a new creative generation who, having been brought up with digital technologies, is able to pre-use them for their particular needs or necessities. Although previous studies[4] have indicated that a younger generation (e.g. in the age of 15-19) is significantly more active in the content creation practices than the older generations, the numbers of active users are still small and largely correspond to what Nielsen claims that 90% of the content is produced by 10% of the users.[5] However, the paradigmatic shift in generations noted also by many other authors[6] shows the need to proactively focus on the new mode of literary history writing, so that the memory institutions (museums, archives and libraries) should be ready to work with these new generations. We will now continue to highlight the concepts that have helped to shape the experimental environments through which literary history can be constructed.

3. "Old Wine in New Bottles"

When talking about literary history in the context of digital media, we use the notion of *past* in our title, because the notion of *literary history* traditionally contains time and the narrative, creating a connotation of a linear narrative. According to philosopher of history Paul Ricœur, time only exists in the form of a narrative; it acquires a human dimension only when it is

articulated in a narrative way.[7] We know that the electronic era has brought on changes in spatial and temporal dimensions. Lev Manovich concluded that overall, the Internet culture is formally based on a selection of earlier forms of culture, not on the creation of new ones.[8] According to Katherine Hayles, this point of view has been confirmed also in a narrower literary context, "When literature leaps from one medium to another, […] it does not leave behind the accumulated knowledge […]".[9] This knowledge is carried forward. Literary history as a specific location of the memory and a form of knowledge can be transferred to a digital environment and made spatially and temporally visible.

When constructing the transformation models of the past with computational media, we can take into account the tasks of memory institutions - libraries, archives, museums - that hold cultural heritage. Their task in creating digital collections is to preserve memory objects and at the same time make them accessible to as large a range of users as possible. The question is how to select among millions of memory objects and how to represent these objects in a functionally and semantically meaningful way.

In solving the first question, we can find support in the practice that has been used in human culture after the arrival of all types of new media (in a wider sense of the term). When Gutenberg had invented printing in 1450, at first, the most important texts of the past - religious works, handbooks, calendars - were printed and disseminated. A similar trend can be seen in the digitisation of objects of cultural heritage in the 1990s, after the explosive development of digital media. International experience shows that voluminous projects of digitising literary texts were started with canonical texts, which were simultaneously digitised at many libraries and academic centres all over the world. This process resulted in an interesting conclusion regarding the phenomenon of the Internet. This effect could be called the *hypercanonisation* of classical works in the environment of new media.[10]

The increasing accessibility of digital resources can be seen as one of the reasons for such a *historiographic* crisis. Instead of objective, macro historical treatments, the past is increasingly sought for through micro history, based on people's memories, ego-documents and other pointedly subjective representations. Attempts have also been made to find a new content for the term *literary history* in order to discard the way of representing the past in the form of an *objective* great narrative and through the causal reason-result relationships. The past was more and more often represented as a space-time full of disruptions and breaks, which can figuratively be imagined as a gallery with many entrances. Metaphors of *labyrinth*, *network*, *nodes* and *pattern* were used more and more often, academic discussions on the subject are continuing up to the present day.[11]

4. Re-Mediation of the Narrative of the Past

The past as a whole can be taken as an ideal space that offers limitless opportunities for interpretation. Presenting the (literary) past in the form of a linear narrative has been dominated for centuries by traditions connected with contexts, identities, ideologies and the continuously changing reception of the works. These aspects have all together revealed the need for periodic re-writing of literary histories, similar to other historical narratives. Particular characteristics of digital new media have made it possible to avoid such continuous linear re-writing by single authors and to present the past through its objective, unchanging and authentic sources to be left for interpretations by particular audiences in their own context.

The context of the knowledge-based information society of the 21st century requires us to consider several aspects. First, we need to look at the rapid development of ICTs and a huge rise in its use. Second important aspect is the mass digitisation of cultural heritage in memory institutions. Third, we need to take into account a rapid rise in critical literacy[12] and the fact that educators get more and more used to computer culture. These three aspects require well-developed information environments, containing voluminous digital resources and offering opportunities for creating new knowledge models based on semantic relations.

In the digital era, fundamentally new ways of expression can replace the linear narratives of the past on two levels. First, the new historiography could use non-linear narratives similar to cybertexts and digital storytelling in the genre of life story writing, both of which use multimedia in conveying their stories. Another possibility would be the representing of literary history as a whole in the form of interactive information environment, relating information on different types of carriers (texts, images, audio, and video) and interweaving them into a meaningful unity.

In Estonia, three different types of models for representing literary history have been tested since 1997. Prior to constructing new models, the narratives of the previous literary history had to be deconstructed into smaller initial units. Find such source materials can, as physical objects, in digital archives of memory institutions - ego-documents (memoirs, autobiographies, letters, *etc.*), manuscripts, photos, literary texts, criticism, reviews, etc. For us, such mapping of source materials in different databases was accompanied with the digitisation of these materials, which necessitated our making of firm historical content-based selections.

A. The Project *ERNI: Literary History in Texts 1924-1925*

This project used materials from the 1920s.[13] This was a pilot project, attempting to create the narrative of literary history with hypertextual means and aiming at the demonstration of the reception of a work in its sociocultural context of the 1920s. Such contexts were opened by criticism

and other metatexts; intertextual resonances of critical texts, quotations, references and allusions were shown with links.

B. The Digital Environment *The Century of Kreutzwald: The Estonian Cultural Historical Web*

This project represented the 19th century.[14] Cultural historical persons and writers were introduced in the context of Estonian history and European literature on parallel temporal scales. The creation of this huge information environment, integrating sources from the collections of several memory institutions, is still in progress. Biographies of cultural historical persons are connected with their photos in the Estonian Cultural History Archives, literary texts and books.

C. Estonian National Epic *Kalevipoeg*

The third project tested an intertextual model that represented the text of Estonian national epic *Kalevipoeg* (*Son of Kalev*, 20 songs, 19 032 verses) as intertextual threads constructed on concrete themes.[15] Special software was used for this project as well.[16]

Traditional literary history narratives contain certain macro elements - biographical and bibliographical facts, literary texts, criticism, literary life and sociocultural background. We have to stress that we conceive literary history as an integrated system, a broad umbrella concept, not the reception of single texts of single authors. In our treatment, a literary text is only one media object among others, the interpretation of which is open to all. We could hypothesise that in representing the past, the specific rules of each media are valid.

In a traditional environment, we can more easily differentiate between the creator and the consumer of the content. In case of digital material, the boundary is more blurred. For example, the re-writing of the literary past is carried out by the selection of historical source materials for digitising, based on long-term traditions that can be found in every national culture. Interpretation of such source materials can be more consciously left to the recipients of this information, in order for them to make their own sense of it.

5. Non-linear Writing

The digital era has opened up paths to a new type of text creation. How can we describe them? The most important of these types is the breaking of the linearity of the text, the narrative proceeding from event to event and the causal reason-result chain, and replacing them with non-linear models of the text. Computational media allows creating of all kinds of relations and all kinds of semiotic constructions. Hypertext remains the most heavily used tool for creating and using the text. Today, when hypertextual

networks are being more and more often replaced by special software in the creation of large content environments, hypertext has already become somewhat marginal and studying of it is more connected with the problems faced by new pedagogy. However, the theoretical ideas behind hypertextualisation remain accurate. In the electronic environment, the hypertextual structure of texts forms a network where the texts connect by electronic nodes and links and offer the user many different ways of passing through the text as a unity. Hypertext has characteristically many authors, meaning that besides the real author (who sets links), every user who opens these links can become the creator of the text.

Hypertext is an important concept in semiotics as well. While re-writing literary history, it is possible to create, by using digital means (linking, etc.), both the intertextual relations generated from the text itself and the relations generated from the writer's knowledge and associations. These ways of relation making are differentiated by, for example, Michael Riffaterre, who saw in his article 'Intertextuality vs. Hypertextuality'[17] an ontological difference between the two. For instance, a writer of literary history (an expert or a regular reader) can present his/her knowledge both intertextually and hypertextually. The results of our projects, when studying both the text corpus of the criticism of the 1920s and the text of *Kalevipoeg*, showed that the relations generated from the text could be made visible with the digital means. In the project ERNI, it was done by hypertextual relating (html links) of the markers (quotation, reference, etc.) found in the text of synchronous criticism. In case of *Kalevipoeg*, it was done by intelligent technology, which required the division of the full text of the epic into thematic threads (Lyra, Island Maid, etc.) in order to link, by using these segments, the later intertextual texts from different media.

Re-writing of the literary past requires the deconstruction of the traditional image of the past in order to show smaller units, such as events, objects, persons, texts and others, but also correspondences, documents, photos, book designs, etc. By using these units, it is possible to represent, in the digital space, the past in a principally new way where we can successfully integrate the possibilities offered by special software and the hypertext. Such digital models have provided one of the ways of integrating large collections of texts, including different types of media. Besides the digital repositories of memory institutions, there would be a digital, new type of a full text as an information environment, based on the relations between different types of source materials.

5. Conclusions

Based on our practice, we can conclude that two types of models can be used. A vertical model (intertextual relations of the text of *Kalevipoeg* from the past to the present) requires the study of a literary text; a horizontal

model requires an exhausting study of a certain period of time and relating it with many texts of different types in order to create a digital information environment. In general, we could say that the creation of the horizontal model presupposes that the term 'literature' should be used in a wider system theoretical meaning. In the digital environment, we cannot talk only about a literary text any more, but we have to consider different types of texts. The notion of writing is transformed as well - instead of conveying the causal relations in the form of a linear text, it has come to mean the spatial combining of mainly verbal and visual texts. Thus, two aspects have gained importance: increasing visuality and the replacement of narration by representation and depiction.[18] In the digital era, the user/writer is active in content creation as well as in reception. At the same time, one needs to remember that the active part of the new media audiences is still relatively small, and the majority[19] lack skills and the will for active participation in the online content. Thus, the component of active literacy needs to be added in order the literary history environments to have their full use. We can refer to the conceiving of literature as a polysystem of literary texts, historical relations and literary production in the wider sense. Contemporary literary history as a cultural memory based on the sources could be as computational as contemporary literature. A digital literary history should be an information space containing texts and criticism, drawing together collections of archival sources and expert knowledge of scholars, but writing a narrative in the digital space could be weaving the variegated, meaningful pattern of semiotic relations.

Notes

[1] U Eco, 'Vegetal and Mineral Memory: The Future of Books', *Al Ahram Weekly On-line*, 20-26 November 2003, viewed 7 April 2009, <http://weekly.ahram.org.eg/2003/665/bo3.htm>.

[2] M McLuhan, *Understanding Media: the Extensions of Man*, New American Library, New York, 1964, pp. 23-35.

[3] A Bruns, 'Towards Produsage: Futures for User-led Content Production' in *Cultural Attitudes towards Technology and Communication 2006*, F Sudweeks, H Hrachovec and C Ess (eds), Murdoch University, Murdoch, 2006, pp. 275-284.

[4] P Pruulmann-Vengerfeldt, V Kalmus and P Runnel, 'Creating Content or creating Hype: Practices of Online Content Creation and Consumption in Estonia', *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, vol. 2, no. 1, 2008, viewed 7 April 2009, <http://www.cyberpsychology.eu/view.php?cisloclanku=2008060202&article=1>.

[5] J Nielsen, 'Participation Inequality: Encouraging more Users to contribute', *Alertbox: Current Issues in Web Usability 2006*, viewed 7 April 2009, <http://www.useit.com/alertbox/participation_inequality.html>.
[6] A Bruns, *op. cit*.; J Burgess, *Vernacular Creativity and New Media*, [unpublished doctoral dissertation], Queensland University of Technology, Australia, 2007.
[7] P Ricœur, *Temps et récit: Tome I, L'intrigue et le récit historique*, Éditions du Seuil, Paris, 1991, p. 17.
[8] L Manovich, 'The Aesthetics of Virtual Worlds: Report from Los Angeles', 1996, viewed 7 April 2009, <http://www.manovich.net/TEXT/virt-space.html>.
[9] K N Hayles, 'Intermediation: The Pursuit of a Vision', *New Literary History: A Journal of Theory and Interpretation*, vol. 38, 2007, p. 106.
[10] M Laak, 'Beyond Digital Labyrinth: Rethinking Literary History in the Age of New Media' in *Different Inputs: Ssame Output? Autonomy and Dependence of the Arts under different Social-Economic Conditions: The Estonian Example*. *Studia Fenno-Ugrica Groningana 3*, C Hasselblatt (ed.), Shaker, Maastricht, 2006, p. 55.
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[12] G Kress, *Literacy in the New Media Age*, Routledge, London, 2004.
[13] M Laak (ed), *ERNI: Eesti kirjanduslugu tekstides 1924-25*, Estonian Literary Museum, viewed 7 April 2009, <http://www2.kirmus.ee/erni>.
[14] M Laak (ed), *Kreutzwaldi sajand: Eesti kultuurilooline veeb*, Estonian Literary Museum, viewed 7 April 2009, <http://kreutzwald.kirmus.ee>.
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[16] Project CULTOS (IST-2000-28134), viewed 7 April 2009, <http://www.cultos.org>.
[17] M Riffaterre, 'Intertextuality vs. Hypertextuality', *New Literary History: A Journal of Theory and Interpretation*, vol. 25, 1994, pp. 779-788.
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[19] See for instance: P Runnel, P Pruulmann-Vengerfeldt and K Reinsalu 'The Estonian Tiger Leap from Post-Communism to the Information Society: From Policy to Practices', in *Journal of Baltic Studies*, vol. 40, no. 1, March 2009, pp. 29-51.

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Part VII

National Identity and Memory in the Digital Age, and Political Uses of Cybermedia for Historical Revisionism

Dokdo Island Dispute: Korean Reconstruction of History and National Identity in User-Created Content Media

Jukka Jouhki

Abstract
Japanese colonization of Korea (1910–1945) had an immense impact on Korean society and culture, and on a symbolical level, on what being Korean means today. The traumas of colonialism are still being widely discussed in Korea and there are certain key discursive nodes stemming from the colonial history that present Korea's concerns of contemporary Japan-Korea relations. One of the discursive nodes is Dokdo (which the Japanese call Takeshima), a small and remote rocky island between the two countries in the East Sea (which the Japanese call the Sea of Japan. Both Japan and Korea lay claim to Dokdo, and both claim a long historical and geographical connection with the islets. In addition to traditional media, both have harnessed the cyberspace to support their cause. As both countries seek support from the international audience, the amount of Dokdo-related websites and online news in English is relatively high. Thus, the issue has turned from a small border dispute to a rhetorical fight between two nationalisms that use historical evidence to buttress their claims. The purpose of this paper is to examine how Koreans represent Dokdo, a disputed island in the sea between South Korea and Japan, to an international audience in user-created content media such as YouTube and Facebook. Moreover, the paper analyzes the ways the dispute is further used to reconstruct the history of South Korea and strengthen the national identity of Koreans. Theoretically, the paper refers to Anthony P. Cohen's analysis of the symbolism in community making as well as Benedict Anderson's thoughts on nations as imagined communities.

Key Words: South Korea, Japan, Dokdo, History, National Identity, Dispute, YouTube, Facebook.

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1. A Prelude to an Imagined Nation

According to Benedict Anderson, we live in imagined communities.[1] This paper is a preliminary investigation into a nation constructed, a history imagined and a national identity negotiated in cyberspace. Nations often appear to us as images of natural, territorially defined and confined units. The way we conceive the socio-historical

relations of these units requires imagining certain populations as autonomous and separate entities with a particular essence. The essence has clearly articulated signifiers such as 'history,' 'culture,' and 'homeland' that help us construct a collective identity and separate it from that of another population.[2] This is nationalism.

South Korea (henceforth 'Korea') was colonized (1910-45) by Japan, a fact that still defines Korean identity.[3] There are certain points of contention in contemporary Japanese-Korean relations that function as sort of wormholes to history and immediately reawaken memories of colonial times. One of them is called Dokdo (Kor.), Takeshima (Jap.) or Liancourt Rocks (int.), a small, remote, rocky 20-hectare island in the Sea of Japan (int. /Jap.) or the East Sea (Kor.). Japan occupied the uninhabited island as a prelude to its 1910 annexation of Korea. Since the Korean War, Dokdo has been occupied by Korea. Nowadays, two Koreans live permanently on the island guarded by a naval police patrol. The dispute over Dokdo's ownership is in itself very complex, and it is made even more so by the fact that Dokdo has allegedly been called by various different names in the past.

Both sides value the natural recourses around the island and refer to 'elaborate legal-historical arguments to support their claims.' The dispute has also been inflated by 'nationalist sentiments and ideology, which are exploited by politicians and pose obstacles to compromise.'[4] Both countries have also utilized the traditional media and cyberspace and sought support from the international community. The amount of Dokdo-related websites and online news in English is therefore quite considerable.

The purpose of this paper is to examine how cyberspace is being used to present Korea's claim to Dokdo to an international audience. Being aware of the many websites dedicated solely to Dokdo, I am focusing here especially on user-created content media such as YouTube, Flickr and Facebook. In addition, I will make a brief exploration of how history and collective identity have been reconstructed to lead to an image of Koreans as a nation. I will treat the nation as a product of the imagination[5] and a symbolically constructed entity.[6]

2. Examples of Dokdo in YouTube

In January 2009, the search word "Dokdo" resulted in over 500 hits in YouTube. The first video in terms of relevance was called *Dokdo* and was originally produced by the Korean government for PR purposes. The clip had attracted almost 6000 views and about 150 comments. The film opens on Dokdo, as most videos do. A map of the East Sea is shown and this is followed by a bird's-eye view of Dokdo, to the accompaniment of sentimental music. The scenic flora and fauna of Dokdo are presented and the song tells us how Dokdo is 'the life of Koreans'. Old Korean maps and other historical documents are shown to suggest Dokdo is Korean territory. Dokdo

is ‘a place full of life’, and the video shows tourists on Dokdo. The video ends with the sound of a beating heart. Unlike many other Korean-made videos about Dokdo, this one suggests no explicit enmity towards Japan.

Dokdo Korea (only 37 comments) also shows the usual images of flora and fauna as well as maps and other historical documents of Dokdo, but it also describes the history of Korean-Japanese relations and claims that Japan is ‘a bully.’ Japanese atrocities like ‘germ bomb’, ‘dog hunting,’ ‘killing with a smile,’ ‘baby massacre’, ‘bio terrorist’ and ‘killing Koreans’ are listed together with old pictures of the Japanese army. The motive for the Japanese claim to Dokdo is said to be the natural gas resources around the island. ‘Dokdo is Korean’ because ‘a Chinese text and Korean flag confirm it. And Korean people live there.’ The clip ends with the claim that ‘Dokdo is Korea’s past, present and future.’

The video [독도] Dokdo […] I was there is rather more personal as in addition to the usual picture-map-video sequence on Dokdo, there is personal footage of the long journey the author embarked on from Seoul to Dokdo. The clip ends as usual with the assertion that Dokdo is precious to Koreans and that ‘Korea’s friends know Dokdo.’

Dokdo Video Pt. 1 and *Pt.2* attempt a more investigative, documentary approach, combining interviews with young people and news clips from Japan and Korea. Even a Korean researcher is filmed discussing Dokdo in a seminar. One student interviewed says that ‘keeping Dokdo means keeping our own history.’ ‘What History?’ asks the author critically. As for the reasons for the Korean pro-Dokdo attitude, ‘pride,’ ‘history’ and ‘dignity’ are mentioned. “Does Korea have any better evidence?” the author continues and the researcher answers that both sides have insufficient evidence to back their claim up. A Korean student then says Dokdo is Korean because they even have a song about it. Finally, there are clips of all sorts of demonstrations of the Korean claim over Dokdo, including a soccer match especially arranged to celebrate Korean Dokdo, a pro-Dokdo man covered with bees and jumping on the Japanese flag and a Korean child with a pro-Dokdo placard. The two videos have attracted over 200 comments.

One video seems to have been filmed by the author and has young Koreans acting out a court case about the ownership of Dokdo. Both sides (Japanese and Korean representatives) present their evidence. The court case is won by Korea. Then the video shows the same young people with an exhibition stall they have built in a street, informing passers-by about Dokdo. The final words state ‘We Swear that we exert all possible efforts for gaining international acceptance. Dokdo is a beautiful island of Korea.’

Japan's mistake is short but captivating. It describes how every country has its own unique things, like the UK has Beckham’s right foot, Brazil has samba, China has the Great Wall and so forth. Korea has Dokdo

and Japan's claim over it is as absurd as claiming Beckham's right foot. The video wants the Japanese to engage in introspection and accuses them of 'facing away the truth of history'. It must be known that 'Dokdo is not Takeshima. Dokdo is not located in the Sea of Japan. […] 'Dokdo is where the territory of the Republic of Korea starts.' Japanese textbooks may falsely claim that Dokdo is Japanese but people will surely acknowledge Dokdo as a part of Korea for the last two thousand years as '[t]ruth cannot be changed by force.'

Most videos on Dokdo depend on merely showing beautiful pictures and video material about Dokdo accompanied by soothing or exciting music. Old maps and documents flash by and the videos simply claim that Dokdo is Korean; that is all there is to it. Anti-Japanese sentiment and romantic nationalist imagery about Dokdo are used and Dokdo is seen to represent the whole of Korea, as if the island were an organic part of the country. The statements made are quite straightforward: 'Dokdo is Korean Territory,' 'Dokdo was already Korean territory 1500 years ago,' 'Dokdo is culturally, spiritually and historically Korean,' 'It is not Takeshima. It is not Liancourt Island. It is Dokdo,' 'Dokdo is Korean Territory,' 'Dokdo [is] a beautiful island of Korea,' 'an eternal island of Korea' or 'Dokdo is a symbol of Korea forever. Don't ask us to forget the past.' Many videos just leave their claim to the title of the video, as in *Takeshima???? No, it's indeed an island of Korea!!!*

The comments sections of the videos contain a mix of explicit and often exceedingly derogatory and nationalist remarks, replies and attacks. Many comments include links to pro-Dokdo or pro -Takeshima materials, historical documents and dedicated sites. Some authors attempt matter-of-fact language but usually only attract hostile comments. Practically all comments seem to come from either the Korean or the Japanese side and there is an absence of any politically neutral stand.

3. Dokdo in other UCC Media

A. Facebook

In January 2009, there were 41 groups about Dokdo in Facebook. By far the largest one, with over 11,000 members, was *Dokdo Belongs to Korea*, the second biggest group having only a little over 100 members. The description section of the biggest group contained information about Dokdo's etymology. The rules section described the group as encouraging discussion that is moderate, non-racist (no name-calling such as 'Japs'), void of nationalism and is couched in decent language. The group also had a 'Hall of Shame' for improper messages. The picture folder of the group contained a lot of images, maps, posters, cartoons, funny pictures, Japanese and Korean PR materials, and sheet music on Dokdo, as well as pictures of promotional material such as t-shirts, panties, neckties and leaflets. In the comment

section of a picture, someone had written that Japanese history books were 'fake'. In reply, the Korean moderator suggested that maybe Korean books were 'fake' too, and a long heated discussion followed. In the discussion section, the members debated issues like the orthography of the word Korea/Corea as a relic of Japanese colonialism. In some discussions, the moderator even took the Japanese side just for the sake of argument. Some of the main writers seemed to be *relatively* self-critical. Some asked for help editing articles about Korea on Wikipedia, as Japanese hegemony was seen to be overwhelming the Korean side. This request was seen as improper in the group. One writer petitioned members to change their Facebook profile pictures to a Dokdo poster as a sign of support.

The other Facebook groups on Dokdo were rather insignificant and had little relevant content. The main purpose of the groups was to state their position in the name of the group and in the description section, such as the group called *Dokdo is freaking definitely Koreans!!* with the description section stating, 'Japanese are trying to steal our island from Korea. We Must Tell the truth to the world!!' or the group named *STOP bothering with Dokdo and East Sea!!!!* with a description section 'Dokdo is a group of disputed island in the East Sea which is owned by South Korea, but Japanese claim it as their land […].' The group *Dokdo is Korea's!!!!!* had the most provocative description referring to the Japanese as 'monkeys' who 'want the Island' but 'the history and people know it's Korea's!!!!!!'.

B. Flickr and Other UCC sites

The photo-sharing site had over 1000 results matching Dokdo. The pictures themselves had little political content and usually only portrayed the island from some angle or another. Compared to YouTube, Flickr was significantly less political, with few or no comments on the pictures. A political stand was most evident in the captions to the pictures. For example, with a picture entitled *Dokdo* the caption stated that 'Dokdo is territory of ROK (Republic of Korea) and this island located in East Sea (not Japan sea) & Takesima is non-existent on this earth'. Even pictures with explicitly political names such as *Dokdo is Korean territory* had not provoked any reactions. There was also a series of pictures called *Dokdo_1* to *Dokdo_14*. The caption to every picture said: 'Dokdo is Korean territory.' The pictures seemed like they were from a tourist trip to Dokdo. They were tagged with Korea, Takeshima, Dokdo, and Liancourtrocks, which connotes some political neutrality. 독도 [N] *(Dokdo, Tokdo, Liancourt Rocks, Takeshima)* image series contained pictures of Dokdo with an embedded text in each picture 'Korean island "Tokdo" is a clearly Korean territory.' The caption gave only the make of camera.

Dokdo escape is an online flash game. Its intro describes an island setting and a man living on the island. Then a stranger is washed ashore and the man gives him food and shelter. However, the stranger starts claiming the man's house and belongings and therefore has to be driven away.

Around Dokdo *Google Earth* and *Google Maps* are dotted with pictures and links to anti-Korean and anti-Japanese videos on YouTube. There is a Wikipedia link to Liancourt Rocks. Not surprisingly, the neutrality of the *Wikipedia* article on Dokdo (or Takeshima/Liancourt Rocks) is disputed, as is the article's factual accuracy. The name of the island has been changed three times and the discussion of the editing process is extensive. Dokdo is also present in UCC media such as My Space, Urban Dictionary, Second Life, Blogger, Twitter and even eBay, to mention but a few.

4. Discussion

Koreans have called a class of battleship, bacteria and pets after Dokdo. The island has been inserted into ancient folklore and it is claimed that it has its own dialect. Dokdo appears in online banners and posters, language teaching materials, songs downloadable in MP3 and ringtones. In claiming Dokdo, Koreans are trying not only to strengthen their claim over a small patch of land in the sea but also to win back their history. As the publication of a Korean research institute states, 'For Japan to insist upon ownership of Dokdo revives painful memories of the past' and Japan 'will be remembered as an imperialist nation with only one thought, that of satisfying its own greed'.[7] Another Korean site explains how 'To Koreans, Dokdo is a holy cross for peace. It is a symbol of peace that will stop colonialism and militarism from ever reviving again.'[8] This is also the message of most Korean online commentary on UCC sites, although usually more provocatively expressed. Korean nationalists see Japanese policies towards Dokdo as an extension of the old imperialism. Thus, the issue has changed from a small border dispute into a rhetorical struggle between two nationalisms that are using their interpretations of historical evidence to buttress their claims.

Dokdo can be seen as a symbolic point of stabilization in the reconstruction of Korean history and national identity and one of many tools for controlling the present with the past. Colonialism is used as a sort of reflective tool or, in a Foucauldian way, discursive archive through which Koreanness is constantly renewed. Paradoxically, Dokdo and the whole context of Japanese colonization is a vital threat to Korean national identity. The Dokdo dispute as presented in cyberspace would not be possible without imagining a nation and rendering it a concrete person-like organic entity. However, the two cultures might even be more similar to each other although their national identities become more fixed and dichotomised.[9] Alternatively, as Anthony Cohen suggests, a community exists more as a mental

construction condensing symbolically and often ingeniously the theories of social unity and difference by their proponents. One's own group has to be felt to be unified and special because it meets the Other on its border. Thus, the vitality of cultures is dependent on confrontation, where Them and Us have to be exaggerated.[10] The eagerness of a group to reinforce its boundaries is often stronger the more similar the group is to the other[11]. Fortunately, no cultures, nations or societies are *per se* continuously and 'naturally' in hostile relations to one another but there are certain coordinates of cultural and national identity in which confrontations come to life.

Notes

[1] B Anderson, *Imagined Community*, Verso, New York, 1994.
[2] F Coronil, 'Beyond Occidentalism: Towards Non-imperial Geohistorical Categories', *Cultural Anthropology*, vol. 11 (1), 1996, p. 77-78.
[3] See e.g. B Bridges, *Europe and the Challenge of the Asia Pacific*, Edward Elgar Publishing, Cheltenham (UK), 1999, p. 51.
[4] M Weinstein, 'South Korea's and Japan's Dokdo/Takeshima Dispute Escalates toward Confrontation', *Power and Interest News Report*, Rome, 10 May 2006, viewed on 21 January 2009, <http://www.pinr.com/report.php?ac=view_report&report_id=487&language_id=1>.
[5] Anderson, 1991.
[6] A P Cohen, *The Symbolic Construction of Community*, Tavistock, New York, 1985.
[7] 'History Controversy: Territorial Ownership over Dokdo', *Northeast Asian History Foundation*, Seoul, 2007, viewed on 21 January 2009, <http://english.historyfoundation.or.kr/?sub_num=50>.
[8] 'What is the Meaning of Dokdo to Koreans?', *The Voluntary Agency Network of Korea*, Seoul, no date, viewed on 21 January 2009, <http://www.prkorea.com/estart.html>.
[9] See e.g. P Vila, 'Processes of Identification on the US-Mexico Border', *The Social Science Journal*, vol. 40, p. 607-625, 2003.
[10] Cohen, p. 110-112.
[11] Ibid, 111-117.

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YouTube: <http://www.youtube.com>.

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National Heroes in the Digital Age: The Institution of Great Men in Change

Tuuli Lähdesmäki

Abstract
The Digital Age along with the diffusion of the internet has drastically changed the cultural memory of the so-called Great Men. Internet has fragmented commemoration practices and institutionalized memory culture by offering space for unofficial and personal tribute. The ease of expressing opinions in public on the internet has diversified public views and memories of the Great Men. Internet forums have also altered the institution of Great Men by commemorating and bringing forward people who do not belong to the official canon of national heroes. In many discussions, the whole institution of Great Men is questioned and criticized as being an old fashioned practice of fostering profoundly narrowly understood ideas of greatness. However, the internet also enables profoundly nationalistic and patriotic opinions on the commemoration and honouring of the Great Men. These contradictory views are exemplified in the paper by internet discussions regarding Finnish monuments of Great Men erected at the turn of the millennium, and internet discussions on the vote for The Greatest Finn. The latter is related to an international TV-format broadcasted in Finland during 2004.

Key Words: Cultural Memory, Internet, The Great Men, Monument, The Greatest Finn.

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1. Internet as a Source of Cultural Memory

Reminiscence of the so-called Great Men has traditionally been a profoundly nationalistic and official institution. The memory of the institutionalized heroes has been fostered by the state and cities through erecting monuments, imposing commemoration days, naming streets, etc. In addition, the official memories of Great Men have mainly been produced and maintained on the institutional level, for example through official celebrations, school curricula and history writing. However, the so-called Digital Age along with the diffusion of the internet has drastically changed the reminiscence of the Great Men.

In my paper, I will ask how digitalization and the internet have influenced the institution and memory of Great Men. As examples, I will use public debates regarding Finnish monuments of Great Men erected at the turn

of the millennium, and internet discussions on the vote for The Greatest Finn. The latter relates to an international TV-format broadcasted in Finland during 2004. The empirical data and the results of the paper are based on my doctoral dissertation, which was published in 2007.[1]

The concept of memory is discussed in my paper in terms of cultural memory. This point-of-view on memory stresses the discursive and narrative conditions in the formation and maintenance of memories. This is in addition to understanding memories as cultural practices, as for example Egyptologist Jan Assmann has done in his research.[2] Cultural psychologist Jens Brockmeier has outlined the concept of cultural memory as "interaction and co-construction, interplay and mutual dependence, fusion and unity between the previously separated spheres of the individual and the collective, the private and the public, the timeless and historical".[3] In the concept of cultural memory, manifold layers of cultural fabric are seen to weave together the memories of individuals, groups and societies.[4] This kind of understanding of memory was introduced in Western academic discussion already in the 1920s, in the influential writings of sociologist Maurice Halbwachs. As Halbwachs already stated, human recollection takes place along certain structures in culture: individuals remember events as a part of certain groups to which they belong, and recollection follows certain linguistic patterns that obey the narrative practices and conventions of the particular culture.[5]

Contemporary public discussions on the Great Men produce cultural memories, in which historical stories and personal recollection merges. Historical narratives and discourses and the patterns of history writing have an effect on the so-called memory talk of individuals when they are discussing the Great Men.[6] On the other hand, individual memories and private views on the Great Men influence the production of collective and even official understanding, imagery and remembrance of the Great Men, when the personal and private are expressed in public.[7] Thus, publicity can be regarded as a key factor in the formation of cultural memory. The Digital Age and internet has drastically changed the possibilities for turning individual and private to public.

2. Emotions and Contradictions - Discussing Monument Projects of Great Men on the Internet

Monument projects of Great Men often produce active public discussions on the memory of the people for whom the monuments are erected. Besides the memory of the Great Men, the public discussions concern the memory of the remembering community as well as individual memories of people. Traditional forums for monument discussions have been the press, radio programs and even television talk shows. After the spread of the internet, the discussions have also shifted to digital forums. The new

media has caused several changes in the modes and contents of the discussions on Great Men and the memory of them.

The ease of expressing opinions and memories in public via the internet has diversified public views and memories of the Great Men. First, written texts are not similarly controlled, selected and edited on the internet forums in democratic states, as they often are in the 'old' media. The possible anonymity of writers enables the expressions of alternative, critical and personal points-of-view and memory talk. Secondly, the discussion culture on the internet differs greatly from the discussion culture in the press, on the radio or on TV, and it has had an effect on the contents of discussions about the Great Men. Discussions on the Great Men over the internet are more impulsive, interactive and contradictory. Additionally, relations to institutionalized heroes are more informal. The expressions in internet discussions are often colloquial, intense, exaggerated, ironical, sarcastic and defiant. Internet discussions on the Great Men enable very emotional approaches and they easily transform into impulsive opinion, value and lifestyle discussions. In these discussions, the role or position of the writer is often the focal element of the argument and the borders of the reference groups are clearly distinguished.

The next quotation was taken from the internet inquiry of the Finnish newspaper *Ilta-Sanomat* on September 3rd, 2001. The newspaper asked the opinions of the readers regarding the question: Should the Finnish writer and artist Tove Jansson be commemorated with a monument sculpture? Tove Jansson is known and remembered particularly for her children's books, which tell stories of the everyday life of a troll family called the Moomins. In the following quotation, the discussion on the commemoration of Jansson refers to several reference groups often associated with her - the greens, the Swedish-speaking minority and homosexuals. In the internet inquiry, the memory of Jansson turned into a value and lifestyle debate in which the attitudes of the participants were frankly expressed:

> No to statue: making it consumes energy. Tove would also like if that money were given to flying squirrels or wild minks. By the way, yesterday I set free some. Green.
>
> I am a Moomins fan and I think that if they are not going to do a monument for her, I will do it myself!!! The Moomins fan -90.
>
> There is no need for more statues. Buses, trains and trams are full of them every morning and afternoon. GameOver.

> I am insulted at how 30% say no […] I think this is a poor group to which no one has ever read the adorable Moomins books! I hope the monument would depict Tove. YES.
>
> Indeed, Tove Jansson was quite a remarkable writer […] when invented the Moomins […] Snorkmaiden.
>
> […] and Tove was similarly orientated as I am. Mole.
>
> Give the statue money for the children of alcoholics. Go to the village of Teuva in Ostrobothnia. There is an altar painting by Jansson in the church of Teuva. From the SwedeZone[8] there is a short way to Teuva. Money to children.
>
> I am sure, that the majority of Finns do not want any sculpture for recalling a representative of a minority of a minority. There have to be some limits even in the suggestions! Mara.[9]

3. Maintaining and Widening the Category of the Great Men

The ease of publishing individual views on the internet and differences in discussion cultures has also had other effects on the memory and institution of the Great Men. Spread of the internet has fragmented nationalistic and collective commemoration practices and institutionalized memory culture by offering space for unofficial and personal tribute. Internet forums have also altered the institution of Great Men by commemorating and bringing forward people who do not belong to the official canon of national heroes. For example, in several Finnish internet forums active citizens have proposed or demanded the erection of public monuments paying homage to several popular heroes, such as still living athletes, singers or entertainers.[10] These kinds of strivings can be interpreted in reference to general postmodern worldviews which have dismantled the Grand Narratives of history, and furthermore the status of Great Men.[11]

This kind of dismantling or questioning characterized the internet discussion on the TV-production The Greatest Finn. The discussion on the website of the production was extremely active and intense with 7408 messages.[12] Many of the writers criticized the whole idea of voting for national heroes as an old-fashioned practice of fostering profoundly narrowly understood ideas of greatness. For example, the critical group in the forum raised Väinö Myllyrinne as their favourite candidate for the title of the Greatest Finn and even campaigned elsewhere on the internet for him. The campaign was a critical and ironic response to the production, thus Väinö

Myllyrinne was a profoundly unknown character to the public. He was the tallest Finn who had ever lived. During his lifetime, he was even the tallest man on earth. In Finnish language, the expressions 'great' and 'big' are homonyms. In addition, many popular culture and youth culture celebrities as well as some 'every day heroes', like nurses and teachers, polled part of the votes.

However, besides the critical opinions, the website additionally contained remarkably traditional views to honouring and remembering the Great Men. Although contemporary rhetoric of official memory and history writing do not stress patriotically disposed attitudes, the internet enables public expression of profoundly nationalistic, patriotic and radical right-wing opinions on the commemoration and honouring of the Great Men. On the website for example, some Finnish war heroes were supported enthusiastically with profoundly patriotic rhetoric. The moderator of forum had to edit some of the comments that were seen as racist, xenophobic or aggressive.

Besides the postmodern critic, the Grand Narratives and the nationalistic ideology of honouring the Great Men still exist in contemporary society and culture. As sociologist Paul Connerton states, even if we would no longer believe in the great 'subjects' of history, there is no indication that the Grand Narratives have disappeared. Rather, in several ways they continue to influence thought and action in contemporary culture.[13] Contemporary monument projects of the Great Men and the production of The Greatest Finn are typical examples of it. For example, the top-ten list in the vote for The Greatest Finn followed the conventional canon of greatness: war marshals, presidents and canonised artists of the nationalistic movement of the 19th century.

4. Changes in Communication Culture and Publicity

In general, the spread of the internet has changed the communication culture and publicity, which form the background conditions for public discussions on the memory of the Great Men. Digitalization and the internet are part of the renewal of the media field, which has also renewed culture in the Western world. In this renewal, media has been seen as merging with culture, and additionally the rest of society. Cultural theorist Johan Fornäs has stated already in 1993 that this kind of renewal, or change, actually characterises the phase after modernism, or Late Modernism as he defines it, whereby culture is being characterized by mediatisation and media by culturalization.[14] This means that culture is more and more dependent on communication media. Further, cultural phenomena are continuously being included in media practices and reshaped by various media forms.[15]

The two cases in my paper exemplify this mechanism. The cases additionally illustrate how the production of cultural memory is being

mediatised. Monument projects are followed intensively in the media. Through media, they become a public matter and gain recognition, meaning and importance. In the public media discussions, the cultural memory of the Great Men and also the memory of the remembering community are being produced and strengthened. For example, in the production of The Greatest Finn, the cultural content existed and was formed in several different media: the vote and the discussions of The Greatest Finn took place on the internet; the top-ten Finns and the discussion on them were presented as a TV-series; and finally the top one hundred Finns were introduced in a book.

Due to mediatisation, the publicity has also changed. Publicity is no longer an unavoidable practice related to media, but is an instrument, strategy and goal as such. However, due to the internet, the publicity has also diversified and fragmented, which restrains the production of unified, coherent and common cultural memories. Thus, in the Digital Age cultural memories also become manifold, diversified and fragmented.

Notes

[1] T Lähdesmäki, *Henkilömonumentti diskursiivisena ilmiönä 1900-luvun lopun Suomessa*, University of Jyväskylä, Jyväskylä, 2007.
[2] J Assmann, *Moses the Egyptian. The Memory of Egypt in Western Monotheism*, Harvard University Press, Cambridge, 1997; J Assmann, *Religion and Cultural Memory: Ten Studies*, Stanford University Press, Stanford, 2006, pp. 1-9.
[3] J Brockmeier, 'Introduction: Searching for Cultural Memory', *Culture and Psychology*, vol. 8:1, 2002, p. 9.
[4] J Brockmeier, op.cit., p. 9.
[5] M Halbwachs, *On Collective Memory*, The University of Chicago Press, Chicago, 1992, pp. 38, 51-53, 79-80.
[6] See the discussion on the influence in general e.g. J Brockmeier and D Carbaugh, 'Introduction', in *Narrative and Identity: Studies in Autobiography, Self and Culture*, J Brockmeier and D Carbaugh (eds), John Benjamins Publishing Company, Amsterdam, 2001, p. 3; D Middleton and D Edwards, 'Introduction', in *Collective Remembering*, D Middleton & D Edwards (eds), Sage, London, 1990, pp. 4-5; V Burgin, *In / Different Spaces. Place and Memory in Visual Culture*. University of California Press, Berkeley, 1996, pp. 226-229.
[7] T Lähdesmäki, op.cit., pp. 401, 523-524.
[8] The writer uses in the text a very negative Finnish expression *hurri* for the Swedish speaking Finns.

[9] 'Nettikysely: Pitäisikö Tove Janssonille pystyttää muistomerkki?', *Ilta-Sanomat*, 3. 9. 2001, viewed on 10th August 2005, available from: <http://www.iltasanomat.fi/arkisto/nettikysely.asp?id=1250>.
[10] T Lähdesmäki, 'Identiteettikäsitteen siirtymiä monumenttitutkimuksessa', in *Aika ja identiteetti. Katsauksia yksilön ja yhteisön väliseen suhteeseen keskiajalta 2000-luvulle*, L Moilanen & S Sulkunen (eds), Finnish Literature Society, Helsinki, 2006, p. 363.
[11] See the postmodern critic to Grand Narratives: F Lyotard, *The Postmodern Condition: A Report on Knowledge*, University of Minnesota Press, Minneapolis, 1985, pp. 15, 31-41.
[12] *Suuret suomalaiset*, viewed on 19th November 2008, available from: <http://www.yle.fi/suuretsuomalaiset/index.php>.
[13] P Connerton, *How Societies Remember*, Cambridge University Press, Cambridge, 1989, p. 1.
[14] J Fornäs, *Cultural Theory and Late Modernity*, Sage, London, 1995, pp. 1-4.
[15] J Fornäs, op.cit., pp. 210, 216.

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Part VIII

Social Issues Research, Online Ethnographic Research

Computerlore, Netlore and Digital Memories: HCI as Ethnographic Field Research

Michał Derda-Nowakowski

Abstract
The memory of interfaces is undoubtedly one of the most important elements of cultural memory nowadays. The architecture of interfaces, the ways of manipulation, the relation to them is a crucial element of symbolic imagination. They are today as important as their cultural content, which concerns all areas of life. Therefore, the issue of digital memory should be analysed with regard to not only the narrative and symbolic content, but also to its medium, which is not indifferent and neutral for the meanings stored in the cyberspace.

Key Words: Web Anthropology, Architecture of Knowledge, HCI, Digital Mythography, Computer-Lore, Meaning of Interfaces.

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Let us turn back to classical understanding of memory as a sequence of more or less fragmentised narrative meanings. The sources of the memory of digital era (or digital sources of memory) should be searched for primarily in the Usenet, which is one of the biggest (and ordered) bases of *parole* (in terms of de Saussure[1]). Collected threads of discussion in the frame of several dozens of thousands of issues, which can be interesting for one so much that he/she is sharing them with other users of the community of information exchange. The Usenet threads and posts compile thirty years of registration of various issues and are a specific theatre of the memory of humankind stepping into the digital era. Yet, in the 80's the interface to browse resources and archives of the Usenet was created - it was called *nomen omen* DejaNews. Although Google bought it, its remembrance orders not to *google* while searching for information, but to research the text corpus of parole. This completely different cognitive activity demands cultural competencies other than the knowledge of the syntax of search engines. The problem is a chronological order of content divided for proper groups and threads. The groups in the Usenet are several times fewer than the number of areas of activity of man described in the classical and rigid Universal Decimal Classification[2], yet it is the record, not of scientific disciplines but of the discourse of content exchange and connectedness, which does not need to be as mature as the order of a non-hypertextual library. Textuality and, at the same time, marginal iconicity of the Usenet with the interface of DejaNews,

which for the first time in history enabled conducting anthropological research in such a broad field beyond the territory of the analogue world, is a specific *theatre of memory*, to refer to the XVI-century idea of hybridisation of remembrances by Giulio Camillo.[3] The search for memory development resulted in the XX century in the emergence of solutions, which had to serve first science and army. The Vaneevar Bush's concept of Memex[4] from the 40's or the Ted Nelson's Xanadu Project[5] from the 60's focused on the economisation of memory and the acceleration of the access to information. When looking at these ideas from the cognitive perspective of semiotics, one can quickly conclude that the economisation of information flow is not an ideal solution to control the stream of inconstant data. It may result in a specific interpretative delirium - linking content in Ariadne's network of interpretative prostration. In this perspective, it can also be noticed that the postmodern admiration for rhizomatic aspect of the Net arose, to a far extent, from the undervaluation of the human-computer relation in the process of communication and of the human condition itself. The development of the concept of DejaNews became undoubtedly the tool that could be regarded as if designed for the very purpose of conducting the research on the content and text analysis that were made accessible by Microsoft in the 90's. The novelty introduced to the already non-existent analytic tool Netscan was the implementation of graphic visualisations of hidden processes and the semantic interrelations of Usenet threads. The research on digital memory thus came into the area of reinterpretation of narrations with the use of specific and flexible infographic tools - in the area of information literacy.

Collectivity or connectedness of narrations understood as the memory becomes not only easier to capture in the research process but also possible in general. However, it is extremely rare to organise qualitative research on such a big scale as can be observed on the Net. The work of an anthropologist includes mainly the research on the past, even if the problem is the most contemporary. Therefore, the contemporary research means the necessity to enter the territory of digital memory.

What is the value of remembrances if there are too many data to remember, even considering the most important ones only? This problem is connected of course with the issue of economic and technological easiness of recording digital memories. However, the object of our memory is somewhere lost - it is impossible to say what is actually recorded when we record *everything*. The idea of such an activity is another enormous database, which in fact takes us from the memory of both formal and informal discourse, understood as *parole*, to the space of the archive of humankind. The idea of Internet Archive[6] is based on the idea of the Project Gutenberg.[7] Internet Archive aim is to store cultural heritage in the form of perfect copies of the works of all kinds. However, in the context analysed here, the most important is the idea, which certainly has also the character of

anthropological database: the Wayback Machine[8] - whose aim is to archive the whole Internet. This is something that even Google does not do because the economy of the company is realised in archiving the content of a more pragmatic character. Although Google transposes to the network almost all dimensions of life, its goal is a conscious storage of everything.

Only the Wayback Machine can save us from the error 404 and the lack of remembrances - the solution that is strongly connected with the ideology of Creative Commons.[9] It is of course possible not to agree to generate of such remembrances by a content indexing robot but it happens rather rarely. The doubling of the Net may save us from the amnesia because Google is in fact the non-persistent memory and it is open for specific parameters of the theology of googlism demanding wide cultural (visibly not technical) competencies to operate it in the range of strategies of searching for information. In Google, there is no non-presence - it is invisible at first glance. The non-present in Archive.org and Wayback Machine is recollected memory. However, these are the remembrances of hard drives, of routers and servers, which are lost in nothingness.

The anthropology of information may concern interfaces, our relation to technology, but also a particular folklore. Their important parts are narrations, both constituting the situation of communication and mythologizing it, in a positive sense (as the creation of relations between machines and users who operates them). In the case of these narrations, the official and unofficial memory can be distinguished. An ethnographer or a folklorist undoubtedly would be interested in the informal aspect of HCI relations. These narrations are a set of specific folklore of the users of interfaces, consisting of prejudices and magic activities, rituals and social behaviours (one of the oldest examples to be presented here is being excluded from a small social group or kill file ritual or the wars of bots known from Usenet and IRC). The image of the world built upon the informal communication gives more information about important fundaments of symbolic reality than other codes of culture.

The synthesis of phenomena connected with mythographic sphere of human-computer interactions is an extremely complicated research task. Not only the recorded content but also the architecture of information and HCI relations should be taken into account. The anthropology of interfaces, their usability and mythographies are the result of narrative mythology as well. For example, the ideological conflict between proponents of various system platforms: Mac OS, DOS-Windows and Linux are one of the main problems. It is also the issue connected with the digital memories concerning the use of the interface. The types of threads which appear in their long duration so that they can be included without hesitation in the field of the memory - to mems of the history of digital world, are crucial, even para-religious fundaments (*vide* the apostles of operating systems) of the founders myths. They belong

to the order of Grand Narratives.[10] The important element here is the libertarian mythology connected with the Open Source movement as well as 'cryptographic anarchy' stemming from the dispute on the freedom and privacy of communication on the Net. We can find a social image of some heroes of a para-religious digital war, of "messiahs" and "apostles" of new civilisation, and at the same time protagonists of important mythobiographies: Bill Gates as the Satan who struggles to rule the whole world; Linus Thorvalds as Messiah of the Open Source; Phillip R. Zimmermann as Prometheus of strong cryptography for the folk (the founder of cryptographic anarchy connected with PGP philosophy[11]); and Steve Jobs as a precursor and an apostle of user-friendly interfaces for snobs and artists called Human Apple Interface. They and many other founders of digital order are particular forefathers of the contemporary - they are an informal and non-grouped council of elders of digital tribes. An anthropologist, an ethnographer or a folklorist can find in their biographies or opinions about their actions the tales, which after thousand years may become the new Bible of humankind. Their mythologizing will proceed with the natural process of memory erasing in the direction of economisation and efficiency of the message. However, these tales are indicators not of the remembrances, but the affiliation to certain culture, which came into being due to the use of computers for symbolic communication.

Walter T. Ong was right when writing about the power of orality as the fixer of narrations[12], and his words can be interpreted in reference to digital memory. The narrations, which are not formalised as the 'true' memory, are of a particular importance. It can be seen in a wide variety of media genres, whose genealogy includes all forms of intersemiotic blogs, posts, inscriptions, podcasts and screen casts. The last one has the double meaning: screen casts are not only the record of the content but also of the use of interfaces. In fact, they are the documents of the memory about interfaces, even if they do not evoke yet the feelings of nostalgia. This is very important and in the future - for sure - it will become the area of an archaeological discipline concerning the research on the history of HCI and 'compunication'.

The use of the tools for visualisations of the treads of informal communication may give an unexpected image of informally expressed opinions in an almost global scale. What a researcher, can record, of course, is not a variant or an invariant of the tale transferred orally by the shaman or an education system, but it is the image of a global trend or a range of narrative opinions and knowledge about the world. The research on this type of relations is not a usual collection of archives of narrations - the storage of data concerning the defined epoch is definitely something more. The grand and small mythologies of digital humankind are of a global character, being the element of something which Derrick de Kerckhove calls 'globalhood'.[13]

They are elements of a symbolic language of computer and Internet users. In fact, it is the new 'interlingua' whose function is to delineate borders of social affiliations, limits of net identity and specific alternative social stratification. The symbolic language of mythography would be of course impossible without digital memory. Such informal space of communication may be treated as a common good - a specific kind of folklore that crosses its traditional borders of definitions: being a global, supranational and supralinguistic creation.

This folklore exceeds narrow narrative frames of not only contemporary legends or urban legends, but also creates a new image of identity need of narration, which is the motor of social care for reminiscences of the history of digital civilisation. Moreover, it introduces new challenges in the field of social and ethnographic research as well as in communicology. The space of an informal symbolic communication is the starting point for the new anthropology which needs to take into account not only the narrative aspect of message but also the necessity to examine the codes, interfaces and devices which - as the result of users' behaviours - lead to the release of creative human potential and care for variants and invariants of digital memories that have never been observed before.

The economisation of digital memory can be seen also in the strategy of folksonomy or in technological solutions such as FOAF (friend of a friend), whose names can be traced i.e. in folkloristic procedures of communication described by Jan Harold Brunvand.[14] Social tagging of the content in Web 2.0 is undoubtedly the work of narrations, which is the process of becoming relevant and specified. The problem of such memory is transgressing the Bacon's model of knowledge built upon the accumulation of content and progression of meanings. This is about the knowledge created in the frames of one of the most important interfaces of humankind - the wiki technology, which in 2008 was incorporated to some extent even to the Encyclopaedia Britannica, one of the most conservative institutions of human memory, understood as knowledge.

Talking about cultural background of interfaces, it is necessary to return to the direction of the memory understood as history arisen as the result of direct contact with technology, which can be observed especially in the field of iconosphere. Memory is absolutely primary compared to other techniques of the transmission. One can also say that it is a particular economisation of digital memory. It is channelled to digital archives of Flickr, YouTube, MySpace or Vimeo, where it obtains rules of folksonomisation of the memory described above.

The most radical manifestation of cognitive change in to the context of memory is possibly the technology of *seam carving.*[15] This is not the method for creating a caricature of the world but it produces such a caricature when we try to match the results of the actions of carving with cognitive

habits that are rooted in the process of socialisation of an individual and are the element of culture of cultural heritage. The Western civilisation has worked out the rules of composition based on Greek ideals and proportions such as the golden ratio, and it is a part of subconscious knowledge characteristic for the majority of its members. We are often unconscious of this fact but the rules of renaissance perspective (in spite of the traces of avant-gardes in our cognitive process) are deeply rooted in our everyday understanding of the world. We know for example that a photograph is good or bad. In this presumption about the appropriateness of the ways of registration of the world (structure of our visual memory), we are treating for example the Japanese perspective *ukiyo-e* as a cognitive breach. Let us try to imagine Leonardo's *The Last Supper* with a radical distortion that is not accompanied by the traditional diagonals. This is a problem of cultural perception. However, what happens when we recognise that so-far ways of registering are insufficient? The memory becomes flexible and its continuity and autonomy is a specific kind of art of forgetting and selection, which mythologises the reality. This is a process very similar to mythologisation, which founds all forms of knowledge of *lore* type characteristic for commonness.

The economy of digital memory is also the economy of overabundance and never ending struggle with it. Let us try to delete the redundant elements of our remembrances, leaving only that what is necessary. Such action does not resemble the strategies of cubist total perception of things. We cut only that what does not fit to our remembrances because, for example, it diminishes them. Being at the safari, we record a lion hunting an antelope. However, the problem is that the lion is 50 meters after the antelope. Willing to increase the effect of action of digital memory, we use carving, cut the unnecessary 50 meters of savannah with the help of simple tools in order to increase density of senses in the presented narration. Such manipulations not so long ago resulted in decrease of sales of very prominent magazines such as *National Geographic* for example.[16] Carving is a visible symptom of problems with digital visual memory. When our remembrances include inappropriate elements, we erase them from the memory. This is the way in which a lot of filters and tools for graphic edition work. Still it can be done more easily. Using Tourist Remover[17] with a simplicity one can cut off from his/her individual remembrances the other travellers ruining his/her intimacy. In a second, they disappear like poltergeists. The only problem is that we have to take series of photos of the same place all the time. However, even a tripod is not necessary here, an average perfection is enough - the image is always the composite of the time periods that are necessary for human avatars to move into the other area of the image. Appreciating our remembrances, we can also act in the opposite way using the benefits of photography of QTVR type (QuickTime Virtual

Reality). This kind of 'virtual reality' is based on the total and surrounding registration with the single use of the shutter.

Let us come back for a while to the avatars which disturb us in physical reality and which do not do this in virtual worlds such as Second Life. Here the photographic remembrances include primarily meetings with avatars. It is thus a very Levinas-like transposition of interests connected with the memory. Teleportations or travels in the world of dystopia of Second Life are leading in fact towards the philosophy of dialogue, towards the memory of the Other, the Second, or an unknown *flâneur*. If somebody had not tried it, he/she should make a short photographic reportage from Second Life. The result will show why nobody is normally making the photo album of the holidays in virtual worlds. Tourist Remover seems to be necessary here to preserve the order of memory.

We have been talking about the reduction of memory and about its individualisation up to such a level that the strangers-invaders or unnecessary elements may result in ruining the order of remembrances. The fact is that we photograph too many things to use them later. Everyone can conduct a simple experiment: in a place where we photograph the cultural heritage, one should patiently direct his camera towards things of small importance. After a short while, there will be quite a big crowd of people doing the same, according to the rule of social proof, described precisely by Robert Cialdini. Netlore and computerlore are today the indicators of the way of seeing the world, created in personal computers. These are the knowledge and the memory of the users of technology.

A great example of such a connective *lore* is Photosynth technology, designed by Microsoft.[18] Users are sending to the central server fragments of the images of reality, taken in various times, which are later subjected to processing, which can be called connecting of individual fragments of remembrances into visualisation of a certain place. The first project of synthesis of remembrances concerned St. Mark's Square in Venice - a place that is condemned for a banalisation of gaze. The result was very interesting - the composite mosaic view of the square, which was created, was a 360 degrees wide panorama of gazes. In this simple way, digital memories stopped being the record of individuality and the economy of the memory became quickly the public sphere.

The good example of misunderstanding connected with the simplified - due to a digitalised form of recording of remembrances - is MyLifeBits[19] project by charismatic Gordon Bell who is one of the most important heroes of cyberculture. The idea of Microsoft is based on the use of database for all personal documents. It is extraordinary because it is accompanied by SenseCam[20], the device for ubiquitous registration of surrounding reality. It is constructed from a wide lenses camera, worn on the chest, registering every 30 seconds the surrounding reality, and the GPS

module, due to which it is possible to geotag the images. The question which raises concerns the sense of such registering, the sense of such memory in which the remembrances are doubled by the machine. The sense of such an action cannot concern the usual archiving of the world. Virtual remembrances are created just in case, for example for people with the Alzheimer disease, to enable them using the digital memory for existence in social reality. For healthy persons such archive of digital memory is not functional.

The usability of this kind of interface to the memory transgresses the norms of a common sense, connected with the economy of remembrances (not even reminding about the mythographic aspect of creation and the use of data). When we transgress from the archiving idea of Memex for institutions to the anthropology of everydayness, lifelogging becomes in case of people who do not necessitate such tools, the element of a particular reality show or ubiquitous memory constructed upon the constant telepresence on the Net as a grand archive of remembrances.

Notes

[1] See: F de Saussure, *Écrits de linguistique générale*, S Bouquet and R Engler (eds), Gallimard, Paris, [1916] 2002.

[2] Nowadays it is 56 000 records of human knowledge subjects. See: <http://www.udcc.org/>.

[3] P. Matussek, 'Performing Memory: Kriterien für einen Vergleich analoger und digitaler Gedächtnistheater', *Paragrana. Internationale Zeitschrift für historische Anthropologie*, no. 10, vol. 2001, pp. 303-334.

[4] See: Paul Kahn's visualisation of Memex: <http://www.kahnplus.com/en/publications/online.htm>.

[5] Working Xanadu Project software: <http://www.xanadu.net/>. See also: <http://transliterature.org/>.

[6] History and ideology of Internet Archive: <http://www.archive.org/about/about.php>.

[7] See Wiki of Gutenberg Project: <http://www.gutenberg.org/wiki/Gutenberg:The_Project_Gutenberg_Wiki>.

[8] Rules of Web Archiving Services - WaybackMachine: <http://www.archive.org/web/web.php>.

[9] System of Creative Commons Licences - <http://creativecommons.org/about/licenses/>.

[10] J F Lyotard, *La Condition postmoderne - Rapport sur le savoir*, Éditions de Minuit, 1979.

[11] See: Phil Zimmermann's Home Page: <http://www.philzimmermann.com/EN/background/index.html>.

[12] W J Ong, *Orality and Literacy: The Technologizing of the Word*, T Hawkes (ed), Methuen, New York, 1988. See also: The Walter J. Ong Collection: <http://libraries.slu.edu/sc/ong/index.html>.
[13] Derrick de Kerckhove's concept of globalhood: <http://www.globalhood.eu/>.
[14] J H Brunvand, *Encyclopedia of Urban Legends*, ABC-Clio, 2001, pp. 154-155.
[15] About picture resizing algorithm Seam Carving developed by Shai Avidan and Ariel Shamir see: <http://www.seamcarving.com/>. See it in action: <http://www.youtube.com/watch?v=vIFCV2spKtg&eurl=http%3A%2F%2Fwww%2Eseamcarving%2Ecom%2F&feature=player_embedded>.
[16] See for example: P M Lester, 'Faking Images in Photojournalism', *Media Development*, no. 1, vol. 1988, pp. 41-42.
[17] Tourist remover home page: <http://www.snapmania.com/info/en/trm/>.
[18] Microsoft Live Labs Photosynth website: <http://photosynth.net/>.
[19] MyLifeBits project home page and archive: <http://research.microsoft.com/en-us/projects/mylifebits/>.
[20] SenseCam project home page and archive: <http://research.microsoft.com/en-us/um/cambridge/projects/sensecam/>.

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Digital Memories of High-Tech Tourists and Travelling Media: Twittering and Globalhood

Anna Maj

Abstract
Digital media caused the emergence of new perceptual and cognitive paradigm of travelling which is influencing the discourse of tourists and travellers. Contemporary travel narrations are created with the use of digital camera, GPS, *keitai* and other mobile devices provoking new problems in the sphere of interpersonal but mediated communication. The Internet has become the reason for people to travel. While for some globetrotters, the possibility of writing a blog or creating their own website and online gallery is only a travelling aid, a substitute for telephone conversations with the family, for others it becomes the whole point and the aim of a trip. This other group can be called 'high-tech travellers' due to the high degree of mediatisation of this kind of travelling.

The epoch of connectedness and social networks constitutes also a new kind of social memory. This kind of digital memory of travels, which stems from interactions of wiki travellers, bloggers, mobloggers, geobloggers and other high-tech travellers is both socially and technologically oriented. High-tech tourists, carrying along palmtops, laptops, mobile phones, GPS receivers, iPods and other digital media while travelling, use Web 2.0 ideas such as social bookmarking, social networking or grassroots journalism to create their travel writing ideology and travel diaries.

The Internet, and most of all blogosphere, reflects the state of travelling consciousness characteristic of the contemporary tourist-generating societies. Mediated communication changes remembrances of traditional personal travelling into online community-directed and device-generated traces, spatial signs and memories. The Internet becomes the space of intercultural exchange of thoughts, memories and reinventing of 'travel experience'. It is important to indicate the main elements characteristic for this new perceptual and cognitive paradigm, travel narrations of high-tech tourists as well as for the cultural consequences of digitisation of travel memory.

Key Words: Web Anthropology, High-Tech Travellers, Microblogging, Networked, *Keitai* Culture, Globalhood, Twitter.

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While searching for the "digital memories" phrase with the help of Google search engine, one can find a wide range of wedding photography studios or libraries with the Library of Congress as a leader in the field of preserving fragile digital data. However, the Web itself can be regarded as an almost infinite set of digital memories of humankind. In this perspective, the question about the conditions of contemporary thinking, social knowledge and connective intelligence becomes important for cultural studies, and - it is crucial to understand the development trends that shape the Web. The possible research questions can be as follows: What does Web 2.0 mean in the context of digital memory? What does the digitisation of the memory mean to our brains, perception and thus - culture? What is the implication of social tagging and its involvement in the creation of open exchange society and its vulnerability to being overused by global concerns? What are the threats of fragility of virtual identity based on such ephemeral data? On the other hand, maybe these questions are just misleading, emerging from a prejudice produced by an analogue brain. In order to analyse this problem, it is worth to observe some of the contemporary communication behaviours connected with travel and the use of digital media and various high-tech mobile devices.

Vannever Bush who designed and described the Memex in 1945 raised the issue of digital memory for the first time.[1] In his article, the author mentions the possibility of a computer acting as a cultural archive and multimedia machine open for new scientific discoveries and enabling quick data selection, manipulation and exchange between users. Memex was a completely analogue concept realised paradoxically by contemporary networked computers. What is important is the fact that it has been indicating the direction for designers and engineers for decades and is still the important context for Internet Archive or Gutenberg Project developers. However, even if it revolutionises the idea of cultural heritage and the approach to the machines as thinking objects, it does not give the impression of openness, 'globalhood' and freedom of communication experienced by the users of the Web 2.0. The cause is the immobility of Memex. Contemporary mediated communication with people or with cultural database - as Manovich calls the most important digital memory genre - is in majority connected with spatial movement - travelling or commuting.

The feeling of total mobility is being widespread in various communities. The most specific is Japanese society whose culture is called *keitai denwa* - 'mobile phone culture'. The use of mobile technologies here is of extraordinary character, having impact on every aspect of everyday life. Japanese are realising - more than any other society - the model of a 'ubiquitous networked society', the ideal model of future society according to

telecoms such as NTT DoCoMo. Sociologists describe Japanese youth as *oyayubi zoku* - 'the thumb tribe'.[2] The term is applicable due to the high level of proficiency of this group in using thumb - keyboard (in opposition to QWERTY keyboard) and its enormous activity in the field of text messaging thanks to the use of cell phones. SMS sending and web browsing are the most popular acts of mediated communication in this group; exchanging audio, photo and video files is performed also mostly via mobile phones and, according to research, it is often completed by real face-to-face communication[3]. *Keitai shosetsu* - SMS 'mobile phone novel' is now the most popular literary genre in Japan, with millions of readers and enormous paper book issues following its massive downloads for mobile devices. In this context, it is not astonishing that almost 40% of communication in the global blogosphere, according to Technorati, is provided in Japanese (which is comparable to communication in English).[4]

Keitai and the new sense of mobility and instantaneity that it creates are deeply connected with the issue of digital memory and the new approach to remembering. *Oyayubi zoku* writing with their thumbs from the moment they wake up to the moment they fall asleep (often with the phone in their hands), are possibly the precursors of the new model of remembering. This is the tactile mode of perception with thumb being both a haptic and a linguistic tool of communication. The thumb is a new medium of literacy. Thumb remembers writing. It is a medium of digital memory in conditions of instantaneous contact and constant mobility of students, tourists and commuters not only in Japan.

The powerful tool of emerging (especially in the North America, Europe and Asia, but not only)[5] of a global thumb tribe are microblogging, moblogging and geoblogging. It can be now observed that these three genres are merging into one. The services like Twitter, Jaiku, Pownce, Yammer, Tumbir, Jabber, Frazr or Google Latitude and other possibilities of instant status updating services have the dominant impact on the process of redefinition of terms such as distance in time and space, communication interval, everyday experience with its intersubjectivity and connectedness.

Derrick de Kerckhove suggests that the connected intelligence of Internet users is developing nowadays the global emotionality and thus identity - 'the globalhood'.[6] This idea may be helpful to understand a trend that can be called 'twitter mania'. Globalhood is not opposite to local identity, it is constructed based on Internet and other media experiences strengthening the glocalisation processes. Twitter is one of the services that increase this global emotionality. A short personal digression on twittering Barrack Obama should function here as a good explanation of the problem. When I subscribed to Obama's tweets, the information that came in a second was: "Hi, […] Barack Obama (BarackObama) is now following your updates on Twitter." This is of course the automatic information that comes regularly

from Twitter servers but its cultural meaning should not be underappreciated: the president of the US is following Internet user whoever he or she is and wherever he/she lives. Thus, Twitter equates Barack Obama with my family, friends, co-workers and students. Through twitter mania, Obama becomes my virtual friend. The feeling of global intimacy, which is created by this microblogging tool in one second, makes user experience the deep emotional change concerning globality.

Twitter as a service was designed as a support tool for social networking, exploring the media users' behaviours, which were present widely in the society - the use of SMS and Internet instant messaging applications. The other important element, which helped the service in becoming one of the Web 2.0 most successful ideas, was the user-generated content architecture and the openness for users' creativity and modifications of functionality of the service:

> As with many technologies, enthusiastic users have used Twitter for more than just answering the question, "What are you doing?" Twitter has been used to help organise and disseminate information during major events like the 2008 California wildfires, the recent American elections, the Mumbai massacre and even the January 2009 crash of US Airways flight 1549 into the Hudson River. Janis Krum, a passenger on a ferry that rushed to the scene, took a photo of the plane with a cell phone and sent it out via his Twitter feed. Twitter and other status updates have also been used for many other purposes including the airing of complaints against companies, sharing ideas, forwarding interesting material, documenting events, conversing and flirting.[7]

This quote from the Pew Internet February 2009 report on Twitter and other Internet services for status updating shows how various processes connected with Web 2.0 are bound together in twittering as a communication activity. Microblogging tools are perfectly designed for users who enjoy being citizen journalists and who want to construct their *lifelogs* (total multimedia recording and web diary of someone's life) but also for those who can benefit from extreme acceleration of news arrival. Robert Scoble, the Twitterer of high importance for the microblogging community, indicates the importance of microblogging for global information flow and for users living or travelling in specific area:

> Why is this important? Well, remember the Chinese earthquake in 2008? I was on Twitter that night using

> Twhirl to watch that about which my friends were talking. Within a few minutes, several people said "just felt an earthquake." Then I started using the search engines to see what other Twitter users had said. In just the first two minutes - before the USGS Website had even confirmed the earthquake and 45 minutes before CNN talked about it - I saw several people in several different cities who had talked about the earthquake. I knew then that it was a major seismic event and, sure enough, over the next three hours the news came flooding in. Some people posted URLs to the first news reports in the New York Times or CNN. Others posted video or photos their friends had shot. And other people came online to give their personal experiences.[8]

Therefore, it can be observed that tools like microblogging platforms are flexible and can be used in order to realise various goals and fulfil different needs of their users. Moreover, they create the global emotionality and digital memory in a way that has never been experienced before by mass media recipients. What is more important is that digital memory of this kind is socially constructed, and thus, can be understood as more valuable (more true and less artificial) than created by traditional mainstream media. The directness of information in such services can be described as grassroots knowledge. Being "personal, portable and pedestrian", Twitter and similar platforms connect three values that are characteristic not only for microblogging but also for mobile phones[9]. Therefore, the values characteristic for mobile telephony are transferred to the Web 2.0 services.

The term 'ubiquitous networked society' in this context acquires new meaning - as the twitter mania often develops in twitteraddiction. But what may be seen as a new 'disease set' may be also defined as a new perceptual paradigm, characteristic for the technological avant-garde of our times. Twittering is not widely regarded as important communication behaviour partly because of the non-serious character suggested by the service name. Twittering is something of low importance, something peripheral to regular communication - marginal activity of minute messages exchange. Tweets are no longer than 140 signs, even less than SMS content. This marginality is characteristic both for microblogs and moblogs - multimedia blogs created with the use of mobile phone. Although this kind of activity can disturb any other communication or action led meanwhile, it allows the user to do many things simultaneously. Twittering and moblogging are often performed while travelling, queuing, reading, watching TV, web browsing or working-but also sometimes while talking or driving a car. Simultaneity of various actions may result in deep psychiatric disorder but also in developing new skills like

multithread concentration and augmented perception. It can be also fruitful while working on the certain subject - but only if 'the bunch of tweets' is thematically connected with the same issue.

It should be noted here that there are types of activities that can develop this perceptual and cognitive paradigm - travelling is one of the most important. There are various Web 2.0 tools that can be adopted while travelling, some of them being the socialised tourist marketing services, some - being the grassroots travellers initiatives. The good example of the first category can be GoPlanIt web service, and of the second - wikimaps or geotagging websites as Bliin or EveryTrail. GoPlanIt works as a microblogging tool for travellers but primarily - as the touristic search engine providing profiled sets of accommodation and transport services and ready itineraries. Bliin and EveryTrail or various wikimaps or mashups like Google Maps let travellers fill the service with their own content - tracks of the routes from GPS receivers, photos taken on the trip and various notes or markers and additional files.

The users can regard each of the tools presented here as the open possibility for creating the lifelog. Some of them are concentrating on the content, some - on the idea of connectedness. But the questions that arise from the analysis are: what do we remember and what do we forget. And who owns users' memory. The most powerful data keeper is of course Google, but there are multiple telecoms and companies that collect the variety of users' data and can use it. The other thing is the problem whether the collected data are to be forgotten or not. Sometimes they are not even important for the user himself. There are millions of dead blogs in the blogosphere. Technorati suggests that this amount is not worrying as each day 120 thousands of new blogs and 1.5 million of new posts are created[10]. But other researches (from June 2007) indicate that there are more than 200 millions people who regard themselves as ex-bloggers and one blog per four is non-active.[11]

To answer the questions about remembering and forgetting, it is necessary to understand firstly 'why we twitter' or 'why we moblog', etc. Inka Koskela and Illka Arminen suggest that moblogs can realise four functions: storing, sharing, publishing and communicating.[12] This means that they are differently treated by the authors depending on two features: attractiveness and responsiveness.[13] Thus, the main differences lie in the provided data and the lack or presence and character of the recipients. If blog has the ability to gather a strong community of recipients, it is more probable that it will be maintained by the author. Twittering is somehow similar - the more active Twitterer is, the more addicted he becomes. Early researches on Twitter has shown that three Twitter users' categories can be established: information source, friends and information seeker[14]. What is more important, microbloggers' intentions are led by four types of behaviour: daily chatter, conversations, sharing information/URLs and reporting news.[15]

What does it mean for the digital memory? From the anthropological perspective, the Web and especially blogosphere and social networking websites can be regarded as perfect tools for the anthropological research. Primarily microblogging services become the open vivid social memory archive, the one that has always been the anthropologists' dream. Social networking websites are also the fulfilment of dreams of marketers and collecting data institutions. Therefore, anthropologist should ask what digital memory is in this context. For psychologist, it is the archive of global emotionality, for sociologist - archive of new social behaviours, for ethnographer - cultural self-recording of humankind, for media researcher - the global lifelog. Maybe it is too early to answer this question; digital memory is built spontaneously, although with the help of global marketing. This leads to the creation of the culture of remix but it is still possible that in the future we will admit that it was also a global digital brain drain.

Notes

[1] V Bush, 'As We May Think', *The Atlantic Monthly*, July 1945.

[2] *Thumb Culture: The Meaning of Mobile Phones for Society*, P Glotz, S Bertschi and Ch Locke (eds), Transcript Verlag, Bielefeld 2005.

[3] M Ito and D Okabe, 'Mobile Phones, Japanese Youth, and the Re-placement of Social Contact' in *Front Stage - Back Stage: Mobile Communication and the Renegotiation of the Social Sphere*, Conference in Grimstad, Norway, 22-24 June 2003. URL: <http://www.itofisher.com/PEOPLE/mito/mobileyouth.pdf>, and: D Okabe, 'Emergent Social Practices, Situations and Relations through Everyday Camera Phone Use' in *International Conference on Mobile Communication*, Seoul 2004, URL: <http://www.itofisher.com/mito/archives/okabe_seoul.pdf>.

[4] D Sifry, 'The State of the Live Web, April 2007' in *Sifry's Alerts* [blog], 5 April 2007, URL: <http://www.sifry.com/alerts/archives/000493.html>.

[5] A Java, T Finin, X Song and B Tseng, 'Why We Twitter: Understanding Microblogging Usage and Communities' in *Procedings of the Joint 9th WEBKDD and 1st SNA-KDD Workshop 2007*, University of Maryland, Baltimore County. 12 August 2007, p. 4. URL: <http://workshops.socialnetworkanalysis.info/websnakdd2007/papers/submission_21.pdf>.

[6] The private conversation with Derrick de Kerckhove during New Media Days, Katowice 20-22 November 2008.

[7] A Lenhart and S Fox, 'Twitter and Status Updating', Pew Internet Project Data Memo, 12 February 2009, viewed on 12th February 2009, URL: <

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[8] R Scoble, 'Foreword' in D Micek and W Whitlock, *Twitter Handbook: How Social Media and Mobile Marketing are Changing the Way we Do the Business and Market Online*, MBO Productions, New York 2008.
[9] *Personal, Portable, Pedestrian. Mobile Phones in Japanese Life*, M Ito, D Okabe and M Matsuda (eds), Massachusetts 2006.
[10] Data according to Technorati 2008 [unofficial statistics], after Chilibean, 'The state of the SA blogosphere' in Chilibean, *New media news and views*, 5 May 2008 [blog], URL: <http://chilibean.co.za/2008/05/05/the-state-of-the-sa-blogosphere>.
[11] T Stokes, 'Dead Blogs: Cyberspace Filling up with Online, Abandoned Diaries', *Times Daily* [online] 2007, 4 June, URL: <http://www.timesdaily.com/article/20070604/NEWS/706040314>. See also an answer to this article in one of the most influential blogs: 'Millions of Dead Blogs Won't Stop Blogging', 6 June 2007, in *Bloggers Blog*, URL: <http://www.bloggersblog.com/cgi-bin/bloggersblog.pl?bblog=606071>.
[12] I Koskela and I Arminen, 'Attractiveness and Responsiveness of Moblogs', *Observatorio (OBS*) Journal*, no 3, 2007, pp. 77-88.
[13] Ibidem, p. 77.
[14] Java, Finin, Song, Tseng, op. cit., p. 8.
[15] Ibid, pp.7-8.

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