A MOBILE ARMY OF METAPHORS:

Archiving, Sharing, and Distributing the Social in Digital Photography

By:

Sonja Solomun

A thesis submitted to the Department of Sociology

In conformity for the requirements for

the degree of Master of Arts

Queen's University

Kingston, Ontario, Canada

(September, 2011)

ABSTRACT

This thesis charts the shifts in metaphors of memory associated with the digitization of personal photography – from 'archiving' to 'sharing' – developing a strong account of the role of metaphor in shaping cultural conceptions and material technologies of memory making in relation to photography. Early discourse surrounding the emergence of photography heralded the camera as a medium capable of *capturing* the imprinted trace (light) of the real. By extension, photography has routinely been figured as an essential means through which 'the social' can be captured, framed, communicated, and distributed, with personal photographs historically positioned as visual 'archives' of the self. Underlying this are specific metaphorical conceptions of the relationships between human memory, reality and representation. This thesis considers how metaphors of the 'memory-archive' have naturalized historically specific ideas about human memory which have in turn come to serve as models for the design and ongoing use of photographic technologies. This thesis argues for a sociology of metaphor, which can account for the ideological potential of metaphor in constructing a specific paradigm of memory, while advancing the material consequences of metaphor as a constitutive agent that enables and constrains the possibilities for memory making. The thesis focuses upon the metaphoric shifts from analogue preservation or 'archiving' to online distribution or 'sharing' within digital landscapes. The central chapters of the thesis consider the ways in which particular metaphors of memory – as archive, as distributed, as shared – are materialized as technologies, in this case photographic media. By exploring three key technologies – the Kodak EasyShare Camera, Cloud Computing, and the Instagram Application – the thesis

examines the ways in which new metaphors of memory and of the social are becoming materially embedded. The thesis further reveals residual anthropocentric ideas of memory and technology, which continue through metaphors of photo-sharing which further disguises the role of the 'technological unconscious' in shaping potential memories.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

CHAPTER ONE
Introduction: Memory, Culture, Technology

CHAPTER TWO
X=Y: Toward A Sociology of Metaphor

CHAPTER THREE
Deconstructing The Archive: The Co-Evolution of Memory and Photography

CHAPTER FOUR
Distributing The Social: From Archiving to Photo-Sharing

CHAPTER FIVE
The Power of Digital Traces: Reconsidering the Past and Implicating the Future

:: CHAPTER ONE ::

Introduction: Memory, Culture, Technology

Truth is a mobile army of metaphors, metonyms, anthropomorphisms…truths are illusions of which we have forgotten that they are illusions, metaphors which have become worn by frequent use and have lost all sensuous vigour…

– Friedrich Nietzsche "On Truth and Lying in a Non-Moral Sense" (1873)

To begin rather generally, this thesis is concerned with the digitization of culture with a particular focus on memory and photography. On the one hand, digitization has allowed us to create infinite records of daily social life, while on the other hand digital memory is rendered precarious by the perceived 'virtual' or immaterial properties of new technologies. The claims being made in the existing literature seem to equate this paradox to a broad shift in personal memory practices within western societies away from preservation or 'archiving', to communication or 'sharing' largely driven by technological change. I want to examine these claims by questioning the notion of a sharp distinction or a monolithic break in the relations between technology, culture, and memory which contributes more broadly to a more complex sociological understanding of the 'digital turn'. This will be done through a historically orientated approach that explores the cultural shaping of technology through established *metaphors of memory*. The most dominant metaphor used to describe memory during modernity has been the 'archive'. What my thesis seeks to do is question how the 'archive' has been embedded within analogue photographic technologies as a model for both use and design, and how this metaphor is currently becoming contested within digitization, which increasingly figures memory as a distributed or 'shared' entity. Before I outline some sociological implications of such a

study, I situate my approach within discourses of digital photography and memory and ask how digitization has changed the structural possibilities of memory before analyzing how these changes are reciprocally shaped by cultural convention. It is important to first define what is meant by 'cultural memory' in the scope of my research.

Contextualizing Cultural Memory

Memory has become a prevalent research topic across a wide range of disciplines concerned with the relationship between individuals and society. The relationship between past and present has often been grounded in psychology and intensively theorized in literary theory, historical studies, sociology and anthropology. Recent interest in the role of memory within media studies has provided us with careful considerations of memory's role within science, technology and information studies, as well as new media theories (Bowker 2005; Sturken 2008). The same proliferation is observed outside academia; memory has become 'cheap', in the sense that it is a ubiquitous presence in everything from 'memory sticks' to 'memory drives', from smart phones which log call history, to smart cars which remember radio preference. Brockmeier (2010) recognizes that defining memory of any kind is a challenging endeavour as we only ever have a vague idea of what memory is, and we cannot say with any certainty that what we do know (or rather what we think we know) about memory is any kind of objective claim about its nature – all definitions of memory change with the ebb and flow of disciplines, epochs, cultures, and languages.

While sociologists have observed that currently 'Every attic is an archive, every living room a museum. Never before has so much been recorded, collected; and never before has remembering been so compulsive' (Gillis 1994: 14), there are of course

different approaches on how the issue of memory should be tackled in the digital age. One of the leading theorists on memory and contemporary digital technologies, Jose van Dijck (2007) argues that to understand memory in digitization, we must marry neuroscientific, information and cultural disciplines. I am highly sympathetic to such interdisciplinary approaches and would advocate for an added emphasis on discursive models of memory as understanding memory involves investigating:

> the symbols, codes, artefacts, rites, and sites in which memory is embodied and objectified; the coherence or fragmentation of the narratives, rituals, geographies, or even epistemologies it relies upon; and the way their authority changes over time. (Lambeck & Antze, 1996: xvii)

Van Dijck argues that memories are *embodied* by the mind, are *embedded* in culture and are *enabled* by technologies (2007). I want to stress here that on this latter point we must incorporate Hutchby's (2001) assertion that technologies are materialities which both enable *and* constrain potentialities of memory. One aim of my thesis is to isolate and illustrate aspects of the discursive process by which technologies come to sustain such possibilities, by examining the reciprocity of technology and culture in current practices of digital memory-making. This performative capacity of technologies to shape memory locates digital photography as an important area for critical research. The study of metaphor and the ways in which classifications of memory enagage with technologies in our everyday lives is important for understanding key aspects of 'digital cultural memory'.

One of the central questions pursued in this thesis concerns how memory is mediated, shaped, or challenged by cultural metaphors, and in turn by technologies inscribed with those metaphors. By posing such a question this thesis tacitly assumes that memory is something which *can be* mediated, shaped, and re-formatted – it assumes that memory

itself is never stable, that it is *contested*. This understanding of memory, which is more familiar to cultural and social research paradigms, is grounded in poststructuralist thought which defines memories as being

> Interlaced with broader 'cultural texts' and situated within 'symbolic spaces', they are always incomplete in isolation. And because they are discursively negotiated (instead of just given or 'retrieved'), they clearly appear as subject to orders of power and struggle (Brockmeier 2010: 13)

In this way, memory is always implicated in a network of discourses, technologies and industries, necessitating a conceptualization as 'cultural memory'. As with photography, recent interest in memory has emphasised that it too has a cultural form, including codes and conventions, and the retrieval of memories has recently been recognized as a culturally constructed activity while at the same time appearing to be transparent and 'natural'. This view recognizes that memory is not just about recall – it requires agency (Harrison 2004) and must be performed. Therefore in the scope of my study, cultural memory can be seen as a material-cultural phenomenon that accounts for both the activities and artefacts of remembering, which are produced and inscribed through conventions in the form of popular metaphors, as well as through cultural practices and technological devices (van Dijck 2004).

This postulation seems to link personal memory to notions of collective memory. Indeed, the term 'cultural' memory implies both individual as well as collective memory. Cultural memory to some extent encapsulates the aims of social memory as well, since the character of individual memory is in itself social. Frederic C. Bartlett emphasized this social dimension of individual memory by observing that

> from the very time we select materials for future storage, our memories are social to the extent that they codify perceptions on the basis of their meanings, that is, on

4

the basis of a structure of knowledge of the world which in turn is the expression of the individual's membership of a culture (Jedlowski 2001: 4)

Now that a brief definition of cultural memory has been extended, the ways in which it has changed within the digitization of photography can be analyzed.

Digital photography has become a hugely popular and arguably ubiquitous aspect of everyday life in western societies (Hand, forthcoming). Aside from the proliferation of digital cameras and images in institutionalized avenues of print, journalism, art, advertising and science and information, digital photographs are increasingly becoming omnipresent within everyday practices of memory making and sharing resulting in massive repositories of personal photo collections. The use of digital photographic images is diverse, ranging from sharing (Van House et al. 2006), organizing (Kirk et al. 2006), displaying (Swan and Taylor 2008), manipulating (Mitchell 1992), mass producing (Frosh 2003), and circulating (Lash and Lury 1997) images, which reveals important shifts from analogue forms of memory-making. Through such uses, photography has become a highly significant means of constructing identity (Barthes 1982; Bourdieu 1990) of expressive communication (Benjamin 1969; van Dijck 2007) as well as a fundamental means through which we capture, organize, and share memories (Rose 2011; Sontag 1973; van Dijck 2007; Van House and Churchill, 2008) and therefore represent and (re)construct reality (Mitchell 1994). In this literature, and in this thesis, photography is positioned as a critical point of inquiry into a discursive set of ideas, practices, institutions, and technologies of memory-making (van Dijck 2007).

As digital photographs proliferate in everyday contexts they become a 'mundane' aspect of memory-making (Murray 2008), yet this renders them even more significant,

necessitating critical analysis. This thesis breaks from with traditional figurations of personal photographs as 'windows' into everyday lives (Barthes 1982) to promote the political and social significance of the pursuit (Cohen 2005; Murray 2008; Shove et al. 2007, van Dijck 2007). Indeed, *doing* photography is not just a means to an end and should be considered instead through Cohen's (2005) description that 'doing' is a product and site of meaningful activity in its own right. Aside from a wide range of photo-sharing websites such as Flickr and Facebook, visual mediation is becoming increasingly pervasive through mobile devices, software systems, and 'smart' hardware able to instantly capture, organize and disseminate photo-memories. While images are becoming somewhat of a 'banality' in this way so are digital cameras which are now integrated into various other technological devices such as mobile phones, laptops, and even certain 'smart' cars and household appliances. These changes in the ability to manage the visual present have important implications for the current status of memory within digitization. Currently, images have routinely become 'mediated memories': 'privately recorded personal events and individual collections of cultural content', treasured as a 'formative part of our autobiographical and cultural identities' (2004: 262). This thesis shares van Dijck's view that individual memory-making practices are highly significant in their own right, as opposed to being a marginal aspect of collective history.

In order to situate transformative moments in photographic practice a sociological analysis must contend with the historical continuities and discontinuities of digitization. The majority of scholarship about the historical similarities and divergences of photography focus on the image exclusively: how the digital image has become immaterial or 'post-photographic' (Mitchell 1992; Lister 1995). By looking to historical changes in

photographic technology we can address how certain performances of memory making and photography are positioned in relation to these changes. The shift to digitalization has encompassed a change in both the material properties of technology, its capabilities, and its mediation of social relations. But what precisely is 'new' about the ways in which we engage with this 'new media'? Answering this question does not involve recounting the debates surrounding the 'real' authenticity of the image which, as Cohen (2005) observes, focus too heavily on the *photo* instead of the *process* of photography. It is the wrong question to ask whether the photographic image has changed since it does not exist autonomously from its manifestations as a cultural form (Buse 2010).

When the *process* of digital photography is addressed in social science discourse, it seems the effects of the technology are either overstated, or the role of material objects is understated (see Latour 1999). As such, early reactions to the digitization of images have been inclined to argue that the shift to digital would result in the 'death of photography' (See Mirzoeff 1999; Mitchell 1992; Ritchin 1991). However, changes in practice of photography are not simply concurrent to changes in the technology. Buse (2010) expands on this point through the example of Polaroid photography to show that the obsolescence of a technology does not necessarily mean the definitive passing of a cultural form but rather the modification of existing practices. Consistent with other research, Buse (2010) shows how changes in technology may not produce entirely new effects, but rather render more apparent or explicit existing social and cultural codes. As Bourdieu (1990: 5) observed, reflecting on the sheer force of convention in photography: 'it appears that there is nothing more regulated and conventional than photographic practice and amateur photographs'.

7

A focus on memory is one way in which we can situate the continuities and discontinuities in digital media. This involves seeing memory not as a property of mind, but a sociotechnical practice or performance (Bowker 2005). By privileging social practices, such analyses must also recognize the materiality of our mediated memories. While the importance of materiality and the material propensies of objects (images) has been central to disciplines such as anthropology, recent interest in the material specificity of objects within social sciences has emphasized how the social is at least partially constituted through practice (Shove et al. 2007; Rose 2010; see also Law 2008 and Latour 2005 for a comprehensive review). These approaches contribute to the sociological understanding of memory in digitization by showing how specific practices of production, circulation, consumption, distribution and viewing constitute photographic memory-making (Rose 2010; van Dijck 2007). This calls for an analysis of cultural conventions and routines, as it becomes less relevant what the images *depict* in relation to memory, rather what is *done* with them. For instance, Rose (2010) found that the content of family photographs was not as significant in the memory-making process as who the photo was captured by, in what context, and what was later done with the image (album, storage, distribution, etc). In addition, science and technology studies, as well as media and information studies have contributed important insights into the association of technology and memory by pinpointing central transformations in memory in the migration from analogue to digital devices (Bowker 2005; Van House and Churchill 2008)).

The proliferation of images and the expansion of photography are in large part indebted to technological changes spanning from the twentieth century and into the present. A central shift from analogue to digital has been marked by the disappearance of film-based image capture devices, and its corresponding practices and institutionalized

employment. Yet as Buse (2010) reminds us, the passing of a specific technology does not signal a disappearance of its cultural manifestation and incites us to ask what the relations between 'new' technologies and 'old' ways of memory-making are. The practice of 'snapshot' photography is an example of the ways in which practices associated with analogue photography have continued into the digital realm.

For example, Patricia Zimmerman's (1995) work describes how the advent of Kodak's easy-to-use roll-film cameras in the late 1880s changed amateur photography from a leisure/consumer activity to a more valued social practice. The turn of the century saw a paradigm shift in amateur photography as exemplified by Kodak's innovative $1 Brownie camera which was able to capture 'those special moments of domestic life' (Ibid: 152). 'Snapshot' photography was one of the practices to emerge from the mass dissemination of film cameras. Consequently, another prominent moment for amateur photography arose in the postwar consumer society that marked the 1950s culture of commercialization which placed spotlight on the complexities of family and private life (Murray 2008: 152). Alongside technological transformations, various social continuities of film-based photography such as its defining characteristics of materiality, objectivity, passivity, etc are transposed to the digital realm through the continuation of powerful cultural metaphors of memory and technology. In this way, older forms of memory making can become new in different arrangements and new ways of 'doing' can also be modifications of the old. Such a perspective privileges the subtleties which make discussions of memory-making and digital devices complex. At the very least, this view suggests that we should be cautious about deterministic claims for monolithic social or technological change.

While much academic literature treats technology as 'autonomous' devices of representation which have historically developed in a timely and progressive manner, with

novel tools superseding or replacing older models, this thesis acknowledges technologies as diverse co-articulations. Photography did not radically emerge at the whim of one inventor; the medium spanned years of trial-and-error contingent on other configurations of media available at the time, in the context of changing socioeconomic conditions which facilitated the development and dissemination of particular devices, along with modernist discourses *encouraging* notions of objectivity in relation to vision or sight (Tagg 1988). Raymond Williams (1990) cautions: by focusing only on the effects of technology, we may misunderstand the greater social and cultural context that is reflected. He instead suggests that 'understanding the societal context in which a technology is produced as a means of understanding its function in society as well as its reflection of society' (in Humphreys 2005: 811).

Within the more specific accounts of memory-making practices in digitization, it has been argued that we are amidst a key shift in personal photographic practice which has moved away from preservation to communication (Sontag 2006; van Dijck 2007). The following chapters carefully consider this claim by critically assessing how modern ideals of memory continue to be weaved into, and sometimes uncritically transposed onto, digital media. Some of the potential transformations include changes to the *selection* of memories for capture (images are now taken *in order to be* distributed across various online channels and disseminated to friends and family rather than collected or stored in an album) as will be exemplified with a case study of Kodak EasyShare digital cameras. In the following study I will chart the ways in which cultural metaphors become *inscribed* into photographic hardware. The *management* of photos has also shifted from various analogue forms, which are now increasingly managed with software systems such as photo-editing features of Cloud computing, which give some insight into how socio-historic metaphors are

10

performed by technology. Lastly, the *retrieval,* or reviewing of digital photographs has had different consequences for memory, which is now increasingly shaped by 'technologically unconscious' (Beer 2008) aspects of mobile applications such as Instagram, illuminating the agency of software and the *mutuality* of socio-technical relations. All of these technologies invite and enable users to 'share their world' with digital images, yet despite the apparent ubiquity of photo-memories and the encouragement to share them through multiple digital channels, the relationships between memory and new media are not reducible to digitization, but must rather be recognized as part of a larger cultural paradigm of information and memory transmission, *and* seen as an embodiment of the inheritance of deeply rooted historical ideas of memory.

Following these preliminary observations, this thesis will explore three theoretical issues in detail: the cultural shaping of technology by historical conventions of memory, the technological shaping of sociality, and the changing classifications and practices of personal memory within digitization. In so doing, this thesis will frame photography as a socio-historic *co-evolution* (Latour 2000; Shove et al. 2007) of discourse, practice, and technology. The social shaping of technology and the technological shaping of sociality, despite seeming contradictory, are actually complementary (van Dijck 2007). Reconciliation of culture and technology involves seeing technologies in terms of their affordances (Hutchby 2001: 444) which 'frame, while not determining, the possibilities for agentic action in relation to an object'. In this case, the potentialities for memory within digital photography are embedded within cultural frameworks, yet such frameworks are also constituted by the technologies which make them possible (Brockmeier 2010). In this sense, 'technologies can be understood as artefacts which may be both shaped by and

shaping of the practices humans use in interaction with, around and through them'
(Hutchby 2001: 444).

As previously noted, the most powerful and dominant metaphor used to describe memory throughout history has been the 'archive': a permanent locus of storage and retention. This classification was conceptualized by Plato's writing on the Socratic concept of memory as a kind of 'wax tablet' where impressions and experiences are 'stamped' and imprinted into a block of wax which congeals the image into a permanent material structure. These assumptions about memory's materiality, objectivity, and visuality continue today, especially in photography. Currently, the notion that photographs are an objective mnemonic tool able to 'trigger' or 'make' memories which the fallible human brain cannot accomplish remains a common sense proposition. As outlined above, photography is situated amongst a complex conjuncture of discourse, technology, and practice. Yet its relation to memory has been solidified as an idealized essential means through which memories are captured, framed, communicated, and distributed. This relationship is largely due to the *metaphorical* construction of memory over time. Brockmeier (2010) has meticulously traced how the 'archive' metaphor has travelled through the capillaries of socio-cultural, technological, literary, and biological disciplines. Within these diverse domains memory has been routinely figured as a locus of retention: a dark, private, objective imprint or 'image' of reality which remains autonomously preserved in the dusty shelves of memory's 'storehouse'. One of the key aims of this thesis is to deconstruct the naturalized relationship between memory and technology by isolating and illuminating how, when memory is recognized as a socio-historic construct, emerging relationships between memory and digital technologies take particular forms.

Early discourse surrounding the birth of photography reproduced dominant epistemologies of human memory by positioning the camera as a medium capable of capturing the imprinted trace (light) of reality. In turn, personal photographs have been articulated as objective visual 'archives' of one's life. More importantly, such models have routinely served as blueprints for the design of digital photographic technologies, creating a problematic divide between 'media' and 'mind' (van Dijck 2007). By serving as models for technological innovation, metaphors of memory become inscribed in technology. Technology in turn, comes to re-shape memory in interesting terms of collaborative sharing versus individualized collection or preservation.

The following chapters will question to what extent social conventions and standards of sharing (including gift giving, transmission of information and communication) are built back in to technology. In what ways is this an indication of the reciprocity between the way technologies are used and how they become inscribed back into design. The specific focus on metaphor is one way of following and charting this cycle. A central concern of this thesis is to develop a 'sociology of metaphor' – a theoretical framework which accounts for the ideological and material potential of metaphor to shape social relations. The following chapters will outline the history of metaphors of memory, how they are employed by social institutions and actors, how they shape understanding and conceptual organization of memory, and what consequences they ensue for contemporary engagements of personal digital photography.

It should be noted that the perspective of metaphor employed in this thesis diverges from the classic definition of metaphor as a linguistic phenomenon, and is thus not

confined to literary theory.[1] This branch of scholarship has been extensively covered elsewhere, but more importantly, it has limited the cognitive capabilities of rhetoric.[2] Instead, this thesis builds on the influential cognitive linguistic view of metaphor foreshadowed by Nietzsche and Kant and thoroughly developed in the canonical work of Lakoff and Johnson (1980).[3] This challenge to the traditional view asserts that 'Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature' (Ibid 1980: 3).[4] Much like the power of images, the 'mundane' conventionality of metaphor renders invisible the network of power relations it manifests and exercises. It is through a call to politicize metaphor that we can ask: whose memory is (re) produced and preserved? Which metaphors gain cultural currency and whose values do they personify?

Overview of the Thesis

In order to develop an analysis of the discursive cultural shaping of photographic technology, chapter two will offer a detailed account of the role of metaphor. It will map relevant differences in the history and philosophy of metaphor by chronicling its linguistic definition, its ideological capabilities, and the cultural functions it serves in various institutional and everyday domains of contemporary culture, and the associated power relations. It will draw heavily from cognitive linguistic theory and the canonical work of

---

[1] Although the longest tradition/engagement with memory is recognized.

[2] According to Lakoff and Johnson (1980: 146), literary theory is ontologically grounded in objective reality: "The idea that metaphor is just a matter of language and can at best only describe reality stems from the view that what is real is wholly external to…how human beings conceptualize the world". The authors insist that such views render human aspects (conceptualizations) of reality invisible. I would add that it does a further injustice, that of rendering the active role of technology completely invisible.

[3] This view has been insightfully appropriated by others in relation to culture (Kovecses, 2005) politics (Jameson, 2007; Miller, 1992) and discourse (Novits, 1987).

[4] Since this thesis is primarily informed by research of this vein, it should be understood that any further mention of metaphor should be considered in/as the *conceptual*.

Lakoff and Johnson's (1980) *Metaphors We Live By* to reiterate an essential propensity of metaphor – its role in not only *describing* reality, but *creating* reality in ideological terms. Here the chapter will pinpoint how my research develops a strong constructionist argument by suggesting that metaphor also creates reality in a *material* sense. The main concern of this chapter will be presenting this kind of analysis as a 'sociology of metaphor' – a proposed theoretical framework able to contend with the process by which metaphors of memory become inscribed in digital tools and stabilized in photographic practice. This chapter has two central objectives for the remainder of this thesis. Firstly, it accounts for the ideological possibilities of metaphor in constructing classifications which serve as defining distinctions between 'analogue' and 'digital' photography while producing an epistemology of memory which reproduces problematic dichotomies. Secondly, a sociological focus on metaphor reveals how the possible fields of digital culture are constitutive of metaphors of memory in not only discursive, but material terms. This chapter will be integral to building a platform from which to advance one of the main arguments of this work: metaphor constitutes the potential of both enabling and constraining the possibilities for memory.

While chapter three provides a revisionist history of memory, it is grounded in a deconstructivist objective as it seeks to tease apart the messy constellation of historic classifications of memory, modernist cultural desires and technological innovations which now constitute the field of memory within digital culture. It engages with the most common and powerful metaphor of memory in modernity – the archive – as the dominant 'metaphor we live by', and carefully charts its emergence as a socio-historic construct. Central to this is revealing the resulting problematic classifications of memory as unmediated, objective, automatic and free of discursive intervention. By deconstructing the epistemological and ontological roots of 'archiving', this chapter will chart the stabilization

of this paradigm of memory in film-based photography, specifically – 'snapshot' photography, which effectively positioned the medium as a *tool for memory making*. Following this line of thought, it questions the assumed intrinsic propensity of photography for memory and our 'natural' conviction of memory as an impartial and accurate visual representation of reality. The following two trajectories are of particular importance in this chapter: Firstly, the idea that memory functions according to, and is characterized by, a visual 'archive' was firmly grounded as an epistemology of memory long before the advent of photography. This claim provides a foundation from which to counter-argue exclusive effects of technology, industry, or commodification. Conversely, the secondary aim of this chapter is to recognize such theoretical accounts by showing how the advent of photography and a faith in its potential objectivity came to (re)shape human relationships to memory. The chapter will conclude by critiquing the notion of technological 'progress' by illustrating points of cultural continuity and discontinuity with the advent of digital cameras. The multiplication of varying memory forms within digitization will serve to raise questions about the decline of the 'archive' paradigm: while digitization has undoubtedly spawned novel engagements with memory, such interactions are mediated by convention and classification and thereby oppose a paradigm shift.

The previous two chapters extend a cultural analysis of the social shaping of technology by metaphors of and ideas about human memory. Chapter four will develop this line of thought more fully by mapping the emergent classifications of memory 'sharing' in digital landscapes, while additionally exploring the shaping of memory by digital devices in an analysis of the performativity of the 'technological unconscious' (Beer 2009). Significant focus will be placed on the process of inscription by which metaphors become 'embedded and embodied' in technological tools. This will be pursued through a detailed

account of how metaphors become inscribed in *artefacts* or 'hardware' with the example of Kodak 'EasyShare' cameras. Additionally, it will delineate this process in *data* management or 'software' by critically assessing the recent invention of Cloud Computing. Lastly, the *social integration* of the two will be explored within integrative systems such as 'Instagram' mobile applications. The central question of this chapter is: does the metaphor of memory *sharing* signal a definitive (epistemic) overhaul of the archival paradigm of memory? By critically expanding on the cultural continuities and divergences of digitization outlined in the previous chapter, I will respond to this research question by establishing the *co-evolution* of 'new' ways of doing memory and 'old' ideas. The modernist qualities of memory as *objective, autonomous,* and *passive* will be critically compared to 'novel' engagements of distributed memory through *collectivity, communication,* and *connectivity.* These sections will be essential to the theoretical argument put forward in this chapter, one which builds on recent theories of information and communication/memory studies (Hoskins 2009; van Dijck 2007) to argue that the metaphor of memory 'sharing' which is increasingly thought to characterize a dominant 'culture of connectivity' (Hoskins 2009), reproduces an anthropocentric notion of human memory while largely dismissing the mediating facets of technological systems which equally and actively 'share' our memories.

Accordingly, in chapter five the thesis builds from analyses of the 'technological unconscious' to show how it is revealed in two ways: firstly, it is discerned by the 'performative infrastructure' (Thrift 2005) of media, as well as in its capacity to leave a set of permanent digital traces (Hand 2010). From these conclusions this thesis invites reconsiderations of past regimes of memory as well as future figurations, particularly in terms of power relations: how the metaphor of sharing legitimates a range of commercial practices that shape memory in as yet unforeseen ways that are not within our control. The

17

chapter will serve to affirm the theoretical approach of cultural shaping woven throughout this research, while conceding the technological shaping of memory by briefly outlining alternate assumptions about the commodification and 'industrialization' of memory.

:: CHAPTER TWO ::

X=Y: Toward a Sociology of Metaphor

This chapter begins with the assertion that any approach concerned with the relations between technology and memory must include an analysis of the dominant tropes and metaphors through which both are mediated and understood. In arguing for the significance of *metaphor* as a central aspect of cultural communication, the general aim of this chapter is to provide a detailed account of its definition, history, disciplinary orientations, and how it can be understood and used sociologically. It will draw heavily from cognitive linguistic theory and the canonical work of Lakoff and Johnson (1980) to develop a strong account of how metaphors are *constitutive* of the social, going on to argue that a more sociological account positions metaphors as important underpinning elements within ideological formations and regimes of power and discourse. Building upon this, I will suggest that one of the ways in which specific metaphors become naturalized or stabilized is not in language as such but *as technologies*. In this case, particular metaphors of memory such as 'archive', 'distribution', and 'sharing' can become inscribed in digital tools and further stabilized in photographic practice.

The 'sociology of metaphor' articulated here has two key objectives: firstly, it accounts for the ideological possibilities of metaphor in constructing classifications which serve as defining distinctions between 'analogue' and 'digital' photography in relation to memory. Secondly, and perhaps more importantly, it shows how metaphors of memory construct and constitute the possible fields of digital culture in not only discursive but material terms. This chapter accounts for the materiality of metaphors in both enabling and

constraining the possibilities of memory (which will be discussed in detail in the following chapters).

Introduction

In a recent TED discussion, author James Geary remarked: 'metaphor lives a secret life all around us'. What he is referring to is the proclivity of metaphor to go unnoticed while at the same time significantly shaping social life; metaphors *constitute* a dominant portion of everyday speech, typically uttered six times in a single minute (Geary 2001; see also Lakoff and Johnson 1980; Ortony 1993). In this way metaphors are both ubiquitous and banal. In his most recent book Geary argues that metaphor infiltrates all areas of human action:

> Metaphor conditions our interpretations of the stock market and, through advertising it surreptitiously infiltrates our purchasing decisions. In the mouths of politicians, metaphor subtly nudges public opinion; in the minds of businesspeople, it spurs creativity and innovation. In science, metaphor is the preferred nomenclature for new theories and new discoveries; in psychology, it is the natural language of human relationships and emotions (2011: 3)

In sociological terms, we might begin with the notion that metaphors shape the ways in which society is interpreted and understood, being a constitutive element of thought and communication, knowledge construction and interpretation, technical systems, social action and so on. Specifically, a sociological approach must recognize the potentially dominating or hegemonic nature of *particular metaphors* that constitute our understanding of social relations *in particular ways*. On a macro scale, for example, the metaphor of 'globalization' plays a prominent role in shaping models of social, economic and cultural relations. The ways in which (contested) metaphors such as this become part of more complex political discourses is one way that metaphors become embedded or taken for granted as descriptions of reality rather than ideological tropes. On a more micro scale, it is important

to explore how metaphors become inscribed within daily life and technological tools in more mundane ways.

With specific regard to my research, an approach that treats metaphor as a social phenomenon more broadly (rather than only the preserve of cognition or linguistics) needs to analyze how metaphors become material – their 'embedded' inscription within technological tools which come to 'embody' and reshape the human relationship to memory. As the following chapters will show, modern metaphors of memory as a kind of 'archive' within the mind have constituted a powerful epistemic paradigm of memory which is currently being radically contested by processes of digitization (see Gane and Beer 2008; van Dijck 2010). Much of the current writing in this area recognizes the destabilization of *the* archive as an institutional (state or private) form as a result of both digital technologies that enable different modes of storage and retrieval and new theories of memory that stress individualization, difference and deconstruction (Gane and Beer 2008). While modernist notions of memory as an archive are contested by digitization, assuming the differences in paradigms of memory are an exclusive effect of technology denies a thorough understanding of how metaphors of memory have shaped the design and use of photographic technologies in terms of archiving.

It should be noted at the outset that a study of metaphors and their influence is theoretically challenging. The most influential theorists of metaphor Lakoff and Johnson (1980) concede this difficulty of attempting to analyze metaphors as a *conceptual* system, both in an empirical and theoretical sense, since 'it is not something we are normally aware of' (1980: 7). A seemingly natural solution to this dilemma is to look to language and the way classifications define and structure objects since communication mirrors the conceptually systematic tendencies used in thinking and acting; the authors explain:

'because the metaphorical concept is systematic, the language we use to talk about that aspect of the concept is systematic' (1980: 7). While some theorists conclude that we actually cannot 'know' anything outside of metaphor and that 'it is our only means of relating, of connecting' and of thought (Miller 1992: 16), I would argue that the epistemology of metaphor can become at least partially elucidated by studying the technologies on which these metaphors are modeled. As a method of critical inquiry, a focus upon metaphor can be regarded not as an end result, but as a device which aids sociological understanding (Jacobsen and Marshman 2008). One important element of this is to denaturalize relations between, for example, technology and memory by showing the historically and culturally specific use of specific metaphors. In this way, a study of metaphors can be used to highlight the co-evolution of sociohistorical discourse, cultural convention and practice, and technological transformations.

Lakoff and Johnson explain the fundamental premise of metaphor in these terms: 'the concept is metaphorically structured, the activity is metaphorically structured, and consequently, the language is metaphorically structured' (1980: 5). What I want to add to this is the notion that the *technologies* can be metaphorically structured. Before I explore this idea further, I will briefly sketch theories of metaphor and its function.

A Mobile Army of Metaphors

"Metaphor is a way of thought before it is a way with words" - Ted Geary

This section will provide a brief definition of metaphor and its functions. Perhaps the simplest definition of the concept would be any instance or process by which one thing is

made to stand in for another thing (Punter 2007). From the perspective of cognitive linguistics, it would mean thinking of one thing (X) as though it were another thing (Y) (Goatly 2007: 11). Conventionally, linguistic theory calls (X) the topic or target, and (Y) the vehicle or source. The similar mapping between X and Y is called the *Grounds*. For example, the pop culture metaphor 'life is a box of chocolates; you never know what you're going to get' contains the target: life, the source: a box of chocolates and the common grounds: uncertain possibilities. Yet when we invoke a name that belongs to something else, we additionally invoke a complex pattern of relations and associations (Geary 2011: 9). In this way, metaphor *actively* shapes and reconstructs knowledge about the source domain. Memory is one such abstract domain of knowledge prominently 'mapped' with the use of metaphors. For instance, when we say 'his face is tattooed in my memory' we are invoking a pattern of association between a permanent, visual, bodily 'stamp' and a memory. In this sense, the characteristics of a tattoo (permanence, materiality, etc) become transposed onto our knowledge of memory.

Importantly, Lakoff and Johnson show how many of our everyday routines and practices are derived from a set of fundamental *themes* called 'conceptual metaphors'. Although time and space limitations prohibit an exhaustive review of these 'clusters', I will briefly review a few of these mappings in order to ground forthcoming claims that 'memory is an archive' is one such conceptual metaphor theme, and to further situate analysis on the way it is organized, interpreted, articulated and contested by photographic memory practices. According to the authors these metaphorical themes structure perception, usually of an abstract object by denoting it to a secondary more concrete meaning. This structure is inevitably a 'discourse form'. For instance, the authors elaborate with the example of the metaphor 'theme': 'argument is war'. They show how such a concept is commonly

23

reflected in everyday language, thought, and action. A common expression: 'He *shot down* all of my arguments' is a brief example of such a theme. Such concepts and expressions structure how we argue in western culture. Lakoff and Johnson invite us to imagine a culture where the concept of argument is structured by a metaphor of dance, where participants are performers. The authors rightly observe the fundamental difference between the two regimes of perception as one of discourse. Importantly, this discourse form is in a Foucauldian sense, a set of relatively organized practices and relations and not merely a linguistic catalyst of thought and action. I will return to this point in more detail later in the chapter. For now I will use another one of Lakoff and Johnson's examples to reiterate just how powerful such expressions are in becoming metaphors for complex cognitive and social processes. The popular western concept that 'time is money' is not only dominantly operative in our culture; it defines and structures our activities within that culture. The authors provide a brief list of the metaphorical expressions tied to this concept:

-You're *wasting* my time.
-This gadget will *save* you hours.
-I don't *have* the time to *give* you.
-How do you *spend* your time these days?
-That flat tire *cost* me an hour.
-I've *invested* a lot of time in her.
-I don't *have enough* time to *spare* for that.
-You're *running out* of time.
-You need to *budget* your time.
-*Put aside* some time for ping pong.
-Is that *worth your while*?
-Do you *have* much time *left*?
-He's living on *borrowed* time.
-You don't *use* your time *profitably*.
-I *lost* a lot of time when I got sick.
-*Thank you for* your time.

Lakoff and Johnson are right to assert that such expressions seem hardly without consequence. In advanced capitalist societies, among others, time is conceived of as a valuable commodity and a limited resource: western culture has organized labour and work around this very concept, paying employees by the hour, week or year, or *quantifying time* as hourly wages, hotel room rates, or interest on loans (ibid, 8). Although it seems quite natural to conceive of time as a valuable commodity, it is an historically specific metaphor arising partly from the growth of industrialized societies. Nor is organizing the modalities of social life in such a fashion a culturally universal practice – it has been equally plausible, for example, in some cultures to conceptualize time as 'a virtue'.

The above simply introduces the notion that seemingly 'natural' ideas are socially constructed through metaphor and how they, in turn, can structure more extensive sets of relations related to expectations and norms about social behaviour and the cultural organization of objects, technologies and social life. The metaphorical theme of 'memory as archive' (whether in specifically modern ideas about memory as an institutional storehouse for valued texts, or late modern notions of memory as a collaborative and distributed 'digital' archive) is derivative of the primary metaphorical root 'mind is container'. In everyday use, we often use phrases such as 'I've *got* an idea' or 'I can't get the thought *out* of my brain'. The notion of memory as a container which stores 'traces' is a recursive historical theme (Danziger 2008; Draaisma 2000), and a contested one at that. While chapter 3 will explore this notion far more extensively, it is necessary here to elaborate a little further on the literature concerned with the sources and functions of metaphor.

What Do Metaphors Do?

Indurkhya (cited in Colburn and Shute 2008) groups general theories of metaphor into two categories, *comparative* theories and *interaction* theories. Comparative theories assert that metaphor arises from *pre-existing* similarities between the source and the target, while the latter theory discounts any pre-existing similarity to instead argue that metaphors work through *interaction* between the source and the target (Colburn and Shute 2008: 528). One problem with comparative theories arises from the acknowledgement that within certain metaphors, there are no similarities present between the source and the target; rather, the similarity is *created* by the metaphor. Draaisma (2000: 12) provides a succinct example:

> In 'man is wolf' for example, the associations of 'wolf' – cruel, treacherous, wild –
> are linked to the associations with 'man' and a new meaning of man as a wolf-like
> creature is created. Because this metaphor conversely gives the wolf something
> human, the interaction between both sets of associations is symmetrical

In the case to be explored here, although it seems quite natural to assume a similarity between memory (source) and an archive (target), no such 'natural' similarity exists; it has to arise through the conjunction. For instance, the mind has been historically described through a metaphor of a 'machine' (in the seventeenth century the mind was most commonly figured as a clock, and with the advent of digital technologies in the twenty-first century, the mind is often correlated to a computer, where the computer initially described a person performing calculation). This gives us a perception of the mind as one which has 'an on-off state, a level of efficiency, a productive capacity, an internal mechanism, a source of energy, and an operating condition' (Lakoff and Johnson, 1980: 28). Having acknowledged the constructed nature of associations, interactional theories are also

problematic in their assumption of an already existing source and target concept, which are actually shaped and constituted by one another, and are thus produced in some sense by one another (Colburn and Shute 2008). In this way, the function of metaphor is best approached through a combination of comparative and interactional theoretical positions because 'Metaphorical thinking half discovers and half invents the likeness it describes' (Geary 2011: 9).

In reviewing theories of metaphor that try to account for its functions the following sections chart various aspects of metaphor: its discursive, linguistic, ideological and material features. This is necessarily a reflexive endeavour: describing what metaphors 'are' is itself metaphorical. The central aim here is to carve out a sociological approach to metaphor and position its study as a critical and significant pursuit.

Metaphors Constitute Language

I begin with what is perhaps the most common and widely held view of metaphor, one which positions metaphor as primarily a linguistic phenomenon which serves an *aesthetic* purpose. This has been the traditional view within much literary theory which sees metaphor as a devious use of language, and argues that it is often based on pre-existing similarities (Draaisma 2000). This conceptualization is directly reminiscent of Aristotle's definition of metaphor, which is explained in the 'Poetics' (350 BC) as 'the use of a strange name by the transfer from genus to species or from species to genus or from species to species or by comparison, that is: parallel' (cited in Draaisma 2000: 9). What has been preserved most commonly by this traditional definition is the notion of a parallel, although the use of 'a strange name' and the 'transfer of meaning' continue to be understood as the quintessential features of a metaphor. Most importantly, Aristotle's notion placed metaphor

27

within a realm of poetry (versus rhetoric or logic), which exiled it from an integral function to language, leading Aristotle to conclude that its primary function in relation to language was one of simple 'ornamentation' (Ortony 1993).

At the risk of reductionism, it would be fair to say that the western philosophical history of metaphor has been a one of evolving and varying responses to Aristotle's definition. Many scholars and philosophers opposed the 'decorative' function of metaphor proposed by Aristotle, to instead argue that metaphor is *integral* to language (Ortony 1993). Literary theory evolved to recognize metaphor as a fundamental aspect of all language, even in its literal sense. Once metaphor is positioned as a more active and constitutive element of language, it becomes socially ambivalent or even 'dangerous': a threat to literal meaning and 'clear thinking'. This line of thought is largely derived from Locke's denunciation of metaphor:

> 'But yet, if we would speak of things as they are, we must allow that...all the artificial and figurative application of words eloquence hath invented, are for nothing else but to insinuate wrong ideas, move the passions, and thereby mislead the judgement, and so indeed are perfect cheat'(Essay Concerning Human Understanding, Book 3, 105)[5]

Locke's implicit assumption of a 'language without metaphor' would seem somewhat impossible. Even in its most basic feature as an attribute of language, metaphor shapes our thoughts and practices, for language is not transparent (Ortony 1993). In sociological terms:

> The conventional metaphors in the discourses of race, sex, politics, defence, economics, environment, and so on, tend to determine our ways of thinking/consciousness and acting/practice in these social spheres (Gotly 2007: 4)

---

[5] Ironically, even Locke's own attempts to refute the power of metaphor are ripe with metaphors themselves such as 'move the passions' etc.

While literary and philosophical theories have shifted over time, they have often remained within the confines of the study of language in an abstract sense. As suggested above, they become of sociological interest when we think about the relationships between language and society. A linguistic or realist theory of metaphor simply would not suffice in a theory of memory digitization as 'The idea that metaphor is just a matter of language and can at best only describe reality stems from the view that what is real is wholly external to...how human beings conceptualize the world' (Lakoff and Johnson, 1980: 146). Such views of objective reality render invisible the active role of human aspects of reality by assuming that language 'creates the world' in an idealistic sense. The digitization of memory necessarily espouses a materialistic component both in the technological performance of memory, as well as the discursive propensity in structurally shaping social relations. Thus a sociological approach to metaphor must move beyond language as an autonomous system.

Metaphors Shape All Interpretation

If we accept the ideas above that language is metaphorical and 'creates' reality rather than simply describes it, then it seems that metaphor is integral to understanding *of any kind*, especially comprehension of emotions, abstract concepts, and complex ideas. Moreover, contrary to popular assumption, metaphor is integral to the scientific tradition just as much as it is integral to the literary realm (see Colburn and Shute 2008; Geary 2011; Rose 2007). This view is reinforced by those philosophers who argue that all interpretation is allegorical (see Jameson 2007). James Geary (2011: 96) has carefully traced various experiments which demonstrate 'the conceptual synaesthesia connecting our ideas of the concrete experience of space and abstract experience'. These findings are especially important for

future analyses of the ways in which concrete knowledge of archive spaces are tethered to abstract experiences of remembrance. Because memory is so abstract, and because we can never get to 'know' memory, we invent conceptual experiences of concrete things to match our abstract experiences of recall.

This largely constructionist philosophy of metaphor is firmly grounded in Nietzsche's philosophy, which sharply challenged metaphor's confinement to the literary domain. He argued:

> when we talk about trees, colours, snow and flowers, we believe we know something about the things themselves, and yet we only possess metaphors of the things, and these metaphors do not in the least correspond to the original essentials[6]

Thus for Nietzsche, metaphor is hardly a simple linguistic function but the imaginative process of coming to *make sense of the world* (Novitz 1987: 143), leading him to conclude that truth is no more than 'a mobile army of metaphors' that 'after long usage seem to a nation fixed, canonic and binding' (On Truth and Falsity in a Non-Moral Sense 1873). Nietzsche thus redefined metaphor to 'encompass nearly all human cognition and cultural activity' (Murphy 2001: 1). In stark opposition to the previous understanding of metaphor as external to the literal meanings of words, Nietzsche claimed that *there is no meaning* to language outside of metaphorical meaning (Murphy 2001: 24):

> The tropes, the nonliteral significations, are considered to be the most artistic means of rhetoric. But, with respect to their meanings, all words are tropes in themselves, and from the very beginning. Instead of that which truly takes place, they present a sound image, which fades away with time: language never expresses something completely but displays only a characteristic which appears to be prominent to it (Ancient Rhetoric, 23, 25)

---

[6] (On Truth and Falsity in a Non-Moral Sense, 1873)

Following this line of thought, many scholars and philosophers of the late 20th century have expanded this non-traditional view of metaphor, not only in linguistic and interpretive philosophy but perhaps especially within cognitive science, where a constellation of theories on metaphorical thought and language has been developed (Tendahl and Gibbs 2008)[7]. In contrast to analytic philosophers of the early to mid twentieth century, many cognitive linguists have studied formal structures of language 'not as if they were autonomous, but as reflections of general conceptual organization, categorization principles, and processing mechanisms' (Tendahl and Gibbs 2008; see also Gibbs 1994; Lakoff 1990). The significance of this is that the cognitive perspective of metaphor showed how metaphor is not contingent on *pre-existing* similarities as was previously assumed, rather it has the ability to *create* similarities between previously unfamiliar concepts. This insight has profound implications for social life by showing how metaphors do not simply describe reality – they also create reality (Lakoff and Johnson 1980). This immediately begs the sociological question: how do particular metaphors become dominant and how might this be socially determined?

Metaphors Construct the Social

> Since much of our social reality is understood in metaphorical terms, and since our conception of the physical world is partly metaphorical, metaphor plays a very significant role in determining what is real for us (Lakoff and Johnson 1980:146)

Lakoff and Johnson argue that our 'conceptual system' is central in defining our everyday realities. They argue for a resolutely cultural component of metaphor: 'The most fundamental values in a culture will be coherent with the metaphorical structure of the

---

[7] See Gibbs, 1994 for a comprehensive review of metaphor within cognitive science.

most fundamental concepts in the culture' (1980: 22). Metaphors therefore are implicated in constituting social order, from generating classifications to serving as the grounds for 'creating community' (Spence 2007: 10). One of the ways in which metaphors produce stability and become routinized is through social practice or performance. Lakoff and Johnson argue that metaphors become 'embedded' and 'preserved' in rituals within a culture. The cultural values embodied by metaphors are further propagated in ritual, which are structured practices. By performing these rituals we 'give structure and significance to our activities' (1980: 234). In this view, social practices and rituals form an indispensable basis of our cultural metaphorical systems leading the theorists to conclude 'There can be no culture without ritual' (1980: 234). Thinking more sociologically than anthropologically, ritual is also an expression of power (see Feuchtwang, cited in Radstone 2010).

Metaphors Stabilize Power/Knowledge Relations

This section will extend a post-structuralist reading of metaphor by incorporating Michel Foucault's (1970) work which has firmly established the ways in which power and subjectivity are discursively produced. While Foucault's theory of discourse is intimately tied to how language is used to exercise existing power relations, his analysis is relevant to this thesis in a secondary sense – mainly the influence and role of a conceptual framework on the production of discourse and the structure of knowledge (Foucault 1973). Since this thesis draws upon cognitive linguistic theories of metaphor, analyses which prime conceptual ordering of discourse are ideally suited. Foucauldian analyses argue that any power relations within society are exercised through forms of discourse which 'do not simply represent ways of speaking or writing, but the whole "mental set" and ideology

which encloses the thinking of all members of a society'[8]. Discourse as a set of social structures and relations mediates both the production of knowledge and its distribution and control (Tredinnick 2008). Metaphor is one such form of discourse as it frames different worldviews, which Foucault argues are made possible by the structural order of different phenomena through discourse (Foucault 1970). Importantly for my analysis of metaphor, the differences in ways of seeing the world, or specifically, the difference in understanding memory to be a static archive versus a collaborative distribution, represent classifications derived not from the properties of things, in this case technologies nor memory, but rather from the ways available to interpret them (metaphors). It is useful at this point to be reminded of the inextricable relationship between knowledge and power: 'there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time, power relations' (Foucault 1977: 27). This relationship is conceptualized in Foucault's writing as a 'regime of truth': 'Each society has its regime of truth, its "general politics" of truth; that is the types of discourses it accepts and makes function as true' (Foucault 1980: 131). By constructing an epistemology of memory which transfers knowledge about the archive to the production of knowledge about human memory, metaphor is exposed as a critical mechanism of power.

Through the mundane ubiquity of metaphor, knowledge about memory in such a specific regime is *naturalized*, hinting at the powerful connection between Nietzsche's view of metaphor as foreshadowing Foucauldian analyses which perceptively point to ideological and discursive regimes of truth. Bourdieu (1991: 134) observes the power of such connections: 'How can one fail to see that a prediction may have a role not only in the

---

[8] Barry 2002: 176 as cited in Tredinnick 2008: 118.

author's intentions, but also in the reality of its social realization,...as a self-fulfilling prophecy' (as cited in Goatly 2007: 26). This leads to the 'naturalizing' effect of such regimes of truth and prompts us to consider how particular interests may be served through this process. As Lakoff and Johnson observed 'The people who get to impose their metaphors on the culture get to define what we consider to be true' (1980: 36). For example, Geary (2011) reviews a few historical instances of these power relations by investigating how metaphors serve to colonize public opinion. He invokes Emily Martin's historic chronicles of metaphors of menstruation to show how they have infused textbook writing about female reproduction, and have garnered problematic assumptions of female anatomy in terms of 'failure' (the failure to reproduce). Martin cites one textbook reference source as a prime example: 'When fertilization fails to occur, the endometrium is shed, and a new cycle starts. This is why it used to be taught that "menstruation is the uterus crying for lack of a baby"' (cited in Geary 2011: 130)[9]. The potency of metaphors lies in their ideological potential.

Metaphors Are Ideological

The main thesis of Goatly's (2007: 30) book is that 'conventional conceptual metaphors construct and reproduce ideologies, and justify or reproduce certain behaviours' (this view is also shared by Fairclough 1989; Geertz 1973; Gibbs 1999; Mey 2006). Ideology can be defined as

---

[9] An important avenue of research is the gendered analysis of metaphor which must incorporate Helene Cixous' assertion that all language is gendered in order to critically examine metaphor's role as a mechanism of power in creating and sustaining gendered imbalances in social relations.

the basis of the social representations shared by members of a group...ideologies allow people, as group members, to organise the multitude of social beliefs about what is the case, good or bad, right or wrong, for them and to act accordingly (van Dijck 1998: 8).

Marxist definitions of ideology center around 'false-consciousness,' or a distortive representation of (material) reality (Goatly 2007). A Gramscian position builds on this to develop the theory of hegemony, which tries to account for how dominant ideologies are achieved through some form of consensus. Most significant here is: 'Hegemony depends upon the naturalisation of ideology as common-sense, and thereby makes ideology latent or hidden' (Goatly 2007: 1). As stated earlier, the ubiquity of metaphor leads to a two pronged consequence: on the one hand metaphor is everywhere, yet on the other hand, it becomes mundane precisely because of its ubiquity and, following the ideas developed so far leads to its 'hidden' or latent operation as a mechanism of power.

In the rare instances of contemporary research concerned with the ideological potential of metaphor, this potential is described as arising from the partial structuring that occurs when one employs metaphor. For example, Goatly invokes Murray Edelman (1971: 68) to explain further:

> Metaphor, therefore, defines the pattern of perception to which people respond...Each metaphor intensifies selected perceptions and ignores others, thereby helping one to concentrate on desired consequences of favoured public policies and helping one to ignore their unwanted, unthinkable, or irrelevant premises and aftermaths. Each metaphor can be a subtle way of highlighting what one wants to believe and avoiding what one does not wish to face (cited in Goatly 2007: 30).

When thinking about the role of metaphor in structuring power relations, or even reality more generally, an important aspect identified above is that this structuring is *partial*. Metaphors amplify *some* aspects of a concept, while hiding others. Goatly (1997: 2) finds a

succinct example in the strategic game of chess as a metaphor for battle. This metaphor highlights select attributes of a battle such as 'casualties, relative power and mobility of fighters, and positions of forces' while ignoring 'supplies of weapons, topography and weather'. Goatly goes on to explain that while metaphor makes this partial structuring visibly obvious, it is actually an inherent feature of any act of classification and conceptualization. Metaphor then, 'demonstrates, in an exaggerated way, how all classification constructs a representation of experience on the basis of selective perception' (2007: 3). This leads us to examine the ideological potential of metaphor and rhetoric, their role in constituting seemingly neutral classifications, and also the ways in which they can be contested, appropriated and resisted.

Metaphor, as a mechanism of ideology is necessarily *ambivalent* (Goatly 2007: 4-5). Goatly (2007:4) references the metaphor 'disease is an invasion' to show that the control of disease through antibiotics for instance, in its reliance on this conventional metaphor, has had many positive consequences for health care. In other words, arguing that metaphors have the potential to become elements within ideological formations does not necessarily tell us how they will actually be intentionally or unintentionally employed, whether this will be 'successful', and what the social consequences will be. A sociological approach to metaphor seeks to show how metaphors are institutionalized, employed, articulated, and sustained and how this relates to power in society, rather than simply critiquing the use of metaphor. Moreover, metaphors are equally central to political subversion: 'By...structuring concepts differently metaphors have a potential for challenging the commonsense categories of knowledge' (Goatly 2007: 28). Resistance through 'remetaphorisation' (Punter 2007: 53), or through what Deluze and Guattari called 'reterritorialisation' of conquered realms (Deluze and Guattari, 1998: 111-48), becomes a critical potential of resistance.

In this sense, Punter (2007: 56) describes the ambivalent potential of metaphor either as a tool of resistance, or as a weapon of ideology:

> On the one hand, our freedom to metaphorise is an essential aspect of our more general human freedom. If we think, to paraphrase Hamlet for a rather different purpose, that a cloud looks very much like a camel, we are free in a democratic society to say so, and at least to offer this perception to others, even if they disagree. But if, on the other hand, we see a picture of a camel on a pack of cigarettes called, unsurprisingly, 'Camel', then we are not free: we are constrained in our perception

The importance of this insight is that it situates my research not as a critique of metaphor, but as a *critique of modern metaphors of memory* which have come to propagate problematic humanist ideals of memory which become contested within digitization.

Metaphors Constitute Sociotechnical Relations

This section is intended to show how metaphor constitutes technology in a sense, by providing models for the design of technologies, and by becoming stabilized in technology through the use of those designs. This illustrates how power relations between techno-social relations become stabilized, which Bruno Latour urges can only be understood by moving away from exclusive analyses of social relations to incorporate 'non-human actants' (1991: 103). If we are to heed Latour's advice we can think of technology as metaphorical – that is it actively 'stands in' for how we see the world and position ourselves to the objects around us. Latour adds that social theory can benefit greatly from a history of technology. I argue that this history inevitably includes metaphor. For as long as humanity has engaged with tools, we have narratively positioned them to ourselves and to the world in specific (and usually anthropocentric) ways, creating intrinsic and seemingly natural divides between

ourselves and objects and devices. Importantly, we must remember that 'society and

technology are not two ontologically distinct entities but more like phases of the same

essential action' (Latour 1991: 129). This action is as Latour describes a chain of human

and non-human associations where power assumes the whole chain and not any one single

element; relations cannot stand alone as 'technical' or 'social', and I would thus add;

depend in large part on a narrative positioning of the links in this chain. He alludes to this

propensity:

> The main difficulty of integrating technology into social theory is the lack of a
> narrative resource. We know how to describe human relations, we know how to
> describe mechanisms, we often try to alternate between context and content to
> talk about the influence of technology on society or vice-versa, but we are not
> yet expert at weaving together the two resources into an integrated whole (1991:
> 111)

This is where a reflexive account of metaphor comes in. It goes beyond discourse and

partially constitutes 'the weaving together' of memory and technology into 'an integrated

whole' which in modernity assumes an 'archival' memory, and which is currently being

contested in interesting ways.

Conclusion

This chapter reiterated the importance of an analysis of dominant metaphors to a

sociological study of the digitization of memory. It argued that metaphors are constitutive of

the social and are important underpinning factors of power and discourse by charting how

they become realized not in language but as and through technologies. It suggested that

metaphors of memory construct and constitute the possible fields of digital culture in not

only discursive, but material terms. Metaphors become classifications that are incredibly

powerful (Bowker 2005; Bowker and Star 1999). They create, shape, and reflect reality. Bourdieu was right to point out that social and political struggle is a 'struggle over the power of preserving or transforming the social world by preserving or transforming the categories of perception of that world' (1991: 236). In this way, employing specific metaphors *ideologically* to propagate a particular paradigm of memory has profound consequences, particularly when 'control of a society's memory largely conditions the hierarchy of power' (Connerton 1980: 1). This is of particular significance for the digitization of memory, but perhaps more important, for the digitization of the social and the transformations in socio-technical relations. Roland Barthes (1978) famously wrote about the 'rhetoric of the image' to illuminate how seductive means are employed to convince us to see things a certain way. Metaphor tempts us with the same seduction; it constructs particular forms of knowledge.

For example, the conceptual framework 'memory is archive' amplifies the preservative or 'copying' character of memory, yet undermines the fluidity of memory; the disorganized nature of remembered events; the non-uniform character of re-constructed recall; the non-linear and often non-chronological order of memory; the selected character of history and public memory; the inevitability of forgetting and with it, the hegemonic consequence of social amnesia. The particular problems engendered by the metaphor of a memory archive will be discussed in detail in the next chapter. By showing how memory has been metaphorically, socially, and culturally constructed in particular ways with the use of metaphor, this chapter has situated the study of memory into a socio-historic constructivist approach which is able to contend with changing classifications of memory within digitization.

:: CHAPTER THREE ::

Deconstructing the Archive: The Co-Evolution Of Memory And Photography

This chapter aims to show how dominant understandings of memory in the contemporary period have been shaped by the expansive metaphor of an 'archive' and have themselves, in turn, become *stabilized* within the technologies and practices of photography from its 19th century inception, positioning photography as a neutral 'tool' for memory making and sharing. This taken-for-granted characteristic of photography is reinforced by institutional and popular discourse as an intrinsic feature of the technology. This chapter will focus in particular on the development of 'snapshot' photography, as the most pervasive form of photography that stabilized the notion of archiving personal and cultural memories, in order to develop two lines of inquiry.

Firstly, I want to show that the idea that memory functions according to, and is characterized by a visual archive, is a socio-historical construct firmly grounded as an epistemology of memory long before the advent of photography. This claim enables a critique of deterministic notions of the technologization or commodification of memory in modernity. Secondly, I want to argue that, nonetheless, the advent and proliferation of popular or personal photography conceived as a neutral archiving tool has reshaped memory practices. This mutuality between metaphors of memory and technologies of photography leads toward a consideration of the cultural continuities and discontinuities of the advent of digital cameras in relation to transformations in memory-making, while pointing to simultaneous 'memory crises' within memory studies. Following this, the chapter argues that while digitization has undoubtedly enabled novel memory practices,

these do not constitute a paradigmatic shift but rather a subtle reframing of previous conventions and classifications.

Introduction

The first half of this chapter is devoted to establishing 'archiving' as a pre-modern epistemology of memory in order to argue that such metaphors have significantly shaped developments in memory technologies and practices. This will be done by situating the metaphor and the metaphorical themes within the philosophical writings of Plato and Aristotle, and later Freud, and several others in order to show how concepts of memory were 'archival' in nature long before the birth of photography in the 19th century. To illustrate this claim I will discuss a prominent predecessor of the modern photographic camera: the camera obscura. While this technology certainly had the capability to 'reproduce' nature and 'arrest' visual representations of reality, it lacked a copying or archiving ability, and consequently failed to become a conceptual model for memory. Similarly, the lack of a copying function prevented the images from circulating as commodities, yet an alternate technology of memory nevertheless failed to materialize. Rather than placing technology as the primary or external catalyst of change, this chapter will instead show how the cultural notion of archiving becomes stabilized in technology through 'snapshot' photographic *practice*, before going on to review the ongoing mutuality of memory and technology in the latter part of the chapter.

Reviewing empirical data of previous memory making *practices* is something of a challenge, since little to no detailed record of early amateur or personal photographic practice exists, and also the invention of the medium currently recognized as photography was prefigured by many inventions and multiple *photographies* (as several different image-

making methods were created). As such, it is difficult if not impossible to construct a historic narrative of photography (Marien 2006; Tagg 1998). Moreover, photography was at once 'at odds with itself', partly due to its constant re-invention by the 'social uses to which it was put and the cultural dialogue surrounding it' (Marien 2006). This suggests that a linear evolution of a singular photography is not a plausible trajectory. Perhaps it is more useful to extend a discussion of the history of photographic 'economies'; landscapes which reflect the ebbs and flows of the medium rather than a photographic history or culture which assumes homogeneity (Pinney 2003). Bearing in mind the difficulties in attempting to narrate this history, I suggest here that it is useful to identify historically dominant metaphors employed at the time of photography's inception. As Draaisma (2000) observes 'metaphors are guide fossils'. By revisiting the available discursive accounts of memory, we can establish the connections between dominant ideas about memory and about photography which will provide a context for future arguments about the changing role of archiving within digital photography, and within the present so-called digital culture.

It has been argued by others that a revisionist history of popular metaphors (of memory) is a rich sociological methodology since metaphors are in themselves reflections of a culture (Draaisma 2000; Kovecs 2005; Lakoff and Johnson 2005). Lakoff and Johnson (1980: 22) articulate this view arguing that 'The most fundamental values in a culture will be coherent with the metaphorical structure of the most fundamental concepts in the culture'. Several theorists at the present time have observed that memory itself has become the most fundamental value in our culture. Memory is no longer an index of value delineating that which is 'memorable'; rather, memory itself *becomes the value.* In other words, it is now important to remember in its own right (Gillis 1994). The focus of exploration here becomes the ways in which memory is not an isolated concept but one with a metaphorical

structure that is made manifest in institutions, technologies and practices. As Danziger (2008: 9) summarizes:

> Precisely because they have never existed in isolation, but have always been part of a network of interrelated phenomena, conceptions of memory have been implicated in the social manifestations of memory. Their history therefore has to be examined in relation to memory technology and the social practices linked to memory

In what follows I will outline the cultural dominance of the archive metaphor, and situate it historically within pre-modern discourses of human cognition.

'Image'-ining Memory: The Epistemological Roots of Archiving

The greater part of the history of humanity predates modern technologies, and even writing. To understand memory we must understand how knowledge and information was disseminated, communicated and transferred historically and what epistemological implications this has for changing classifications of memory today. I suggest that it is helpful here to understand historic changes in conceptions of memory through Danziger's theory of 'mnemonic values': 'culturally grounded assumptions about what is most worth remembering, what ought not to be or need not be remembered, how the shards of memory should fit together, what kinds of tasks memory should be expected to serve' (2008: 20). This is particularly useful to a sociological analysis of memory. Danziger goes on to argue that 'Such mnemonic values always imply certain conceptions of the nature of memory' leading him to conclude that historical changes of memory practice were derived from *discursive* changes in memory reflecting transformations in 'mnemonic values' (2008: 21). In other words, in order to investigate changes in photographic practices and

technologies, a sociological approach must explore the transformations in 'mnemonic values' in the first instance. This section will chart the most dominant values which conceptualized memory through a kind of 'storage space' where memories are easily and permanently archived. As Danziger (2008: 25) notes: 'the storage metaphor, which invites one to think of memory as a container holding "traces" of some kind, recurs in many recognizably similar guises over the centuries'. The following sections will deal exclusively with such guises in order to situate memory archiving as a distinctly pre-photographic discourse, grounding it firmly in a broader cultural paradigm.

The most significant metaphor of memory in antiquity was the 'wax tablet'. Socrates conceptualized memory as a 'wax block' which in Plato's *Theaetetus* is described in the following way:

> and whenever we want to remember something we've seen or heard or conceived on our own, we subject the block to the perception or the idea and stamp the impression into it, as if we were making marks with signet-rings. We remember and know anything imprinted, as long as the impression remains in the block; but we forget and do not know anything which is erased or cannot be imprinted[10]

This metaphor ascribed to memory two 'intrinsic' characteristics which are especially important in a discussion of the digitization of memory: objectivity and permanence. Both the memory (experience), as well as the wax block is positioned as being objective. In this metaphor, memories are not *mediated* by either subjective experience of the remembered event, nor are they mediated by the material (wax) object. Moreover, once objectively stamped and (im)pressed into the wax, the imprint becomes permanent: we 'know it as long as the impression remains in the block'. These historically and culturally specific qualities of memory have become further naturalized during modernity, within

---

[10] Plato, Theaetetus, as cited in Draaisma, 2000: 25

which memory as a distinctly permanent and objective archive of the self has been established as *the ideal* desirable state of memory. The emergence of various forms of photography late in the 19th century became entangled with these idealized models of memory. The ways in which an association between analogue photographic processes and notions of objectivity and permanence was established have become all the more evident during the digitization of photography, showing how contentious such associations were in the first place but also how much of a hold they have had on our thinking about photography and memory (see Lister 1995).

Socrates' metaphor has had a second, perhaps even more powerful implication for how we understand memory in the present. The early conceptualization of memory as a wax tablet where experiences are simply 'transferred' or stamped onto an inanimate surface has figured the object of memory to be a 'tabula rasa'. This classification has profound sociological implications. For one, once such metaphors become embedded within technological devices, the device is inscribed through a similar discourse of a tabula rasa: the technology itself is figured to be ambivalent and 'blank'. This has proven problematic within the digitization of memory. This metaphor effectively positions technologies as passive objects on to which memories are simply transferred (usually by a simple 'touch of a button' as will be explored in the next chapter), thereby neglecting the technological mediation of digital memories. Perhaps most importantly, the metaphor of a wax tablet has conceptualized memory as a distinctly *visual* 'impression': an image left behind in the wax much like 'marks from a signet ring'. Aristotle's theory of memory came to strengthen this point even further. In *De Memoria et Reminiscentia*, Aristotle explains that experiences

become absorbed by the senses, which leave an 'eikon' or *image* in our memory, and are eventually stored in the heart.[11]

Draaisma (2000) reminds us how such ancient metaphors still bear etymological traces; particularly when we speak of memorizing a script 'by heart'. However, these metaphorical structures did much more than leave a set of semiotic traces: Aristotle's theory of a memory 'image' within the body characterized memories as *material* traces. Following Plato and Aristotle, the classical and modern literature of memory from Cicero and Augustine to Freud, centered on the same material 'impressionability' of memories. This bodily materiality was even ingrained within the medical paradigm of memory which localized it in the rearmost ventricle of the brain, where memories were literally 'stored in the back of the mind', a theory which 'remained unchallenged for over fifteen hundred years' (Draaisma, 2000: 25). The material quality of memories has had deep implications for the digitization of memory, which will be explored in detail in the next chapter. For now it is important to note that centuries before the advent of photography, memory was already categorized as a material, objective, and permanently stored *image*. While these characteristics have been commonly attributed to the rise and cause of photography, they were already rooted as an established epistemology and ontology of memory. Photography, as an idea, a set of technologies, and as practices – became inextricably tied to this conception of memory. This is partly due to the discourse of 'objectivity' which framed early institutionalized uses; scientific practices, and bureaucratic employments of memory. A strong account of the technical objectivity of the photographic process (rather than the subsequent meaning making activities) led Barthes (1978) to conclude that a photograph's 'being thereness' is simply unavoidable.

---

[11] Aristotle, De Memoria et Reminiscentia, as cited in Draaisma, 2000: 25

In addition to the figuration of memory as a visual image, metaphors of memory have solidified it into an 'archivable' construct. While the 'preservative' characteristic of memories is widely thought to be the technological effect of photography which has enabled various practices of storing, collecting, cataloguing, and album-making, or a wider effect of industrialization and the printing-printing press, it too has deeper cultural roots as a metaphorical theme. The ordered archiving of remembered events which seems second-nature to photography as we understand it now is intimately tied to the pre-modern social practice of 'mnemotechnics' or 'memory training'. This practice is commonly described as the 'rules of memory'. In his *De Oratore* Cicero explains that persons who wish to train their memory must 'select places and form mental images of the things they wish to remember and store those images in the places, so that the order of the places will preserve the order of the things, and the images of the things will denote the things themselves'.[12]

The discovery of these memory 'rules' are commonly credited to the poet Simonides. The story of Simonides is very popular in ancient Roman texts, and recounts how Simonides escaped a great tragedy when the roof of a banquet hall caved in, crushing the guests bodies and faces so that they could not be identified by their relatives for burial. The crucial part of the story lies in Simonides' acclaimed memory- he was able to *remember* the sequence of seats in the banquet hall, and was thus able to *identify* each of the bodies for the relatives. Cicero narrates that this experience revealed to Simonides the principles of memory, where 'The key to a good memory is thus the orderly arrangement of the objects to be remembered' (Rose 2003: 73).

These rules were appropriated in educational strategies of memory. Students were instructed to store memories in mental images of 'houses' or 'theatres', and were

---

[12] Cicero, De Oratore, II, Ixxxvi, 351-4, as cited in Yates, F. *The Art of Memory*. Penguin: 17-18

encouraged to place the items to be remembered in a pattern within the imagined space. These metaphors and mental images gave rise to the metaphor of the 'archive' to describe memory as a capacity of retention: a space for storage and ultimately, as in the modern state form, *preservation*. This shows how the early social *practices* engaged with memory, such as memotechnics and the discursive framing of memory came to provide the intellectual conditions for the possibility of modern social institutions such as libraries and archives - the physical spaces for the orderly preservation of memories in ordained compartments or 'shelves'.

The invention of the modern photographic camera has had significant implications for discourses of truth and knowledge, as it has been routinely placed within a 'realist' paradigm where the medium is applauded for its objective accounts of reality, particularly in relation to scientific practices and the bureaucratic activities of state institutions seeking to identify and classify 'others' (the criminal, the insane, the deviant, and so on) (Tagg 1988). Yet prior to its invention, a 'scopic regime' which correlated the relation between 'sight' and 'reality' as potentially objective was firmly rooted in a powerful metaphor: 'seeing is believing'. Now a common adage, this metaphor was governed by John Locke's (1690) canonical writing which epitomized 'sight' and visuality as central determinants of reality. The metaphorical origin of framing knowledge as a kind of vision can be traced back to the Classical period, where natural light or *limen naurale*, was correlated with intellect, understanding, and knowledge (Draaisma 2000). It is common to speak of the *light* of reason, the *Enlightment* as the age of reason, and '*looking* inward' as the process by which we come to 'know' ourselves. Even simple everyday utterances of speech such as 'I *see* your point'; 'his *view* on the matter *sheds light*' or 'I'm in the *dark*' continue to conflate vision with understanding and knowledge. Translated from its Greek meaning,

photography is the process of 'photo-graphesis': the process of 'light-writing'. The early

application and discourse of photography very much reflects this conceptualization; it

centered on scientific realism and knowledge dissemination. In other words, the pre-

modern conceptual regime which equated knowledge with vision placed (organic or

mechanical) sight as a vital vehicle for arresting images of reality in the archive of memory.

The above examples work as illustrations of the socio-historic *construction* of

dominant understandings of memory, in order to decentre the technologies of storage,

archiving and so on as the primary drivers of modern regimes of cultural memory. While

the context of industrialization, and industrial capitalism, provides the context for the

further development of many of these 'effects', we can equally attribute the salience of the

ideas in terms of modernist desires or cultural appetites to 'arrest' and fix reality by

conceptualizing memory as visual, material, and permanent reflections of objective truth.

As French historian Pierre Nora observed: 'Modern memory is, above all, archival. It relies

entirely on the materiality of the trace, the immediacy of the recording, the visibility of the

image' (1989: 13). Our conviction that the world is 'knowable' through visual images has

ontological implications for memory and technology today, as the dominant faith in

photography as an impartial image-maker – regardless of the accompanying critique of

photographic representation - eventually altered the human relationship to memory

(Marien 2006: 79). The next section explores the mutuality of these associations further by

investigating how photography came to stabilize 'archiving' as a meaningful social practice.

The Historical Construction of Photography

To collect photographs is to collect the world (Susan Sontag, 1973)

While it is clear from the previous section that metaphors of memory as storage originated long before the invention of photography in the nineteenth century, I want to present an additional critique of deterministic analyses of technology by reviewing an antecedent to the modern photographic camera: the camera obscura which failed to produce an 'effect' of memory despite its ability to represent, and 'fix' the natural world.

Camera Obscura: Toward a Magic Lantern of Memory

Prior to modern photography, the 'scopic regime' outlined above enabled several technical developments concerned with visually representing reality. Draaisma (2000: 103) attests that 'By about 1800 there was a range of possibilities for manipulating visual experience, for enlarging, reducing, lengthening or shortening, colouring or doubling perception at will'. These possibilities were enabled by theories of memory at the time, which were informed by metaphors of 'para-optics'; metaphors which 'reconstructed the image of consciousness as a ghostly theatre in which quasi-sensory images are projected' (Ryle 1949, cited in Draaisma 2000: 104). The origin of para-optic metaphors can be traced to the early camera obscura through Descartes' writing in *Dioptrique* where he compares it to the eye[13], leading modern theories of memory to be described as a 'medullary screen upon which the objects painted in the eye are projected as by a magic lantern' (Lamettrie 1747, cited in Bussey 1912: 107). While the camera obscura provided

---

[13] reflecting a tradition which began in early seventeenth century which favoured 'mechanical' analogies for biological systems (Draaisma 2000: 105)

what seems like the corollary technology needed to project images onto a screen - it did not

succeed in becoming a metaphorical model of memory. Something was missing. It could

not succeed in producing multiple images, or 'copies' as was demanded by the archival

metaphor which sustained this model at the time.

The technology which made the camera obscura possible was first discovered in

500 B.C in China, when it was noticed that light emanating from an outside landscape,

when channelled through a small opening or aperture onto a dark surface, could produce a

visual replica of the external scene. This discovery was formalized in the early camera

obscura[14]; a darkened chamber with a hole in one of its walls, where light entering through

the small opening would project an image of the outside world on the opposite wall of the

chamber (Draaisma 2000).
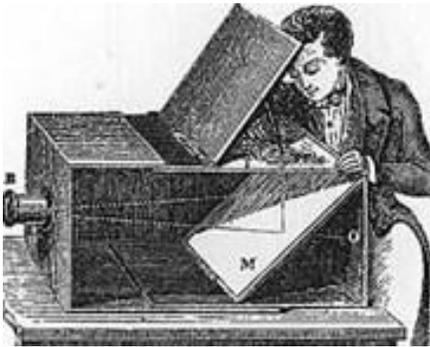
This technology became an indispensible tool

employed by scientists, astronomers, painters, artists,

and draftsman alike because of its perceived facility in

recording an objective view of reality (Draaisma 2000).

Yet it was burdened by what looks retrospectively like

an inherent flaw; nothing of the projected image could be preserved.[15] As Draaisma (2000:

109) aptly concludes: 'The camera obscura had no memory. Despite its *technological*

features and propensities – namely the ability to fix reality into a visual trace, it was unable

to correspond to the *cultural* desire intimated by the archival metaphor of the time. The

camera obscura lacked a 'copying' or 'archiving' capability. Nor were the practices

associated with it, namely tracing, apt for the 'automatic' transfer of memories onto

---

[14] Figure 1.1. Greenslade, T (1978). *Nineteenth Century Textbook Illustrations XXI: The Camera*
[15] at least not without laborious tracing, an objectively 'unreliable' method demanded by cultural ideas of
memory making as 'easy' and 'automatic' transfers to ready sources.

'ambivalent' surfaces outlined in Socrates' early model. The point here is that it is the subsequent ability of photographic technologies to produce fixable and storable images configured the technology with the established cultural notion of memory outlined above, in what that the camera obscura could not.

The Invention of Photography: The solidification of Archiving Memory

Although many had tried before him[16], Joseph Niepce was the first to successfully produce a photographic image through what he deemed the process of 'heliographie'. Translated from Greek to mean 'sun writing', this process illuminated an exposed image onto a chemically coated glass plate. Despite numerous failed attempts to configure 'heliographie' with the technology of the camera obscura, Niepce produced a photographic record of the view from his courtyard window, now commonly recognized as 'the first photograph'.[17]

The process of heliographie was unstable due to the blurry quality of the images produced, and was publically inaccessible partly due to the esoteric involvement of various chemicals. As a result, Niepce partnered with Louis Daguerre, a French illusionist who would eventually become successful in publically marketing this photographic process. After Niepce's death in 1833, Daguerre sought to perfect the process by using iodine

---

[16] Schulze experimented with silver nitrate in 1727 and discovered the first negative-positive process. Similar experiments were conducted in England by Thomas Wedgwood and Humphrey Davy by who succeeded in making exposures, yet failed to fix the images (Draaisma, 2000).
[17] Figure 1.2 http://74.125.67.100/imgres?imgurl=http://www.smashinglists.com/wp-content/uploads/2010/03/1st-photo-ever.jpg

vapour to sensitize the glass plate, infusing it with mercury to make the exposure visible, and adding salt to fix the exposed image. While this procedure (much like Niepce's) did not create the possibility of producing multiple copies of the image, or establishing heliographie as a tool for archiving experiences and memories, it succeeded in refining the heliograph into the *daguerreotype*.

While initial efforts to patent the daguerreotype were made difficult by his reputation as an illusionist, Daguerre finally publicized his invention on January 7, 1839 with the support of the French Academy of Science who corroborated the originality of his discovery. The ontology of the early photograph was grounded in the medium's ability to replicate reality autonomously, seemingly without discursive intervention (as with the camera obscura). This was strongly advocated by Daguerre himself: 'The daguerreotype is not merely an instrument which serves to draw nature....[it] gives her the power to reproduce herself' (1838 cited in Sontag 1973: 188). Although the photographic medium was to be altered by Henry Fox Talbot only three weeks later, the admittedly short history of public and academic discourse around the early daguerreotype mainly centered around scientific realism and knowledge dissemination. It was not until the medium acquired an archival copying capability with Talbot's process that the photograph was afforded with a 'memory'. Talbot's process, named the 'Calotype', capitalized on this ability through a 'photographic drawing negative' which created the potential to reproduce infinite copies of the image (Elkins 2007). This early photograph was called the 'permanent mirror which retains all impressions' (Thames and Hudson, 2002: 31), infusing it with a mnemonic metaphor. Indeed, 'photography was the invention of a "mirror with a memory"' (Holmes, 1859 cited in Draaisma 2000). This metaphor was turned on its opposite axis after 1839, when 'human memory became a photographic plate, prepared for the recording and

reproduction of visual experience' (Ibid). This illustrates the mutually constitutive relationship of technology and memory; the possibilities of memory are shaped by technology, yet the design and use of technology is shaped by existing metaphorical themes underpinning conceptions of memory.

By tracking the development of popular metaphors of memory from Antiquity to the present, we are able to understand the invention of photography not as a radical and completely 'new' phenomenon, but rather in terms of its location within available theories of consciousness, memory, and reality. In this sense, the very idea of photographic 'invention' is problematic, in the sense that the multiple technical developments spanned nearly two decades and were the outcome of far longer cultural trajectories of thought.[18] Yet we often forget the complex cross-pollination of socio-historical, political, economic and cultural germinating seeds out of which photography, both as a phenomenon and as a philosophy, was born. This distinction is a reminder to the reader that photography is both a technology and a 'way of seeing' the world. While photography solidified the epistemological conception of memory into an *inscriptional* form, these material inscriptions themselves needed to be performed to become socially stable and routinized practices. The next section will deal exclusively with the practice of 'snapshot' photography and the ways in which it 'congealed' the archival paradigm into an everyday function of memory.

---

[18] In a momentary digression I would like to draw attention to the cultural environment surrounding photography's inception, where experimenters all over Europe and Britain were motivated toward a discovery of a medium which could supplement the lack of 'memory' of a camera obscura. Reviewing the wide scope and geographical span of such inventive attempts, Draaisma (2000: 116) has remarked: "It is striking how the invention of photography was in the air". Conversely, I understand these occurrences not as coincidences but as predictable outcomes of a period in time governed by a rhetorical regime that correlated the relationship between sight and reality, as well as arresting these 'truthful' accounts of reality into a permanent memory: an archive.

Storing Snapshots: The Performance of Memory

As was previously shown, early employments of photography largely centered on scientific realism and knowledge distribution, until the rise of personal snapshot photography, which reinforced the photograph's propensity for memory, precisely due to its 'archiving' capabilities which potential users could now take advantage of through practices of cataloguing and album-making. Susan Sontag (1973: 3) points to the metaphorical quality of personal photography to act in line with archiving: 'the most grandiose result of the photographic enterprise is to give us the sense that we can hold the whole world in our heads – as an anthology of images'. The narrative proposition of memory as an archive, or anthology to use Sontag's words, becomes convincingly *performed* with 'everyday' snapshot practices of image-making.

Before reviewing these practices it is imperative to establish what is meant by 'everyday' or 'snapshot' photography. This practice is dominantly centered on the capturing of mundane everyday moments in peoples lives, by amateur camera users (Murray 2008). Barbara Harrison (2004: 23) has provided a sociological conceptualization of the role of snapshot photography by looking to the ways in which photography is produced and consumed in everyday life, and the 'different ways in which people participate in these processes of consumption and production'. The practice of everyday photography is socially significant precisely because of its assumed banality. As Slater explains; 'it reduces any cognizance that one is "doing photography" and it conceals the conventional character of the practice'. This finding is consistent with much recent empirical research on snapshot photography. Barbara Harrison (2004: 25) found this to be particularly expressive in her interviewees: 'Some [of them] were surprised that they could talk at length about their photographic practice, the images they produce and what they do

with them. For many it had a "taken for granted'" character'. This conventional character

of everyday photography suggests that it is a highly socially regulated practice. As Bourdieu

(1990) explains, while everything can be photographed (theoretically and with the available

technological devices), only certain things are.

Modern snapshot photography arose along with the mass dissemination of cameras

(Murray 2008), specifically with the introduction of the Kodak Brownie in1900: an

affordable and portable means of documenting everyday life. This in part enabled

photography to become a near universal social rite rather than an artistic or commercial

pursuit (Sontag 1973).[19] Family life was increasingly documented along with leisurely

activities and touristic experiences (Sontag 1973). It should be noted here that the rise of

snapshot photography was significantly shaped by the commercial marketing of cameras

such as the Brownie as *strategic* components of 'normal' domestic life (West 2003).

However, attesting to the co-evolution of photography and memory, personal image-

making was equally indebted to early social practices, namely portraiture and the

production and dissemination of 'carte-de-vistes' (which I will revisit shortly). Historically,

the early practices of portraiture (following painted portraits) staged the medium's capacity

in capturing self-images and images of loved ones as fixed mnemonic representations. This

is fondly expressed by one early portrait subject:

> I long to have such a memorial of every being dear to me in the world. It is not
> merely the likeness which is precious in such cases – but the association and the
> sense of nearness involved in the thing…the fact of the *very shadow of the person*
> lying there fixed forever! It is the very sanctification of portraits I think…I would
> rather have such a memorial of one I dearly loved, than the noblest artist's work
> ever produced (Elizabeth Barrett, 1843 letter to Mary Russell Mitford, cited in
> Sontag, 1973: 183)

---

[19] Although commercial and industrial avenues of photography continued to thrive alongside personal
photography

This is important as it shows that while portraiture is more often than not academically linked to identity (re)construction, on-the-ground experiences reveal interesting nuances for notions of memory. The above statement – while recognizing the (albeit vexed) indexical or referential basis of photographs – considers it subordinate to mnemonic functions of material 'keepsakes', which are archived ('fixed') 'forever'. The eventual spread of this material value of photographs into family album-making or scrapbooking projects is emblematic of 'archival' memory management. Canadian art historian Martha Langford observes: 'A photographic album is a repository of memory. A photographic album is an instrument of social performance' (2006: 223). In this way, the archive paradigm of memory is generally typified by the album.

While domestic photography is partly framed by a commercial imperative to produce consumer goods and photographs as commodities, a whole range of 'on-the-ground' memory practices became the rationale for the practice among the popular image making culture. Family album making may very well be a vehicle used to sell products and services, but it is not what gives it it's meaning in everyday contexts for most users. Rose (2010) has completed extensive interviews with family members actively engaged with domestic practices of photography and has come to a similar conclusion – the crucial point of family photography lies in photos which don't show much, or very clearly, yet are nonetheless kept because of who took them and in what contexts:

> Family photographs cannot be identified solely on the basis of what they show...as so much of the critical literature assumes. It is certainly the case that family photos only picture a certain range of subject matter, in a certain way...But their content is only part of what defines them as family photographs. Equally important is what is done with them. Family photos are particular sorts of images embedded in specific practices, and it is the specificity of those practices that

define a photograph as a family photo as much as, if not more than, what it pictures (Rose 2010: 14)

While critical research has pointed to the commodification of family photography where the album becomes a typified commodity picturing established conventions of consumer family practice or leisure activities, Rose illustrates that the content, and its commodification is not what affords the family photograph its status as a domestic memory. The first half of this chapter situated the 'archive' as a socio-historic construct which became performed by photography – specifically snapshot domestic photography - the next section explores the 'mutuality' between metaphors of memory and technologies of photography by questioning digital transformations in memory-making in light of cultural continuities and discontinuities. The section will point to transgressions of memory-making within digitization while questioning the assumed epistemic shift in memory culture.

Digital Snapshots: Promises and Threats to Memory

This section will map the convergences and disruptions between analogue or film photography and digital photography as they relate to early photographic theory in order to provide a sound background for future scrutiny of 'new' memory tools. While an exhaustive review of photographic theory is outside the scope of this research, outlining the initial classifications and theories of digital photography as they relate to analogue forms is of particular concern for exploring the changing classifications of current media in the following chapter. Additionally, this section will also suggest that while distinctions between 'analogue' and 'digital' are problematic the ways in which these distinctions are used can tell us something about the salience of specific metaphors. Specifically, this section will critique

various 'myths' associated with film based photography such as its unmediated, un-manipulated, objective, and material qualities in order to show how these ideas are derived from archival myths about memory's 'natural' capacities as objective representations of reality. While these notions have been critiqued in relation to film-based photography, what is imperative to note is that the myths return as counterpoints to notions of 'digital immateriality' within digitization. Moreover, people often assume the 'practical realism' of photographs in order to use them effectively in everyday contexts.

The rhetoric of novelty currently attached to digital technologies is problematic in so far as it contributes to the dissemination of two overarching themes or 'metaphor clusters': photographs as a *promise* of prosthetic, supplemented, or democratized personal and cultural memory, and a *threat* to memory, as images - increasingly and globally shared as personal memories - destabilize our 'natural' capacity to remember, or de-skill our cognitive capabilities.[20] These two lines of thought in relation to memory are directly mimicked by dichotomies in film and digital photography (Benjamin 1969; Hand 2010). Early discourse surrounding the advent of digitization was mainly concerned with the threat of digitization to photography, leading many to conclude that digital technologies were signalling the imminent 'death of photography', as the production and character of the digital image was assumed to be so widely divergent with traditional film photography, that it could no longer even be considered a 'photograph' (see Lister 1995, 2007; Mirzoeff 1999).

One of the key problems of this discourse was the assumption that photography is primarily a technological matter. As Buse (2010) summarizes: 'it is the wrong question to

---

[20] The 'promises and threats of technology' have been directly appropriated from Hand's (2002) analysis on the democratizing and de-democratizing logics of the internet.

ask whether the "photographic" has changed, since it does not exist autonomously from its manifestations as cultural form' (216). Thus photography cannot be isolated from its social practices (Osborne 2003: 65). Additionally, early accounts of digital photography, especially in the 1990s, were preoccupied with the effect of manipulation, arguing that digital images were consequently no longer a 'guarantee of truth held in the photographic negative" (Murphie and Potts 2003: 75). As Peter Buse points out, chemically based analogue photos had always been manipulated, and much like digital images they 'are far from unmediated in their relation to the world; they are coded and therefore read, they are selected and framed and given meaning by context and caption' (2010: 219).   Poststructuralist and postmodern theories of photography have argued that precisely because photographs cannot be separated from their context, they cannot 'stand in' for events. The manipulation of digital photos is often isolated as the 'culprit' of unstable memory functions, yet it shares with film-based models equal manipulative propensity, although this capacity is subtly hidden from view with analogue cameras. In this way, rather than 'rupturing' away from film photography, digital memory-making practice makes evident certain nuances concealed by previous forms. Shove et al. (2007: 2) expand on this point: 'The normally invisible role of material objects and their significance...is momentarily evident when technological innovations provoke or enable changes in how and by whom tasks are defined and accomplished and in how people organize their time'.

Another perceived discontinuity within digitization is the question of digital 'immateriality'. Whereas printed photographs are universally assumed to be material inscriptions of memory, their digital counterparts fail to be appreciated as such (See Patrelli and Whittaker 2010). Yet digitization suggests a multiplication of memory forms, as images are currently used in various and often unforeseen arrangements such as digital display-

frames, digital scrapbooking practices, and photo 'attachments' distributed to friends and family. These early conceptualizations of photography, which centered on knowledge dissemination, impartial renderings of truth, and accurate portrayals of recalled events, privileged the medium with a 'realism' derived from modernist epistemologies of mechanical 'sight' (Harrison, 2004: 24). While such claims have been contested by postmodern/poststructuralist theories of photography various assumptions about the nature of memory continue in current engagements with media tools. A powerful link can be made here between these misleading characteristics of analogue photography (some of which are still uncritically transposed to the digital) and the deceptive characteristics of memory perpetrated by the metaphor of the archive.

While the link between seeing and knowing is argued to have been broken in postmodernity, we can discern a tension between this 'break' and the continuation of modern metaphors and ideas about memory and photography. This is evident in the seemingly contradictory applications of photography in social and institutionalized avenues. For instance, photographic images are routinely used as legal evidentiary documents framed as 'impartial witnesses' as well as medical testaments of accurate bodily representations such as x-rays. These employments of photography continue a modern conviction that images serve as impartial renderings of 'truth', yet we also capitalize on photo-editing features in personal practices of photography, as well as industry avenues such as advertising, tacitly confirming the manipulated nature of photographs. This contradictory tension is indicative of the persistence of older metaphors about memory even within digital landscapes. These metaphors can be extremely useful in explaining the current discourse of technology which frames photographic media as wider promises or threats to memory.

Because metaphor creates a system of classification, the archive metaphor leads to an expectation of technology to perform various memory functions. In other words it leads to a *promise* of technology. The antithesis - the threat of technology arises from the fundamental awareness that memory, in any sense, shape, or form, is fleeting. The threat thus arises from a failure of expectation, as Smith and Morra (2006) observe - our 'prosthetic' memories have exceeded our ambition for them. The threat of technology is intimately tied to our 'digital anxiety' (Kember 1998), which is not an anxiety about the technology per se, but an apprehension about our own cognitive system, which has been 'embodied' by media through metaphorical models of the mind.

The residual modernist conviction that photography acts as a mnemonic 'archive' of the self inevitably changed the human relationship to memory and digitization in the following three ways. For one, the construction of *values and expectations* of memory was transformed. By assuming media to be infallible 'memory machines' (van Dijck 2007), highly unrealistic standards of expectation are placed on media – which if and when they became aptly advanced, would be able to attain 'pure' recollection. These expectations set forth by the 'archive' model are also paradoxical. Technologies are optimistically invented to remedy the perceived shortcomings of the brain, namely 'its inability to systematically record and store every single experience in our lives, as well as the brain's incapacity to retrieve these experiences unchanged at any later moment in time' (Van Dijck 2007: 149), yet the very same technologies are modeled after human memory and the mind where these perceived limitations reside. In this sense, modern metaphors about memory enforce an impossible system of expectation since human memory is anything but infallible, and the ambiguous nature of photographs of any kind (analogue, digital, manipulated, or 'untouched') expose the precarious relationship between photography and memory.

Secondly, as van Dijck's (2007) critique shows, this kind of discourse is a salient example of how such assumptions and expectations fail to acknowledge the mutually constitutive relationship between memory and media, which continually transform and re-shape one another. It also effectively renders invisible the role of both technology and social practice in mediating memory by alternately assuming a static blueprint of memory which remains unchanged despite the value-laden expectations placed on digital technologies to perform and perfect various shortcomings of human memory.

Lastly, the continuation of modern metaphors conceal the real issue at stake by framing the 'problem of human memory' as an epistemological one which can be remedied with the right tools – tools we could use to get to 'real' memory or 'pure' recollection. Instead, digitization exposes the issue as an *ontological* one – memory itself is produced and reproduced through discourse and is (re)shaped by media. More importantly, modeling technology on human memory divides media and mind into ontologically distinct entities (Van Dijck 2007), creating a profoundly problematic divide in which recognition and reconciliation of the mutually constitutive relationship between the technical and the social is almost impossible.

In its most basic premise, the 'archive' model is a misrepresentation of human and cultural memory. Memory is not 'stored' in the brain in a specific locus, nor is cultural memory 'perfectly preserved' but is rather mediated through a process of constant (re) negotiation by technology, discourse and social actors. As Michel Foucault (1970) reminds us, such systems of thought, and the re-arrangement of these ideas within such systems establishes what is in the future taken as inevitable and unquestionable.

Conclusion

The metaphors we use to describe memory, whether organic or technological, create their own perspective of memory (Draaisma 2000). Simply put, metaphors of memory create memory itself. They (re)produce and sustain our understanding of memory, the operational applications of memory, the functional capacities of memory, along with the shortcomings of memory. They direct how memory is performed, how we use or 'do memory', what memories are valuable or worthy of preservation and consequently, which memories are erased from our cultural consciousness. In this sense, a historical revision of our previous regime of memory has sociological consequences for how power relations are formed and sustained, how sociality is structured narratively and through practice, and how the emerging fields of digital culture are classified and constituted by routinized thought and action.

This chapter has deconstructed the naturalized relationship between technology and memory by showing how ideas of memory were institutionally, culturally, and socially inscribed through modern classifications of the 'archive'. This effectively constructed memory in particular ways – as unmediated, objective, material, etc. Most importantly, these qualities of memory propagated exclusively anthropocentric notions of memory. These characteristics later served as models for film photography, entrenching these memory propensities as 'intrinsic' qualities of the medium. In turn, photographic cameras began to alter our relationship to memory, identity, and social reality. The next chapter is concerned with charting this cycle once again, by investigating the changing classifications of memory in the realm of digitization.

:: CHAPTER FOUR ::

Distributing the Social: From Archiving To Photo-Sharing

While the previous chapter focused on a cultural analysis of the social shaping of technology, this chapter will turn the focus more clearly toward the constitutive technological shaping of culture through an analysis of emergent visual media. It will articulate the processes by which metaphors become 'embedded and embodied'- that is- *inscribed in* technological devices, while accounting for a shift in the kinds of metaphors that become cohered and made 'concrete' in this way. The central aim of this chapter is to explore the relationships between new metaphors of memory – 'sharing' in particular – and new technologies of digital photography – software in particular – to ask whether 'memory sharing' signifies a definitive (epistemic) overhaul of the archival paradigm of memory in contemporary culture.

In order to do this, I will review and analyze current theoretical debates in 'memory studies' alongside significant intersections of information and technology in relation to photography. The point here is to situate the notion of memory sharing historically and comparatively in relation to the archive metaphor by isolating the continuities and discontinuities between these conceptions of memory. The technological examples I will explore – the *EasyShare Camera*, the *Cloud*, and the *Instagram* – each exemplify different ways in which the metaphor of memory sharing is becoming stabilized as a technological form. Taken together, these specific illustrations illuminate co-evolution of new ways of doing memory and older ideas of what memory is, through which the past can be reconsidered in light of contemporary notions of memory. The chapter goes on to argue

that the future of 'distributed' memory is being equally shaped by residual notions of the archive as a form of 'collective' memory as it is by novel notions of 'connective' memory which highlights the ways in which technical systems actively 'share' data about us. The goal of this chapter is to break with traditional literature of memory and photography by moving away from a study of the image, to the architectures and infrastructures in which they are embedded and used.

Situating 'Sharing'

The dominant metaphor of memory 'archiving' has currently been transposed to memory 'sharing' within digitization. Sharing digital photographs involves their distribution to family, friends, and anonymous others, their uploading to online repositories or social media websites, the sharing and organizing of visual content and data online, the collaborative authoring and re-distribution of images and the facilitation of a kind of visual communication between members of a 'shared' network. Today, this idea of 'sharing' is everywhere- from military use of 'shared' Cloud software to national public archives digitizing and distributing historical records. On a personal 'everyday' level we routinely share our photos in online databases and repositories, on social media websites, directly with digital cameras, and even 'on-the-go' with mobile devices. Despite this ubiquity, the idea of 'sharing' photographs is anything but new. Family snaps for instance, have travelled between generations and across geographical settings for centuries (Rose 2010). Moreover, as Rose (2010: 60) documents:

> Many scholars have discussed how explorers, travellers and anthropologists of the nineteenth century took photographs of people and places and then sold, displayed and archived them elsewhere (Edwards, 2001; Ryan 1997; Schwartz, 1996); how many people in the same period collected *Cartes de Visite*, small photos of celebrities or racialized 'types' mass-produced in industrial workshops

and then sold and exchanged (Poole 1997); how art photographs travel from gallery to gallery between exhibitions; how commercial image banks now hold millions of images which are sold for use in magazines and websites (Frosh 2003), and how postcards journey between continents

Yet digitization is undeniably inciting us to 'share' our moments in divergent ways, through multiplied forms and varied channels, which garner specific consequences for the digitization of memory, and for 'the social' more generally. For example, Van Dijck (2010: 2) has reviewed the word 'sharing' in terms of the suggestive power it holds in inviting us to exchange our views in order 'to achieve an agreed upon viewpoint; through the accumulation of individually uploaded images a joint perspective on the world emerges'. This 'joint perspective' is highly problematic as it is built on underlying assumptions about modern *collective* memory which do not correspond to contemporary notions of *connectivity* within digitization. This chapter will examine the metaphor of 'sharing' as it 'appears to be uncritically transposed from a context defined primarily by social interaction to an environment largely defined by digital platforms' (van Dijck 2010: 12). Conceptualizations of memory through this lens of 'sharing' or distribution, construct social relationships to new media, frame human memory in novel arrangements, and re-shape 'the social' in nuanced ways thereby becoming an important point of critical inquiry.

As previously mentioned, the selected initiatives discussed below invite users to 'share their world', and tacitly their autobiographical, cultural, and social memories and experiences of that world. Yet, distributing our memories across various online channels or through digital software inevitably changes the properties of those very memories: they become mediated by the 'artefacts through which they materialize' to use Van Dijck's (2004) terms. By addressing this I hope to render visible the dynamic combinations of historical continuities and discontinuities of memory within digitization. Analyses which

focus exclusively on ideological or cultural shaping effectively erase the mediating role of technology, and approaches which do include technological agency are often deterministic in overstating its impact in either ' democratizing' the social, or in apocalyptic accounts of the 'death of the social' due to technological proliferation. By analyzing the selected cases through an interrogation of the ways in which they both enable *and* constrain possibilities for memory, the historic continuities and discontinuities of digitization are made visible.

      My approach will heuristically construct an analytic of memory making through three distinct (and admittedly simplified) categories of encoding or selecting memories, storing or organizing the photo-memory, and reviewing or retrieving remembered events. I then analyze the selected contemporary projects of each category against visions of memory associated with distribution such as *connectivity* (the creation of a memory 'network' through sharing), *communication* (prioritization of instant communication over memorization) and *collectivity* (the premise that shared memories lead to a collective). I supplement this analysis with a detailed historical account of how these 'new' visions are seen through 'old' lenses; views of archival memory which propagate various myths, namely, that memory is *objective* (unmediated by discursive or technological intervention), *autonomous* (remains untouched in memory's storehouse or technological database and can thus 'stand alone' on the archive's 'shelf'), and *passive* (memories are located in 'dark' private archives where we passively *store* life rather than actively *narrate* life). More importantly, my approach here reveals the residual humanism which still predominantly continues into digital culture.

Distributing The Social With New Classifications

The disruption of the archive paradigm of memory is prominently characterized in current literature as 'new perspectives that reach beyond the archive idea of memory and offer more open, fleeting, and culturally embedded visions' (Brockmeier 2010: 9). These new perspectives seem to eschew the constrictive confines of the archive paradigm by 'opening up' a view which considers the multiple forms and importantly – sites of memory. Yet, while the archive metaphor is problematic and while historically, state-oriented metaphors of the archive meant that very partial histories were preserved, we should not assume that our changing conceptualizations of memory signal a more democratic turn, or are inherently more participatory. To the contrary, discourses of 'shared' memory continue anthropocentric notions of memory which eclipse the active memory-work performed by technologies and automated algorithms. It should also be noted that the dissolution of the archive model does not mean the disappearance of 'archiving' in relation to memory-making, but rather signals the emergence of a new cultural organization of the idea of archiving and consequently a re-organization of memory away from traditional collectivist paradigms.

The following sections will pursue digital innovations in memory making prompted by a fundamental observation by Van Dijck (2004: 364): 'a transition from one technological regime to another implies more than the replacement of tools or machineries: it involves a fundamental epistemic overhaul'. The proceeding analysis poses a sociologically and philosophically significant question: does the distributed metaphor of memory as 'sharing', along with its material embodiment, and its cultural embededness signal a definitive – that is – epistemic transformation of memory?

Contemporary Memory Visions

The past few years have given rise to various contemporary 'memory projects'[21] –
initiatives concerned with managing the complexities of photographic collections within
personal, commercial and institutional avenues. Instead of a general overview of these
enterprises (which aside from a limited consideration is outside the practical scope of this
thesis), I focus on three cases in detail: *Kodak's EasyShare* line of digital cameras,
Microsoft's new '*Cloud*' software, and the iPhone photo-sharing application *Instagram*.
Oftentimes when we discuss broad concepts such as 'digital memory' within this new
migration to distribution, we become temped to generalize that this idea of sharing is
everywhere (and it is), but it is not everywhere in the same way- when we talk about sharing
on Flickr for instance, where photographs and memories are distributed in large part by a
technologically unconscious pursuit (van Dijck, 2010) it is a rather different discussion than
one that takes place in regards to Kodak cameras which insinuate a different relationship
between human photographer and image capturing device. By focusing on a wide range of
examples, I hope to reveal differentiated trajectories of distributed memory which
consequently frame differentiated contexts of 'the social'.

Van Dijck (2007) makes a compelling case that memories are 'embodied through
the mind, embedded in cultural frameworks, and enabled by technologies'. Of course
technologies both enable *and* constrain the conditions for the potentiality of memory.
Accordingly I ask in what ways are modern conditions for memory *preservation* enabled
and constrained by new media, and in what ways are contemporary notions of
communication or *connection* enabled and restricted? What are the sociological
implications of these differentiations as they relate to our daily engagements with media

---

[21] Software systems such as ACDSee, Adobe Photoshop Album, Apple iPhoto, and Shoebox to name a few

devices and our understanding of human memory? By revealing how memory is both facilitated and constrained, these memory projects are able to offer a diverse framework through which to analyze both the effects of digitization on memory, as well as cultural shaping of technology through various trajectories: artefacts, data, and integrative systems. I will briefly introduce these examples before I go on to perform a detailed analysis of the ways in which they distribute 'the social' in diverse ways.

The first example, Kodak EasyShare, can be grouped into a category of *artefacts* – these cameras show a technical embodiment of cultural ideas, that is - a material inscription of the cultural framing of memory, and how it might be different from previous cameras in terms of the kind of memory it suggests. Where film-based cameras stimulated a memory framed by a limited number of shots; a careful framing of shots due to cost, time, and waste; a professional negotiation of memory as well as an arrangement of memory through storage and 'keepsake' discourse, these new cameras suggest changes in the process of encoding memories, which are now shaped through social protocols of sharing, while made possible by technological performativity. Memories are now 'coded' differently reflecting a change in the *selection* process which now rests on values of instant public dissemination versus private or individual collection. Going back to the initial aim of investigating how memory is both enabled and constrained, this example illustrates how novel avenues of memory distribution are made possible, yet within restrictive confines of human sharing which position memory as objective and unmediated by the performativity of digital artefacts. By altering the process of memory selection, these technologies raise issues between the 'privatization' of the 'creative' memory-making process which no longer seems to rely on institutional or industry protocols, and the 'globalization' of publically distributed and accessed photo-memories in digital landscapes.

71

The second case of Cloud software can be thought of as an example of *data management* or photo organization in that it provokes the question what happens to the photos after they are encoded? Prior to digitization the fate of photos would befall a limited number of avenues such as a photo album, a shoebox, a Christmas card, or a welcome package of prints sent to family or friends. *Cloud* seems to exemplify how we are invited to share photographs with anonymous others, from a 'de-centralized' network and through a plurality of photo-editing channels. This example will be examined with a twofold aim. Firstly, the metaphor of distribution within the 'cloud' disseminates a myth of 'decentralization' which further restricts the performative agency of software as a meaningful social actor by effectively 'de-centering' it from the memory-making process. Secondly, Cloud photo-editing features exemplify some key intersections between cultural continuities and transgressions of photo-manipulation associated with the digital turn, versus the 'authenticity' of 'unmediated' archives. This section will chart important sociological implications of distinctions between immateriality and authenticity attached to the digitization of memory.

The third model of the iPhone application 'Instagram' shows the *social integration* of the previous two categories into a seamless mobile device which includes the material inscription of sharing into its hardware, while exemplifying the embedding of the 'smart' software, reconfiguring these two categories with quite a different juxtaposition. Where the previous example showcases the 'sinking in' of software, this example argues for the 'layering in' of software and hardware. This integration is especially significant in its twofold implication for digitization of memory: on the one hand, cameras have become increasingly complex and sophisticated in relation to memory (being able to recognize faces such as

with Cloud photo-editing features), while simultaneously 'disappearing' into layered systems. This 'folding' into integrative systems further hides the 'memory-work' performed by media at differentiated levels of materiality and algorithmic performativity. This case embodies central debates to the digitization of memory, namely binary oppositions between communication and preservation. Because traditional artefacts of memory-making such as cameras are now made diminutive in integrative systems – their function becomes undermined by more communicative applications which are made more apparent by the 'overt' materiality of a mobile cell phone where communication is central.

By analyzing such a diverse set of examples I hope to show how it is simply not sufficient to consider the discourse of sharing in terms of a large scale database such as Flickr – we must analyze various components of memory: artefacts, data, and integrative systems. The advantages of these examples reach far beyond being the 'latest' contemporary memory visions or being salient examples of discursive proponents of distribution - these examples speak to the current climate of digitization by revealing the ways in which memory is reshaped, but also by interrogating how 'the social' becomes reconsidered in light of this shift.

Encoding Memories with Kodak EasyShare

The term 'encoding' is best understood as an umbrella concept encompassing the tools used for the selection, that is – capture, of personally and culturally significant memories. The Eastman Kodak company has been a historical force in this regard, yet it is one of the leading purveyors of the 'non-traditional' distributed character of memory within digitization. To say that Kodak is an institution which has been able to capitalize on the metaphorical migration from memory archiving to sharing is an understatement

73

considering that their classic tagline: '*capture the moment*' has been recently modified to '*the real Kodak Moment happens when you share*'. Implicitly, drawing from their original slogan, the 'Kodak Moment' refers to the capture of a memory. They are thereby advocating that 'real' memory is now only possible through 'sharing'. Analyzing EasyShare as a particular kind of manifestation of our digital culture offers an insight into how 'sharing' photos leads to specific ways of performing and understanding memory more generally. This sharing discourse is best personified by their recently introduced EasyShare line of digital cameras, printers, frames, and software products which focus exclusively on memory sharing. All cameras in this line feature an integrated or 'built in' SHARE button.[22] This button automatically distributes digital images directly from the camera to a social media or visual content website including Kodak Gallery, YouTube, Facebook, Flickr, and Orkut. The company has prophesized that these new products will 'redefine the way consumers capture, share, and display their picture perfect moments' (Kruger 2011).

                    While the EasyShare line has many digital cameras, accessories, printers and software bundles (most scheduled to be available to consumers by summer of 2011), my focus here will be exclusively on Kodak's line of digital cameras, namely the M580 versions, largely due to the ways in which they embody important social categories in their appearance and design. For instance, these cameras are overtly marketed to women, and in

---

[22] Figures 1.3 and 1.4 Kodak EasyShare Digital Camera; Kodak EasyShare 'SHARE' button, screenshots, Personal Collection 2011.

this context, seek to emphasize the social *practice* of sharing in avenues of entertainment, specifically late-night outings and socialization amongst groups of friends. The marketing ideals reflect this cultural framing of memory within a long standing gendering of amateur photography; advertisements for EasyShare cameras picture groups of young adults dancing, or feature overt cultural symbols such as photos of high heels or women's purses being held high above dancing crowds. This discourse of sharing 'fun' photos serves to both create the memory through this discourse ('that was a fun night'), and legitimizes the memory as fit for sharing ('Ben *needs* to see how silly he looks dancing').

Yet despite updating their modern tagline, it seems Kodak continues to portray memory through nuanced assumptions of the 'archive paradigm'. When memory is thought of as an archive, memories are treated as automatic imprints - they are simply 'transferred' to a shelf or an external ambivalent source such as media, and that they rest autonomously on the dusty shelves of memory's storehouse. Kodak's modern tagline "*you press the shutter – we do the rest*" is exemplary of such discursive premises and promises. EasyShare cameras are part of a similar 'So Kodak' campaign which alternates between advising users to '*share your world with a touch*' and '*turn moments into memories, just press share*'. By conceptualizing the memory making process as one that is complete with a simple *human* 'touch', these discourses render invisible the performativity of media in 'sending' or 'sharing' these memories to online databases or photo repositories, a process which inevitably changes the properties or annotations of the resulting memory album. Ironically, by promoting media's active role in sharing (reconstructing and reshaping) memories, this discourse *hides* the 'memory work' done by media. As Van Dijck (2010: 2) notes: 'the idea of "sharing" presumes a conscious, human activity, whereas in the context of social media platforms it has become mostly an unconscious technological pursuit'.

While a problematic theme within the archive metaphor of memory is the focus on passivity, discourses of sharing seem to present a more open and active notion of memory. In other words, while archival notions would lead us to think that we are passively storing life, sharing our memories gives credit to the active process of narrating life[23].

Now that a few modern markers of memory have been analyzed in light of new memory capturing technology, I turn to contemporary premises of digitized memory as being defined through connectivity and collectivity. Does sharing our photo-memories immediately imply we are part of a collective community? How is sharing personal photographs shaping collective memory? In a recent article on Flickr, Jose Van Dijck (2010: 1) reviews some interesting assumptions behind the website's motto: '*Share your photos. Watch the world*'. She shows how this incentive disseminates various myths – sharing photos leads to collective perspectives, experiences, and memory. Kodak's EasyShare line overtly materializes such a view by legitimizing a 'real' memory as one that is 'shared', while simultaneously connecting personal photography and reality by advocating that it is our 'world' that becomes shared and tacitly merged with a collective community previously separated until the crucial moment of memory distribution. However, the term 'collective' is a contested concept in relation to shared memory through digital technologies once we consider Andrew Hoskins' argument that the idea of collective memory has become problematized in the era of digital networks. As Van Dijck (2010: 2) explains:

> The traditional idea of collective memory is generally grounded in the
> presumption that the individual and the collective are separate entities that are
> associated *through* technological mechanisms, such as media, and *through* social
> institutions, such as archives. However, the formation of memory is increasingly
> structured *by* digital networks, and memory's constituting agency is both
> technological and human

---

[23] This analysis is appropriated from Pederson (2008) who uses it thoughtfully to explain ideas of augmented memory online.

As previously mentioned, Kodak's slogan implies a tacit separation between the 'collective world' and the 'individual act of sharing' yet the memory is made by an act which is not individual but is thoroughly structured by a combination of human-machine interactions (Hoskins 2009; van Dijck 2010). In this sense, the metaphor of memory sharing seems to constrain the possibility of 'collective' memory in its traditional sense, yet seems to enable the possibility of a kind of 'connective' memory. Hoskins (2009: 96) explains this relationship as such:

> Contemporary memory is thoroughly interpenetrated by a technological unconscious in that there occurs a co-evolution of memory and technology. Memory is readily and dynamically configured through our digital practices and the connectivity of our networks

In addition to actively producing these associations, I would add that these new classifications – especially as congealed in a button - stabilize new conventions and standards of memory. The discourse of sharing legitimizes the act of distributing photographs as an act of memory-making, while naturalizing the practice within existing technological channels of email or social media websites. Conversely, the metaphor of sharing promotes the idea that individual experiences will be added to or embraced by 'the world' yet it renders invisible the deeply structured regime on which it operates. Users of Kodak's EasyShare line have usually consumed a wide catalogue of personal memories on websites and online photo repositories so that upon memory 'capture' or selection, users seek out the same structure of memories to share. Thus the metaphor of sharing, and its embodiment in technological tools creates standards and protocols of what to share, how to share, and whom to share it with. In this sense, contemporary artefacts premised on

'sharing' raise interesting questions of authorship as memories become increasingly and globally disseminated. The memory becomes 'shared' in multiple levels: it is distributed by the sender; 'shared' by those receiving it, and 'sent' into digital domains by the artefacts themselves. The shared photograph gains its cultural significance from such a wide range of forms and the differentiated ways it becomes embedded in different material contexts. Meanwhile the technology through and by which it is shared gains its cultural importance from the ways in which it promotes, facilitates, and re-shares our photo-memories. There is a discernable tension between current practices of private memory-making and the visibility of those private moments through distributed platforms. Yet van Dijck (2007) observes that every medium – beginning with print – has reshaped the boundaries between public and private. Clarifying that personal cultural memory was never a straightforward private affair, she notes the further confounding of the already precarious divide between public and private memory within digitization. A private photograph may (unintentionally or not) materialize in public contexts as a result of data sharing with digital photography.

Storing Software: Cloud Computing

I believe that software constitutes a new actor in the world: as a kind of mechanical writing it is gradually producing a whole new informational ecology... (Thrift 2005: 206)

Much contemporary contemplation of the relationship between self (memory) and technology overlooks the performativity of software, partly because it is overshadowed by the 'overt' materiality of 'hard' ware, and partly because it disappears underneath a layered technological unconscious. It sinks in without much recognition (Bolter 2009) yet it constitutes an undeniable agency in providing the coded script through which incoming data and hardware systems are designed. Software must thus be positioned as an important

agent of human-technical relations. This is not to say that outcomes between user and device are pre-determined (despite algorithmic inevitability), instead it is suggestive through the varying possibilities of the particular ways it is used. Analyzing Cloud computing through this framework illustrates how software acts as a mediator between technological materiality and cultural shaping of memory making by user practices and initiatives.

Although 'cloud' computing has become more predominant during the last few years, it seems that its decentralized emphasis on 'networked service' rather than software or hardware is 'the next big thing'[24] in personal and commercial computing. This software has been adopted by some powerful social institutions. The United States Air Force (USAF) is currently using it to house information on military and civilian personnel; multinational companies in Tanzania are using it to combat malaria by tracking the supply of antimalarial drugs through smart technologies and mobile devices; and closer to home McGill University Health Center is using the software to internally disseminate over 800,000 patient case files.[25] With specific regard to image-management, Google has recently acquired the purchase of 'Picnik'- a cloud photo editing application available through the internet, while Microsoft has introduced 'Windows 7' - a new operating system which boasts the central feature of cloud computing: having access to all your applications and data from any network device. This means that any computer connected to the internet is simultaneously connected to a 'network' of applications, files, and documents. For instance, one's photo collection on a computer can be accessed remotely without the physical presence of the computer in which they are stored, and even without a storage mechanism such as a memory drive.

---

[25] Sourced in a recent Cloud computing IBM advertisement
http://www05.ibm.com/uk/cloud/leaders/index.html

Within the governing principle of cloud computing is a disappearance of 'storage' in the traditional sense, which now becomes 'detached' through networked connections. The discourse of decentralization promotes file, document, and photo sharing into a detached *collective* forum. Yet the 'decentralized' system operates on an integral imperative of *connection* with host companies or storage hubs. This is yet another instance where a technological system defined by algorithmic connection is explained almost exclusively in terms of human action. We can perhaps applaud this system for modeling the detachment of human memory from the confines of the brain, yet it continues to function according to 'mechanical assumptions' which treat mind and media as ontologically distinct categories (van Dijck 2007) by not reflecting the mutually constitutive relationship between human interaction and technological action.

In this way, Cloud computing continues to support the myth of digital dematerialization (Van Dijck 2007), reaffirming another problematic denomination of digital photography: immateriality. Digital memory is implicated in a multiplication of material forms, one that is 'endlessly pliable and can easily be "remediated" into different physical formats' (van Dijck, 2007:47). Their cultural authenticity is derived in new ways not connected to their material status, but rather by being reproduced and used through social networks (Tredinnick 2008). As Hutchby (2001) outlines, materiality encapsulates much more than physicality- software has a materiality which affects 'navigation through a technically bounded interactional space, as people attempt to orient themselves in the sequential order of a particular interaction' (ibid 2000: 445). More importantly, the supposed 'immateriality' of distributed memory systems misleads us into thinking our engagements with these systems are not leaving a set of digital traces, or that our virtual footprints are not permanent. As Tredinnick (2008: 86) observes: 'The materiality of a

cultural object inscribes a record or trace of its history'. By denying software systems such as Cloud material status we are denying them any kind of historic genealogy, and misunderstanding their agency in future contexts of memory making as our interaction with such systems certainly does leave a set of traces, in often multifarious and unforeseen contexts. The implications of these virtual traces will be discussed at length in the following chapter. For now I want to focus specifically on 'Cloud' oriented systems of photo-sharing.

Microsoft's new 'Windows 7 live' system offers interesting insights into the transformations of classifications of memory. Their 'photo-fuse' feature: a technology which offers alternative stand-ins for individual faces from a host of available 'shots' so that the desired facial feature (routinely smiling faces, open eyes, etc) can be superimposed over the undesired effect – is of particular significance for the digitization of memory.[26]

This innovation actually requires a complex unconscious labour. For one, the system has to 'remember' and 'recognize' all of the obtained faces and 'retrieve' a list of available and attractive faces for the user to choose from. I use these specific terms deliberately – the software performs distinct memory functions, yet it is completely unacknowledged as an active agent in the memory-editing process. Upon scrolling through the list of available facial substitutes, the software asks the user 'which image do you like best?' deceivingly placing the definitive choice in human hands. This decision implies an autonomous choice – it is the user who

---

[26] Figure 1.5 Photo-Fuse editing features, screenshot Windows Live 7 Gallery, Personal Collection, 2011

uploads, selects, and re-shapes the photo-memory yet it is the software that recognizes and codes the uploads; selects from a pool of available faces; chooses sought-after facial features, and finally executes the ultimate act of (re) construction. This act is not without profound consequence – while literally reshaping the representation of the memory in a digital photo, the software system also has the potential to permanently reshape the memory of the actual event: unwanted shots may quite possibly be 'discarded' from memory so that a fussy toddler at her first day in daycare is now recalled as a calm event. Neurocognitive models have repeatedly shown that recall is constituted by the last *memory of a memory*; memories are reconstructed from the previous act of recall. As van Dijck explains: 'memories are effectively rewritten each time they are activated: instead of recalling a memory that has been "stored" some time ago, the brain is forging it all over again in a new associative context' (2004: 354).

The powerful shaping of personal and cultural memory by digitization is self-evident in this example, yet this software subtly exemplifies cultural nuances of memory as well. In a recent advertisement for the Windows Live photogallery the effects of photo-fuse are clearly (over)stated: 'Now I can take all these unruly shots and swap in some smiles, finally a photo I can share without ridicule. Windows gives me the family nature never could'. The statement of 'swapping smiles' draws heavily from the socially institutionalized practice of smiling, which has been historically transfixed from a practice into a protocol for memory. There is little in a camera's actual physical properties that would incite or drive us to smile – the cultural practice of saying 'cheese' responds to socially determined values of family/identity representation and immortal preservation of the most favourable (re)presentation of a person or event for future and/or public viewers. Additionally, the advertisement blatantly reflects (and intuitively caters to) the longstanding fear of cognitive

fallibility. History has indulged us with various fantasies of 'perfect-memory-machines'[27] that could provide permanent, systematically ordered, untouched memories immune to human decay 'that nature never could'.

Additionally, these 'photo-fuse' editing features raise a central debate of technological manipulation and re-touching within digitization. As Van Dijck observes, this issue is anything but straightforward in relation to memory: 'the increased malleability of photographic images may suit our need for continuous self-remodelling, but that same flexibility may also lessen our grip on our images' future repurposing and reframing, forcing us to redefine fundamental notions of memory' (2007: 100). Although some have concluded otherwise, digitization never *caused* manipulation (Manovich 2001). Manipulability was equally present in analogue photographs which were doctored from the incipient stage of chemical processing. Moreover, digital technologies and software systems are embedded in a culture where 'manipulation and morphing are commonly accepted conditions for shaping personhood' (van Dijck 2007: 118).

Here we can discern divergences from modern notions of photo authenticity in relation to memory. In the digital realm, authenticity is no longer rooted in the material artefact or its indexical association, instead authenticity 'is constructed in the *use* of those artefacts within social contexts' (emphasis added, Tredinnick 2008: 79). Because the very definition of memory has changed in new distributive contexts, the values, expectations, and uses of memory have also evolved in tandem, in ways which naturalize photo-manipulation as a routine act of memory-making. Ironically, the social uses and practices of image retouching may now be sites of *authenticity*. New technologies thus create new

---

[27] Humankind has continually indulged this fear through technologies, even the technology of pen and paper was heralded as a memory fantasy able to externally record what the brain could not.

83

possibilities for memory, which are equally co-enabled by the move away from traditional figurations of materiality and authenticity.

Instagram: Integrating Memory 'Layers'

A thorough analysis of digitization and memory is not complete without accounting for the powerful (omni)presence of mobile devices[28] in everyday engagements with photography and memory making. The interesting paradox about digital cameras is how significant and ubiquitous, yet mundane and diminutive they have become (Hand, forthcoming). On one hand cameras have become highly sophisticated- they are currently able to 'recognize' facial features such as smiles in order to more precisely pinpoint the focal center of a photo, they recognize faces in order to expedite tagging or organizing features of photo collections; they make judgements through this extended agency. As the first example of Kodak cameras showed, cultural practices have been *built into* image-capturing devices adding and compounding their sophistication. Yet remarkably, cameras have completely 'disappeared' into other technologies due to the embedded *layering*, or integration of technologies and data systems which become remediated into a seamless device. A cellphone has little need for a 'share' button the way a Kodak digital camera does because an integration of phone and camera already implies that phones are members of a network where they are part of a ubiquitous mobility and are implicated in ubiquitous connectivity. The integration of camera and phone allows for new forms of photo-exchange

---

[28] Cameraphones are currently outselling digital cameras (see Mawston, N. 2003. "Cameraphones Outsell Digital Still Cameras in H1 2003 and Beyond". Wireless Strategies)

84

which draw on key characteristics of digital culture including ubiquity and mobility.[29] This case charts how the embedding of cameras into other devices is reshaping the very possibilities for memory-making.

Instagram[30] is a smartphone photo-sharing application for iPhone users which acutely exemplifies the layered integration of particular cultural inscriptions into hardware, and how this hardware in turn becomes embedded into other existing devices. Instagram is also a salient reminder of an important analytic insight – within the field of digitization, memory cannot be thought of in terms of cameras alone, but in the broader systems which employ them in different contextual settings and arrangements. Instagram serves as a model for the function of memory retrieval (re-viewing, re-presenting and re-shaping photographs) within photo distribution, which has been highly impacted by the shift in discursive reorganizations of memories as shared entities. Importantly, retrieval cannot be thought of as a singular event which rests solely on individual motivations in the wake of digitization. Reviewing remembered events, or reminiscing on fleeting everyday moments inevitably includes re-presenting those photos for others' acts of (re)viewing as well. Instagram is an 'on-the-go' application specifically

---

[29] While they are central, they are not necessarily new. Mobility has long been associated with analogue photographs as well (Osborne, 2000), especially in tourist spheres (Sontag, 1973) and domestic domains (Rose, 2010).

[30] Figure 1.6 Instagram application, iTunes screenshot, Personal Collection, 2011.

designed for the 'quick' and 'easy' sharing of personal photos amplifying 'the idea of a world experienced through photographs no matter who you are or where you are', a world which co-founder Mike Krieger laments would otherwise remain 'stuck on your phone' (BBC News online). The application functions by providing an open, international platform for the uploading, filtering, and sharing of personal photos which are instantly sent to a communal Instagram 'feed' and which can be directly configured to Twitter, Facebook, Flickr, Foursquare, Tumblr or a personal email account. Users can also 'follow' others' sets of photographs with options to tag, comment, and re-shape one another's photo feeds.

The application has been in circulation for a mere eight months, yet it sees an astounding 3.6 million uploaded photos *weekly*! To put it into contextual perspective, this is a profound figure compared to 140,000 weekly feeds that Twitter enjoyed in its first six months (Sevasti 2011). This is partly due to the ubiquitous connectivity that is inscribed in this application through a constant 'stream' of uploads which can be accessed anyplace and anytime, priming it in instantaneous exchange within the connective present moment instead of an archived collective. This theme of connectivity is further personified by co-founder Mike Krieger who amplified it over the communicative aspect between members of Instagram in a recent interview. He argues that Instagram has no desire to create 'closed off friend based relationships'. Instead, the application allows you to 'connect with people halfway across the world through photographs which are absolutely universal and require no language commonality...' (BBC News Online). An inferred assumption of connection is further promoted in the applications description: 'Looking at the world through photos'. As sociologists, we do not take for granted the seemingly innocent activity of 'looking'. As van Dijck (2010: 2) explains: 'Individuals articulate their identities as social beings by uploading photographs to document their lives; they appear to become part of a social

community through photographic exchange and this, in turn, shapes how they watch the world'. The apparent connection to a collective must be critically questioned – camera shots are hardly fixed representation of the 'experience' of an individual taking the shot (van Dick 2010). Yet while 'connectivity' far better encapsulates the exchange of memories between and *with* technologies, Instagram alludes to this connectivity only through human notions of collectivity or community.

Framing memory through humanist paradigms further promotes the ambivalence of digital mementos. Upon first glance it seems the value of Instagram rests upon users' dynamic interaction through a constant exchange of photos. However, upon closer and more critical examination, the success of the application is also largely constituted by the systematic performativity of the application itself. In this sense, Instagram is a great example of the intricate interrelations between technological platforms which operate (at least partially) by automated systems, as well as human agents. The application 'automatically' uploads the most popular- that is the most well 'liked' (measured by the total sum of 'likes' and comments generated by followers) photograph into its 'popular' feed, where other users can further comment, engage with, and follow popular photos. Since the popular feeds are visible to all users they are distributed more widely than other photos which circulate somewhat internally between 'followers'. Therefore 'sharing' is done not only by users, but also between users as a result of the 'technological unconscious' embedded within the application. In accordance with contemporary analysis of collectivity in light of digitization (Hoskins 2009; van Dijck 2010), sharing is not only done *through* Instagram but *by* Instagram as well. The popular feed is a significant co-articulation of user defined fields of likeability and systematic determinants stipulated by the software itself. By automatically calculating and deciding which particular photos are awarded 'popular' status,

the photo-sharing system unmasks itself as a value laden information system rather than a neutral platform which simply reflects our worldviews (van Dick 2010). Instagram is a salient example of the active efforts of technologies to shape (and not simply describe) social relations.

Additionally, this kind of automated sharing is done in multiple other avenues by the application's system such as 'tagging': providing informational annotations to data. Users or followers can 'tag' a photograph which the system recognizes and classifies into common threads by category (music), by event (blues festival), or by location (Chicago blues festival). The application then disseminates the tagged photo into common search results performed by unknown potential users. Here we can discern interesting tensions between annotated distribution by users and automated dissemination by the system. Even the process by which we assume we are anchoring our image is simultaneously propelled across unforeseen digital landscapes (Scarlett 2010).[31]

Specifically, while users select which information to add to selected photos, data sets categorized by time and location are automatically derived by the system. A simple search of 'Toronto' on Instagram offers close to four thousand 'geo-tags': geographical data obtained from GPS enabled smartphones. It is assumed on Instagram (and is corroborated by its founders) that the benefits of such tags are largely grounded in a collectivist framework of memory- a communal (world)view of Toronto emerges from the individually shared experiences of the city. Yet this drastically undermines the new regime of active shaping of technological mediators:

---

[31] Metaphor may once again help explain the tension of 'tagging'. Instead of serving as an anchor, the associations of the game of 'tag' may better explain this process as one where the image 'plays tag' online – it redistributes itself and touches or links other images in the process.

'by tracking shared information between people, events, activity, expressed interests and locations in time, patterns of social interaction are not merely reconstructions but active constructions of social behaviour shaped by the "technological unconscious"' (Van Dijck 2010: 6)

Most importantly, the dynamic role of digital devices in mediating our memories is eclipsed by stressing the partial role of user collaboration in the production and stabilization of social norms (van Dijck 2010). What further confounds this assumption is that these automated initiatives function largely unconsciously within technology. This is often revealed by our anxiety concerning privacy within digitization. When asked about the dangers of sharing our personal moments, co-founder Mike Krieger responded: 'People will realize what they're comfortable with and what people are comfortable with receiving...' noting that this 'negotiation happens tacitly between people' (BBC News Online). These concerns about the perils of 'over-sharing', while relevant, misguide the focus of critical analysis on human agents while disregarding the role of technology in structuring standards of privacy through automated photo management systems and in creating new protocols of 'private' and 'public' memory. When non-human protocols are so overtly dismissed, triumphant proclamations of 'open' and democratic platforms are often naively broadcast. In various interviews with the founders of Instagram, their initial desire to create an 'open' network is frequently cited. Yet we must question this 'democratic' ideal as technological imperatives can direct even hierarchical orders. Those photographs which receive top billing in the prestigious 'popular' feed due to a high number of user 'likes' or 'votes' in a sense, will inevitably receive further votes because of the privileged position and visibility they are automatically granted within the main (popular) interface.

In addition to disseminating 'democratic' myths about the nature of the application, classifying memory sharing through humanist frameworks overstate the 'creative' potential of human interactions with this technology. The (ironically named) 'filters' used for editing photographs on the application streamline the uploads so that while they appear subjective, creative, singular and unique, are actually thoroughly structured by a kind of 'technological conformism' which invites users to edit their photos through uniform filters. It is through these structured 'filters' that one's personal photos are mediated and shared into the collective pool of equally 'unique' and personal, yet commonly 'filtered' photographs[32].
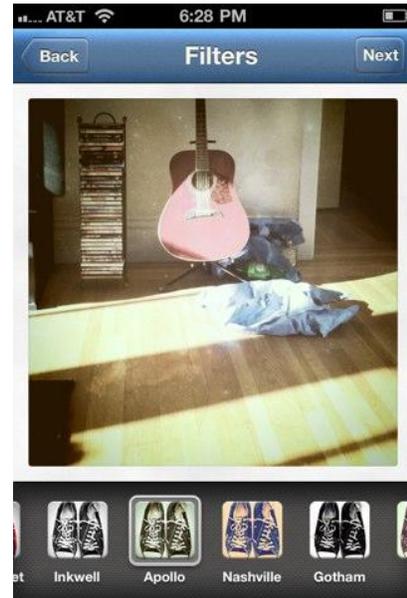
Importantly, the filters are pictured as white-border casings, reminiscent of Polaroid borders alerting us to the ways in which nostalgic and modern notions of memory (as communal Polaroids) are capitalized on to accentuate human acts of memory at the expense of the technical. The integration of Polaroid photography with new classifications of memory sharing is highly significant as it embodies the precise aim of this thesis: to understand the *integration* of cultural continuities and discontinuities; memory potentialities and constraints.

In order to chart these historical continuities and discontinuities on a second, more complex and layered level, I want to provide a more detailed account of how 'old' Polaroid photography encapsulates similar ideals of 'new' memory 'sharing'. It is not without coincidence that Instagram overtly draws on an older form of analogue photography and memory making. The name 'Instagram' suggests a close affinity with *insta*matic cameras;

―――――――――――

[32] Figure 1.7 Instagram Filter Feeds, screenshot, Sonja Solomun, 2011

90

the photo-editing effects are also pictured as Polaroid frames; and the logo for the

application is a white Polaroid camera. This addresses the question of digital novelty by

showing that 'the obsolescence of a technology does not necessarily mean the absolute

passing of a cultural form but rather the modification of already existing practices' (Buse

2010: 216). It also reveals the unsettled relationship between historical continuities and

divergences within digitization. The limited size restriction, white borders and lack of a

negative separate Polaroid photography from any other kind of analogue or digital photo

imaging, yet the speed with which the image appears and the absence of a darkroom or

industry photo development connect this currently anachronistic technology with digital

practices of snapshot photography (Buse 2010:PG). Peter Buse explains:

> Amateur Polaroid and digital image making could not be further apart in their
> technologies of production and dissemination, but the speed with which the
> image appears and the way in which it 'develops' inside the camera mean that the
> former nevertheless anticipates the latter as a practice and a cultural form (2010:
> 220).

The application thus capitalizes on an older, familiar form of 'communal' photo sharing in

order to propel nostalgic notions of *collectivity* while the software and architectural

structuring of the 'app' is strongly premised on *connective* imperatives. Aside from the

stark difference of being electronically versus chemically processed, the photos on

Instagram also differ by being filtered through editing effects, yet Buse reminds us that

chemically based photos have always been manipulated; they are coded, read and selected,

and framed and given meaning by caption and context (2010). In fact, the material status of

the instant Polaroid photo with its distinct white frame is a kind of social filter in itself.

Importantly, 'sharing' discourse is equally resonant in both analogue and

contemporary case studies of snapshot photography. Where Kodak Easyshare cameras

'build in' a cultural practice and assumption of memory sharing into a hardware 'button',
Polaroid instamatic cameras featured similar cultural inscriptions in the 'building in' of a
printer into their hardware (Buse 2010). Moreover, this integration shares with current
projects the masking of memory work done by technologies as Polaroid abolished the need
for a personal or professional darkroom where the complex process of 'making' memories
are made 'visible'. In this way the development of the print on the 'inside' of the Polaroid
camera to use Buse's term, is similar to the making of memories by mobile applications
such as Instagram, or software systems such as Cloud. Additionally, the characteristic
immediacy of the digital image-making experience coupled with its mobile 'on the go'
character is reminiscent of the portable features of the Polaroid camera which claimed
similar ideals through popular slogans such as '*it's like taking your darkroom on location*'.[33]
Most contemporary digital media promote the same portability, including Cloud software
systems which urge us to '*create and share anywhere'.*

Aside from mobility, both technological forms disseminate ideas of photo
manipulation through deliberate and careful memory selection. Cloud 'photo-fuse'
software enables users to change specific unwanted features of a photograph helping them
construct the 'perfect' memory. Polaroid operated from a similar, yet more subtle view of
memory by emphasizing that 'no other camera would give me a second chance like this'
(Buse 2010), encouraging taking multiple shots in memory selection, and reflecting a
longstanding cultural practice of 'posing' for the perfect memory, exposing itself as an
accumulation of longstanding cultural desires rather than radical novelties. Moreover,
Polaroid exemplifies a desire to have photo viewing coincide with real-time experience, a
feature thought to be exclusive to digital photography. Long before digital cameras

---

[33] September and November 1949 campaigns of Camera and U.S Camera (as cited in Buse, 2010)

collapsed distinctions between 'taking' and 'viewing' and between 'consumer' and 'producer', Polaroid photography turned this potentiality into what Slater (1995) calls a 'structured activity'. Slater elaborates that this structured activity was one which not only conflated 'taking' and 'viewing' but 'taking' and 'using' photos in similar ways that photos are now being 'used': to tell stories with images (Edwards 2006).

Interesting parallels can be also be drawn between social practices of Polaroid photography which were largely constituted in group settings, to contemporary practices of sharing by groups within 'social networks' alluding to the precariousness of public/private divides in analogue forms of photography as well as digital. Because Polaroid prints were 'no longer limited to the darkroom and may be shared with any who care to gather round and watch' (Crawley 1976 as cited in Buse 2010: 225) a communal pursuit of photo-taking and memory making emerged. Yet at the same time as potentially opening up public activities, the elimination of a darkroom opened up possibilities of private practices as well. Peggy Sealfon (1983) notes that since users of instamatic cameras no longer had a concern about prints being, seen, and scrutinized by professional developers, 'Instant pictures of lovers and spouses became quite common' (as cited in Buse 2010: 225).

The parallels concerning divides between public and private memory are also intimately tied to central debates about the role of memory 'sharing'. On the one hand, sharing seems to presume a prioritization of communication over preservation. On the other hand, these arguments are undermined by a critical exploration of the cultural traditions of memory, which always seem to necessarily embody both ideals. Communication and memory cannot be pried apart and studied as mutually exclusive categories when the very history of photography has been constituted by an intimate combination of the two. For instance, Polaroids were often decorated with textual

annotations in the white borders and 'shared' with friends and family as a means of instant communication, or a kind of 'fossilization' of the present moment. Conversely, cellphone photos can be said to be reminiscent of postcards in a sense: 'snapshots with a few words attached that are mostly valued as ritual signs of (re)connection'.[34] This debate is highly significant in increasingly *integrative* contexts of digitization: the essential feature of a camera has been established as a memory-making tool, yet cameras are now 'layered' and made diminutive in integrative systems and applications such as Instagram. Yet it is precisely because the overt 'hardware' of a mobile phone device is emphasized that its central feature – communication - is made more explicit. While debates surrounding communication and preservation have a cultural lineage in the differences made by metaphors of archiving (memory) versus sharing (communication), they are also largely constituted by technology's agency in performing, amplifying, and diminishing particular cultural uses, desires, and values, over others.

While technology's agency must be recognized, the debate of communication versus preservation is also equally influenced by what is done with images and the social practices involved in their capture and use. Van Dijck (2007) draws the conclusion that like postcards, camera phone pictures are meant to be discarded after they are received, implying an emphasis on the communicable role they serve. Yet texts are not only sent, they are *kept*. Green's empirical study attests this insight: they are 'something you store...they're kind of memories you want to keep. It would be really cool to have like a memory card for each person so I can put all their text messages in there so I can retrieve

---

[34] Lehtonen, K and Kurvinen, 2002."Mobile Digital Pictures- The Future of the postcard? Findings from experimental field study"(as cited in Van Dijck, 2007: 114).

94

them one at a time when I want them'. ([L respondent] Green 2006: 256). It is important

to note that 'In these microcultures, memory does not so much disappear from the

spectrum of social use as it takes on a different meaning' (Van Dijck 2007). Since the

classification of memory has changed, so too has its meaning, and since socio-technical

transformations are not completely discontinuous – new 'communicative' functions of

photography are merged with older 'preservative' or archival roles. Historically,

photography has always been figured as *both* a means of remembering and communicating

events; of reminiscing about and with images; of constructing autobiographical personal

memories and communicating shared public experience through culturally significant

moments. Susan Sontag's (1973) ethnographic study revealed how the act of taking

photographs comes to invent the moment as an event at all, thus showing how integral it

becomes in experiencing an event, and later communicating it with the help of

photographs. So while 'sharing' within digitization does not 'invent' these new

communicative forms, it certainly emphasizes it as an integral, if not central aspect of our

current engagement with photography.

The current issue of contestation between the function of photo-sharing as an act of

memory or an act of communication has deep roots in modern metaphors of memory.

The metaphor of the archive misleadingly frames memory as a static, ambivalent, and

passive *thing* (object) –a distinctly non-communicable entity which through its partial

emphasis ignores its dynamic *process* of communication, including subjective narration;

interpretation and transmission of information mediation. From Augustine to Freud

metaphors assured us that memory was a 'dark locus of retention'. Digitization simply

reveals to us the historical ingraining of these ideas. Of course it is currently difficult to

accept that our 'dark' or 'private' moments have always served public and communicative

functions. These problematic assumptions, classifications, and social organizations of memory are brought to light by contemporary memory projects urging us to reconsider the past with regard to the present moment.

Conclusion

What becomes clear from the three illustrative cases outlined above is that periods of technological disruption never signal a total eclipse of one technology by another, nor are novelties in digitization separate from their manifestations as cultural forms and social practices. Conversely, there are distinct transformations in cultural practices of photography which both enable and constrain various trajectories of memory-making. Where all of the examples illustrate the intricate co-articulation of the socio-technical, certain aspects are made explicit in each case, while others are diminished through differentiated combinations.

The first example showed how cultural practices become embedded within technological devices, and amplified human agency in publically 'sharing' photo-memories in a divergence away from private preservation or collection. Cloud photo-editing software hinted at, yet downplayed the active 'memory-work' performed by software raising important issues about immateriality, manipulation and authenticity pointing to larger sociological implications about the 'traceability' of our 'immaterial' or virtual footprints for future memories. And finally, the last case exemplified a layered integration, not only of the previous two examples of hardware and software into one remediated and 'seamless' device, but also a merging of socio-technical relations which combine user agency and algorithmic drives to enable 'connective' and 'collective' memory. All of the above remind us that sharing is not only done *through* media, but *by* media as well. In this sense, this

chapter has responded to David Beer's call to critically understand the 'technological unconsciousness' within memory-making cultures. The 'performative infrastructure' of software and its applications (Beer 2009: 998) has thereby been analyzed with regard to memory making initiatives. By recognizing the transformed epistemological and ontological status of 'mediated memories' this chapter shares with van Dijck (2007: 52) the contention that digital media are 'reflections as they are agents of change'.

:: CHAPTER FIVE ::

The Power of Digital Traces: Reconsidering the Past and Implicating the Future

While the previous chapter detailed the change in classifications of memory away from modernist notions of objectivity, passivity, and preservation (and showed how these discourses still reside in various forms of contemporary mechanisms of memory), this chapter will elaborate further on the philosophical and sociological consequences of these discourses. One of the central aims of this chapter is an investigation of how the study of metaphors of memory contribute to the sociological understanding of the 'digital turn' by noting how the metaphor of memory sharing is becoming naturalized at different levels: as a commercially driven effort to establish interoperability between technologies and commodities, as a 'capacity' of the technology itself, and as a seemingly neutral description of a 'participatory digital culture'. These are far from descriptions, but are active efforts to shape social relations. In line with the cultural focus of this thesis, this chapter explores this latter cultural level, where memory 'sharing' and information (re)distribution more widely, is increasingly characterized as an essential feature of our 'participatory culture' 'in which individuals contribute to the creation of information, knowledge and cultural artefacts through different modes of collaboration in the digital sphere' (Tredinnick 2008: 105). At this level there are various important implications to discuss. How are individuals contributing to the creation of collective memory? How is collective memory reciprocally 'built back in' into institutionalized ways of 'doing memory'? Whose memories are preserved? These general questions insinuate important implications for the creation and dissemination of information and knowledge, as well as the power relations manifested and

maintained by this distribution. The following sections will compare sociological

contributions of a critical study of metaphor to larger issues of power/knowledge as they

relate to the digitization of memory.

From Objective Knowledge to Collaborative Participation

The continuation of traditional discourses of individual collection through the

'archival' memory paradigm is intersecting with contemporary discourses of 'participation'

in interesting ways. For one, memory continues to be figured by objectivity while being

subjectively distributed across diverse digital channels. This is framed in two ways: memory

is turned into an object and is simultaneously measured by its objectivity (Tredinnick

2008). This further separates media and mind (van Dijck, 2007) while claiming a

'collaborative' digital democracy where communities are created through interactions with

digital devices, or a 'connective culture' (Hoskins 2009; van Dijck 2010) where relations are

both technical and social and media and mind are thought to be 'participatory'. Objectivity

in this light is framed as a static *thing*, a material archive which becomes contested by the

open participatory *process* of cultural memory today. Tredinnick (2008: 110) explains how

information becomes objectified:

> ...a *thing*, not necessarily unanimous with the vehicles that contain it, such as
> books or websites, but objectively mind-independent. The *thing* of information
> can be sorted, classified, collected, stored, and recorded because it is stable and
> enduring, not open to negotiation. The *thing* of information is authenticated
> against the external truths that it both contains and reflects.

Despite the wide divergences from current forms of memory-making within digitization,

this objectivity is often transposed onto participatory culture. This is especially evident in

some academic critiques of our 'digital turn'. Participatory culture has often been criticized for its devaluing of information away from sites of authority or institutional protocols (for instance, the lack of editing protocols on Wikipedia), the replacement of 'expert' knowledge with 'amateur' content, and the destruction of creative authorship and the encouragement of plagiarism or intellectual property theft (for example Keen 2007). Such critiques often 'see in the participatory mode only a cultural nihilism' (Tredinnick, 2008: 109). The objectivist paradigm of memory and information is evident when the objectivity of traditional forms of memory-making or information dissemination such as journalism, print or publishing is overstated by contrasting it with the subjectivity of the participatory culture (Tredinnick 2008). This objectivity is further apparent in the critique of 'creative' amateur acts of memory making by granting authority to institutional structures (archives). Tredinnick (2008: 109) explains: 'The decline of existing structures for the dissemination of information is therefore conflated with a decline in the quality of information itself'. Yet while memory and its corresponding network of practices and institutions have always been 'participatory' by nature of their interrelation and interaction, modern metaphors of memory hardly recognized this characteristic. By retroactively denying modern practices of memory-making any kind of 'creative' authorship, the problematic discourse of the passivity of memory is propagated. In a similar vein, modern metaphors of memory culture as a 'collaborative' distribution mask the continuation of modern discourses of objectivity and individualization, and further exclude technology from this 'collaboration'.

The objectivity that characterized memory in modernity is being undermined in participatory cultures in nuanced ways, which while not inherently more 'democratic' than some of the previous memory regimes, do elucidate the problematic notions of framing memory through objectivist lenses. This objectivity is powerfully contested by technologies

themselves, which make explicit the non-objectivity of previous regimes of memory, and situate themselves as powerful social agents who equally mediate and re-shape memory. Recognizing technology's constituting agency in transformations of memory-making is to concede that the distribution of photo-memories can be argued to be a large by-product of a general proliferation of information in digitization, as images increasingly become globally circulated as commodities. Yet while the expansion of photography and the proliferation of images as memory forms are partly incited by the globalization of information, this thesis has shown that while changing the possibility for memory, technologies also in a way tacitly recognize the socially constructed nature of information, knowledge, and memory as information is constantly re-shaped, re-organized and re-constructed through digital media. While new capitalist demands have persuaded us to exchange information constantly, to assume photo-sharing is an simple by-product of this regime would be to underestimate the dynamics of social practice, much in the same way that it would be simplistic to characterize the previous archival order as one controlled exclusively by state oriented regimes of memory without recognizing the vast nuances of counter-initiatives. As Haskins (2007: 403) notes: 'In contrast with the hegemonic official memory, vernacular practices of public remembrance typically assume decidedly ephemeral forms such as parades, performances, and temporary interventions (403). Simply put, the digital exchange and transmission of information, communication, and personal and collective memory cannot be separated from its social context and the cultural environment through which it is constituted.

Admittedly, the commodification of memory is indeed largely responsible for inciting users to share their memories in novel forms, and with unprecedented frequency and anonymity. The industrial effects of production are hardly irrelevant, and are in fact quite essential to the increasing characterization of our current visual culture as one

structured by 'ubiquitous photography' (Hand, forthcoming). Yet, as previous chapters

illustrated, even within this contemporary context photo-sharing practices are mediated by

both social and technical protocols (Bowker 2008; Galloway 2004, as cited in van Dijck

2010: 11). Van Dijck describes how the two intersect within this process:

> Social protocols include the rules by which we produce data and databases, and
> how we access and distribute knowledge. Technical protocols refer to automated
> search algorithms which enable channel sharing activities; these processes are
> continuously fine-tuned on the basis of information derived from metadata
> concerning identified patterns of user activity

Our digital culture is mutually constitutive of both social and technical relations. Yet

changes in technological tools of memory have changed what comes to be *counted* as

memory.

Metaphor: An Exercise of Power

This section will question the transformations in classifications of memory

associated with digitization in relation to power and discourse. Some general yet significant

questions will be raised: whose memories become counted in our digital culture? How are

they appropriated by social institutions or cultural protocols of memory-making? What are

the sociological implications of the 'democratized' distribution of 'the social' with

contemporary memory-media? The previous chapters outlined metaphor's discursive and

ideological propensities as a mechanism of power. This idea will frame the central focus of

this section as it seeks to fully explore the philosophical and sociological implications of this

claim.

Metaphor is a sociocultural phenomenon which stabilizes power/knowledge relations, which in a Foucauldian sense are exercised and manifested through forms of discourse. The sociological contribution of an analytic focus on metaphor allows it to move beyond language: 'discourse is not just a matter of language; it saturates the whole social situation and is perpetuated through institutions, practices and social relations' (Tredinnick 2008: 163). In this sense, Foucault's analysis of power coupled with a critical sociological analysis of metaphor are important methodologies needed to explore how we understand structural transformations to memory production and distribution within digital culture.

Much contemporary literature on the transformations of memory within digitization, and of 'the social' more generally, has argued that digital technologies have 'democratized', or rendered memory and various other components of social life more open and accessible. Yet an important question to ask here might be: by constraining and enabling possibilities for memory, how do cultural metaphors and their corresponding technologies relate to structural barriers of memory-making? Answering this question involves analyzing the ways in which memory is discursively defined as a 'distributed' entity which is enabled by participation in digital culture through *access* and *use* of memory-sharing technologies. Tredinnick (2008) reminds us that 'neither access nor use is equally distributed in digital divides due to infrastructural inequalities which create imbalances in accessing the "digital superhighway"', as well as socio-cultural disparities of gender, class, income, etc which all have a bearing on digital access and use (Castells 2001). In this way, we can perhaps say there has been a pluralising or multiplication of access and use of shared photographic content, but we cannot say it has been democratized. Tredinnick (2008: 126) explains:

> More people may participate in the construction of truths and knowledge, but that greater plurality is not necessarily any more representative of the socio-cultural system as a whole. Digital culture has democratised participation for certain already privileged groups, but also perpetuates the existing social inequalities within the wider social system

In this way, while power seems to be contingent on use and/or access of digital technologies of memory sharing, it is not determined by the mechanism of knowledge creation rather 'access is determined by power' (Tredinnick 2008: 125). While issues of access and use may seem unique to our 'participatory' culture, they are longstanding inequalities equally present in previous regimes of memory characterized by the archive. Modern memory was characterized by centralized publishing and partial representations of history, while archives were exclusively used and accessed by the elite. An analysis which accounts for the power relations produced and maintained between memory technologies and metaphors of memory reveal personal photography and memory-making as a politically situated practice: 'the selection of information for preservation becomes an overtly politically situated practice acting to legitimize only some versions of history and truth'"(Tredinnick 2008: 163). One of Foucault's central insights is that power is not held – power is exercised. Classifications of memory serve to naturalize conventions and *practices* of memory-making. Consequently, which standards and conventions of memory become routinized and stabilized now is of integral political significance, with far reaching implications for the future of memory within digitization. For instance, will twitter archives count as collective memories? Will news stories remain catalogued in news clippings? What will become of memory conventions which don't fit the archival paradigm? Must we change what we mean by 'archive' to include a multiplication of memory forms? The National Archives of Canada have already begun to echo some of these concerns with 'Project Naming'. By

merging the possibilities of 'naming' unknown members of Inuit clans through digitization, they are hoping to widen the potential of 'distributing' their histories in a larger national context, revealing interesting intersections between modern methods of archiving photographs, varying possibilities and materialities of digitization, and novel performances of memory within distributive networks. These concerns are of utmost sociological significance because as Green (2009, as cited in Goggin and Hjorth) points out: 'Who controls what is done with the undeniable (if willing) data retention intersects with the power relations of memory making and how political, institutional, personal and cultural memories are shaped and used'.

The discourse of memory 'sharing' – as a set of social structures of memory as well as relations between culture and technology mediates the production and distribution of knowledge through its position in a particular structural order. Importantly, the difference in ways of understanding or 'knowing' memory, either as a photographic archive or a distributed flow of data represent classifications that are not derived from properties of memory nor technology, rather they are derived from the ways available to interpret them. Tredinnick (2008: 165) concurs:

> how we explain and contain the experience of change within the cultural sphere also influences how we experience that change. The kinds of narratives that we tell about our experiences change the way in which we confront the digital   world

Virtual Footprints of Memory

While the differences made by metaphorical conceptions of memory have important implications for future engagements with memory, the discourse of memory sharing continues a humanist vision of memory on another, secondary layer: it denies contemporary media any permanence or role in the future. Our engagements with

105

technologies of memory distribution have vast potential to create permanent visual traces in future contexts. Yet by denying a technical materiality and performativity, we often misleadingly assume that any 'sharing' or memory-work within our new distributed network will be 'traceable' only to/by us. Yet virtual mementos are not simply transient and ephemeral – they harbour their own potentiality for memory by 'sending' or 'sharing' our photo-memories into often unforeseen digital contexts. Latour (2007) personifies the arguments put forth in this thesis in arguing that digital memories are indeed permanent in their materiality whose forms are multiplied within digitization. He observes: "it is as if the inner workings of private worlds have been pried open because their inputs and outputs have become thoroughly traceable'.

Tredinnick (2008: 165) notes the irony of the belief that the distributed creation and dissemination of information in the digital age is representing a threat to future memory, when it may in fact be the most 'secure' preservation strategy. He explains:

> Distributed information is by its very nature persistent; it tends to outlive the contexts for which it was originally created. As soon as information is disseminated via a distributed network, copies begin to proliferate and live their own lives

One of the most notable examples is the case of Abu Ghraib prison photographs which leaked to the public in 2008 and pictured horrendous scenes of American military personnel torturing Iraqi inmates. A more recent example with specific relation to memory sharing is causing similar (albeit less severe) anxiety about the traceability of our visual lives.

Intel Processing has recently launched an online web depository of an individual's digital traces by synching a user's facebook account to their application. The website plays a curatorial three minute video exhibit of one's virtual presence in the digital realm. The

106

project is appropriately (and somewhat eerily) titled 'Museum of Me'. The platform urges

users to 'create and explore a visual archive of your social life'[35], creating a visual gallery – a

kind of virtual showcase of one's defining moments such as popular friends, personal likes,

photos and other aspects of our mediated selves. What is personified in this application is

the narrative and emotional scope of data integration. Rather than merely displaying visual

moments, data, and other digital mementos, the application narrates a (short) story

centered around the user directly from the technological and software system's perspective.

The data displayed is acquired through systematic calculations of the frequency of online

posts, and the highest interaction with online friends. This application is an interesting and

nuanced example of the integration of deep-rooted modern archival notions of memory,

along with contemporary systematic agency which performs or presents the memory from a

particular standpoint, thereby changing and impacting the memory in novel ways. In this

sense, it is a great example of the co-articulation of historically dominant archival values and

novel visual architecture made possible only by digitization. The virtual museum's motto

boasts the creation of a visual 'archive' for exploration, yet this 'archive' is wholly

constituted by a digital infrastructure and a technologically unconscious pursuit of software

storage and distribution. By invoking a conceptual framework of an archive, the project

misleads the focus away from the active role software into socially established notions of

archiving, curatorial displays and preserved cataloguing. Yet the role of the technological

unconscious is perceived in the somewhat eerie response elicited when users notice just

how far the virtual omissions of their digital footprints lead.

This initiative is emblematic of the main themes of this research as it exemplifies

the technological unconsciousness in two significant ways: for one, it provokes central

---

[35] http://www.intel.com/museumofme/r/index.htm

debates about human and nonhuman agency within virtual architecture which Thrift (2005: 224) aptly labels 'performative infrastructure'. This infrastructure of software is revealed through the *merging* of new applications with existing media platforms that make apparent the 'sunken in' performativity of technological devices. The tools used for memory have always been material and performative, even in analogue forms. The choice between writing memories into a diary versus displaying a printed photo on an office desk inevitably change the very character of the remembered event. They are performative through their place and position as cultural objects. Memories suitable for an office desk are quite different than memories confessed to a diary. Thus our memories are regulated by cultural (social, institutional, etc) conventions, but also importantly by the materiality of the artefacts or technologies they are shared with. As previously argued, digitization merely makes more apparent or reveals subtle nuances previously concealed with analogue forms.

Secondly, the performative character of software is brought to light in its capacity to construct and leave a set of permanent digital traces. Our 'potential' memories online, despite being transient, communicative or ephemeral, leave a set of 'persistent' digital traces precisely due to their potentiality and the open context of negotiation and appropriation of their final (re)iteration (Hand 2010). We are often deceived to believe that the act of 'sharing' (whether by human or technological agency) ends at the 'send' button. Yet sharing our memories through online platforms, applications, databases and tools not only distributes them to an intended receiver, but also propels them into an unintended infrastructure of distribution with anonymous others. The logic of this point can be attested once we recognize that media (whether technological tools or software initiatives and applications) share and distribute those very photo-memories as well. Since we are only willing to recognize the sharing done by human hands, it comes as no surprise that we often

108

neglect – and are slightly shocked to discover – the unforeseen avenues our photos take online.

We simply cannot foresee how the results of our distributed network of memory will be used in future contexts. Even if they cannot be labelled at this moment, it is important to mark their appearance and importance in shaping memory, social practice, and technological tools. The cathartic moment of this thesis lies in this very realization, that the classification of memory as being distributive through the practice of sharing visual data is indeed making potential memories. In addition, it is integral to social, cultural, and political implications that these traces be recognized as potential memories because conceptualizing what 'counts' as a memory in the present will have deep repercussions for what becomes valued as memory in the future. Yet by implicating the future, our current engagements with new media and memory are also inciting us to reconsider the past.

Throughout this thesis, I have argued for the mutual shaping of culture and technology which has shown how cultural knowledge of memory has partly influenced the use and design of technological tools. Rather than a clean 'rupture' with older forms of memory-making, new media are exposed as sites of 'messy' entanglements of 'old' visions of memory and 'new' devices, and while older forms certainly influence new designs, contemporary discourses of memory are also transposed to the previous regime. Through a process of remediation (Bolter and Gruisin, 2000) some of the characteristics of our 'new' participatory culture have been integrated into traditional structures of media (Tredinnick 2008). For instance, cell phone photographs increasingly make their way into established news and journalism channels. This was particularly prevalent and socially significant during the G20 Summit in Toronto, Ontario in the summer of 2010, where 'on-the-ground' snapshots of police brutality and protester violence infiltrated global journalistic

accounts of the event. Similarly, the recent death of Canada's NDP leader Jack Layton incited a diverse set of contemporary avenues of memorialisation such as twitter feeds, blogs, and (public) 'formsprings' which ran alongside traditional news coverage such as radio feeds and televised news.

A Few Concluding Thoughts

The germinating seed of this thesis was planted by observing the shift to photo-sharing from photo-archiving in personal, collective and professional memory practices. This interest soon grew to a profound theoretical question: is this 'new' phenomenon producing, or is suggestive of, an epistemological transformation of memory? Throughout the critical pursuit of this research, it quickly became evident that contemporary and modern cultural conceptualizations, technological tools, and social practices interact and intersect with one another in layered contexts. This thesis has shown how cultural shaping of technology is historically ingrained through various cultural ideas about memory. My research also analyzed the process by which these metaphors become stabilized – inscribed in digital tools such as Kodak cameras, software systems, and mobile applications, and insinuated important insights on the value of user practice in further cohering these routines as significant cultural articulations. This opens avenues for further research into how users are specifically interacting with these distributed-memory initiatives, while building a solid foundation from which to draw theoretical support for empirical research. Moreover, instead of a narrowly focused analysis, my thesis also questioned the

technological shaping of culture by showing how this influence is historically consistent, while arguing that this shaping is nevertheless suggestive of varying possibilities.

As I previously argued, contemporary notions of connectivity, collectivity, and communication meet with modern notions of objectivity, automaticity, and passivity within photo-sharing practices and technologies which both confirm the archive impulse, as well as generate new distributed functions of memory in unforeseen arrangements, leaving behind a set of digital trails which alert us to profound social, political, and institutional implications of photo-sharing. The changing taxonomies of memory are largely constituted by evolving metaphors that we erect to describe and perform memory with. In this sense, it would be helpful for further research to conceptualize memory as being in a state of constant transition, malleable to the different cultural frameworks and technologies through which it is mediated. Conceptualizing memory through the sphere of 'becoming' – oscillating between metaphorical mappings dependent on dominant cultural values and mechanisms of use – may help us to better understand memory's mediating and intermediary role *between* functions of communication *and* preservation; connectivity *and* collectivity; private *and* public; permanent past *and* continuous present.

Instead of regarding technology the central catalyst of change this thesis opted for a more complex and multifaceted study of new media and memory which is predicated on an interdisciplinary approach. Jens Brockmeier (2010) argues against the likelihood that there will be one new notion of memory, or one new leading discipline or methodology. Instead he agrees with what Olick (2008: 25) deems 'memory fields' which are 'non-paradigmatic, transdisciplinary, and centerless'. He echoes Olick in explaining that the concepts 'are not meant to reflect ontologically the true nature or essence of 'memory' but serve as useful instruments, sensitizing for important mnemonic aspects or implications of

cultural practices and products' (Brockmeier 2010: 26). On the one hand digitization offers and reveals different possibilities and trajectories of memory construction, retrieval, and sharing, yet on the other hand we continue to collapse these divergences into an anthropocentric metaphor of 'sharing' thereby ignoring the participation of technologies in memory construction. The specific focus on metaphor here reveals to us the often hegemonic transposition of cultural ideas or values which are largely constituted by social interaction into digital settings. Without critically assessing the role of metaphor, the relationship between these terms and the technologies by which they are defined would seem benign at worst, even beneficial to those who would observe the cultural interaction with technological tools as a progressive recognition of their mutual constitution. Yet, this interaction is anything but democratic considering the seductive power of metaphors and their socio-political, institutional and industrial employment in overshadowing technological imperatives of memory practices. Consequently, this analysis reveals the differentiation of the past in the previous regime of the archive. Digitization elicits an interesting set of effects or outcomes (none of which are driven solely by economy or exclusively by technology) which simultaneously produce new ways which drawn on the past, and incite us to question or re-consider the past in light of these new ways of 'doing' memory. On a grand scale, Thomas Kuhn reminds us that "Theory change, in particular, is accompanied by a change in some of the relevant metaphors and in the corresponding parts of the network of similarities through which terms attach to nature". While emergent classifications seem to point to a paradigm shift of memory, critical analysis reveals the nuanced intersections of previous regiments. As Draaisma (2000: 4) notes: 'the history of memory, told in metaphors, constantly shows us different kinds of memory'. On a final philosophical note, 'technology' in itself is a metaphor for how we see the world, making a muddy composition

of the possibility to examine terms such as 'memory' or 'technology', when they are so tightly wound with metaphorical stand ins and are constitutive of reality. The nuances of metaphor, the subtleties of thought and the banality of our everyday action assumed to merely accessorize our lives execute a far nobler task; they structure and sustain our lives.

REFERENCES

Barnier. A. 2010. "Memories, memory studies and my iPhone: Editorial". *Memory Studies*. 3 (4):293-297.

Barthes, R. 1980. "The Rhetoric of the Image" in *Image, Music, Text*. London: Fontana.

Bartlett, F. 1932. *Remembering: A Study in Experimental and Social Psychology*. Cambridge: Cambridge University Press.

Bate, D. 2009. *The Key Concepts: Photography*. Oxford. Berg.

Bauman, Z. 2000. *Liquid Modernity*. Cambridge: Polity Press.

Beer, D. 2009. "Power through the algorithm? Participatory web cultures and the technological unconscious", New Media & Society, Vol. 11(6): 985-1002.

Benjamin, W. 1969. "The Work of Art in the Age of Mechanical Reproduction", in Benjamin, W. Arendt, H. (1999) Illuminations, London: Pimlico.

Blommaert, J. 2005. *Discourse: Key Topics in Sociolinguistics*. Cambridge: University Press.

Bolter, D and Gruisin, R. 2001. *Remediation: Understanding New Media*. Cambridge: MIT Press.

Bourdieu, P. 1990. *Photography: A Middle Brow Art*. Cambridge: Polity Press.

Bourdieu, P. 1990. *The Logic of Practice*. Cambridge UK: Polity Press.

Boyer, P. and Wertsch, J. (eds). 2009. *Memory in Mind and Culture*. New York: Cambridge University Press.

Bowker, G. & Star, S. 1999. *Sorting Things Out: Classification and its Consequences*. Cambridge: MIT Press.

Bowker, G. 2005. *Memory Practices in the Sciences*. Cambridge: MIT Press.

Brockmeier, J. 2010. "After the Archive: Remapping Memory". Culture and Psychology. 16 (1):5-35

Burnett, R. 2005. *How Images Think*. London: MIT Press.

Burton, J. 2008. "Bergson's non-archival theory of memory". Memory Studies. 1 (3):321-339.

Buse, P. 2010. "Polaroid into Digital: Technology, Cultural Form, and the Social Practices of Snapshot Photography". Continuum. 24:215-230.

Carruthers, M. 1992. *The Book of Memory: A Study of Memory in Medieval Culture.* United Kingdom: Cambridge.

Castells, M. 1996. *The Rise of the Network Society.* Oxford: Blackwell.

Cohen, K. 2005. "What does the photoblog want". Media, Culture, and Society. 27: 883-901.

Colburn, T.R & Shute, G.M. 2008. "Metaphor in computer science". Journal of Applied Logic. 6: 526-533.

Connerton, P. 1989. *How Societies Remember.* Cambridge: Cambridge University Press.

Danziger, Kurt. 2008. *Marking the Mind: A History of Memory.* New York: Cambridge University Press.

Deleuze, G. 1979. *Cinema 2: The Time-Image.* London: The Athlone Press.

Draaisma, Douwe. 2000. *Metaphors of Memory: A History of Ideas about the Mind.* Cambridge: University of Cambridge.

Edwards, E. ed. (2006). *Photographs, objects, histories: on the materiality of images.* London: Routledge.

Edwards, S. (2006). *Photography: A Very Short Introduction.* Oxford: Oxford University Press.

Elkins, J. 2007. *Photography Theory (The Art Seminar).* New York: Routledge.

Featherstone, M. 2000. 'Archiving Cultures', British Journal of Sociology, Vol. 51(1):161-184.

Foucault, M. 1973. *The Order of Things: An Archaeology of the Human Sciences.* New York: Vintage Books.

Foucault, M. 1977. *Discipline and Punish.* London: Tavistock Press.

Foucault, M. 1980. *Power/Knowledge.* London: Harvester.

Frosh, P. 2001. "The Public Eye and the Citizen-Voyeur: Photography as a Performance of Power". Social Semiotics. 11:43-59.

Frosh, P. 2003. *The Image Factory*. Oxford: Berg.

Garde-Hansen, J, Hoskins A, Reading A. 2009. *Save As...Digital Memories*. New York: Palgrave Macmillan.

Geary, 2011. *I is An Other: The Secret Life of Metaphor and How It Shapes The Way We See The World*: Harper.

Giddens, A. 1984. *The Constitution of Society*. Cambridge: Polity Press.

Goggin, G and Hjorth, L (eds). 2009. *Mobile Technologies: From Telecommunications to Media*. Routledge: New York.

Goatly, A. 1997. *The Language of Metaphors*. Routledge: London and New York.

Goatly, A. 2007. *Washing the Brain: Metaphor and Hidden Ideology*. John Benjamin Publishing: Philadelphia.

Halbwachs, M. [1951] 1980. *The Collective Memory*. New York: Harper and Row.

Hand, M. & Sandywell, B. 2002. "E-topia as Cosmopolis or Citadel: on the democratizing and de-democratizing logics of the Internet, or, towards a critique of the new technological fetishism", *Theory, Culture & Society*, Vol. 19 (1-2): 197-225

Hand, M. (2008). *Making Digital Cultures: Access, Interactivity, and Authenticity*. Ashgate Publishing Ltd.

Hand, M. 2010. 'The Rise and Fall of Cyberspace, or How Cyberspace Turned Inside Out', in *Handbook of Cultural Sociology*, Hall, J. et. al. (eds). Oxford: Blackwell.

Hand, M. forthcoming. *Ubiquitous Photography*: Cambridge: Polity Press.

Haskins, E. "Between Archive and Participation: Public Memory in a Digital Age". Rhetoric Society Quarterly. 37 (4):401-422.

Hoskins, A. 2009. "Digital network memory". In Erll, A & Rigney, A (eds) *Mediation, Remediation and the Dynamics of Cultural Memory*. Berlin: de Gruyter.

Hoven, E., and Eggen, B. 2008. "Informing augmented memory system design through autobiographical memory theory." Personal Ubiquitous Computing. 12 (6): 433-443.

Humphreys, L. 2005. "Cellphones in public: social interactions in a wireless era". New Media and Society. 7: 810-831

Hutchby, I. 2001. "Technologies, Texts and Affordances". Sociology. 35: 441-456.

Jameson, Fredric. 1981. *The Political Unconscious: Narrative as a Socially Symbolic Act.* Cornell University Press.

Jedlowski, P. 2001. "Memory and Sociology: themes and issues". Time and Society. 29: 1-17.

Jenkins, H. 2006. *Convergence Culture: Where Old and New Media Collide.* New York: New York University Press.

Kember, S. 1998. *Virtual Anxiety: Photography, New Technologies, and Subjectivity.* Manchester: Manchester University Press.

Kindberg, Spasojevic, Fleck and Sellen. 2005. "I saw this and thought of you" some social uses of camera phones". Conference on human factors in computing systems.

Kovecses, Z. 2005. *Metaphor in Culture: Universality and Variation.* Cambridge: Cambridge University Press.

Kuchler, S and Melion, W. 1991. *Images of Memory: On Remembering and Representation.* London: Smithsonian Institution Press.

Lakoff, G and Johnson, M. 2003. *Metaphors We Live By.* Chicago: University of Chicago Press.

Lambeck, M & Antze, P. 1996. "Introduction: Forecasting Memory. In Antze, P & Lambeck, M (eds), *Tense past: Cultural essays in trauma and memory.* London: Routledge.

Lash, S. Lury, C. (2007). *Global Culture Industry: the mediation of things.* Cambridge: Polity.

Latour, B. 2000. "When things strike back: a possible contribution of 'science studies' to the social sciences". British Journal of Sociology. 51: 107-23.

Leeuwen, T and Jewitt, C. (eds.) 2001. *Handbook of Visual Analysis.* London: Sage Publications.

Latour, B. 1991. "Society is Technology Made Durable". In Law, J (ed.) *A Sociology of Monsters: Essays on Power, Technology and Domination.* London: Routledge: 103-131.

Lehtonen, K and Kurvinen, 2002. "Mobile Digital Pictures- The Future of the postcard? Findings from experimental field study.

Lister, M. 1995. *The Photographic Image In Digital Culture.* London: Routledge

Lister, M. 2007. "A Sack in the Sand: Photography in the age of Information". New Media Technologies. 13:251-274.

Locke, J. 1879. *An Essay Concerning Human Understanding*, Book 3.

Lury, Celia. 1998. *Prosthetic Culture*. London: Routledge.

Manovich, L. 2001. *The Language of New Media*. Cambridge: MIT Press.

Manovich, L. 2007. "The Poetics of Augmented Space". Architecture and Design. 251-255.

Marien, M.W. 2006. *Photography: A Cultural History* 2nd ed. London: Laurence King Publishing Ltd.

McLuhan, M. 1964. *Understanding Media: Extensions of Man*. New York: McGraw-Hill.

Miller, A. and Edwards, K. 2007. "Give and Take: a study of consumer photo sharing and practice". CHI Proceedings.

Miller, Donald. 1992. *The Reason of Metaphor: a Study in Politics*. New Delhi: Sage Publications.

Mirzoeff, N. 1999. *An introduction to visual culture*. London: Routledge

Mitchell, W. 1994. *The Reconfigured Eye: Visual Truth in the Post-Photographic Era*. Boston: MIT Press.

Mosco, V. 2004. *The Digital Sublime: Myth, Power and Cyberspace*. Cambridge: MIT Press.

Murphy, T. 2001. *Nietzsche, Metaphor, Religion*. State University of New York: New York.

Murray, S. 2008. "Digital Images, Photo-Sharing, and our Shifting Notions of Everyday Aesthetics". Media, Culture, and Communication. 7:147-163.

Nietzsche, F. 1873. "On Truth and Falsity in a Non-Moral Sense" in Clark, M. 1990. *Nietzsche on Truth and Philosophy*. Cambridge: Cambridge University Press.

Norra, P. 1989. "Between Memory and History: Les Lieux de Memoire". Representations. 26:7-25.

Novitz, David. 1987. *Knowledge, Fiction and Imagination.* Philadelphia: Temple University Press.

Olick, J.K. 2007. *The Politics of Regret: on collective memory and historical responsibility.* London: Routledge.

Ortony, A (eds). 1993. *Metaphor and Thought*. Cambridge University Press.

Pederson, I. 2008. "MyLifeBits, augmented memory, and a rhetoric of need". Continuum. 22(3): 375-384.

Petrelli, D., Hoven, E., Whittaker, S. 2009. "Making history: intentional capturing of future memories", CHI 2009. ACM Press, New York: 1723-1732.

Pinney, C. 2003. *Photography's Other Histories*. Duke University Press.

Prodger, P. 2009. *Darwin's Camera: Art and Photography in the Theory of Evolution*. Oxford University Press.

Punter, D. 2007. *Metaphor*. London: Routledge.

Rabinovitz, L. & Geil, A. 2004. *Memory Bytes: History, Technology and Digital Culture*. Durham and London: Duke University Press.

Radstone, S. 2010. *Memories, Histories, Theories, Debates*. Fordham University Press.

Rose, G. 2001. *Visual Methodologies*. London: Sage.

Rose, G. 2010. *Doing Family Photography: The Domestic, The Public and the Politics of Sentiment*. Ashgate

Rose, S. 1992. *The Making of Memory: From Molecules to Mind*. London: Bantam Books.

Scarlett, A. 2010. "Remediating Photography: Re-Imagining Ethics In-Light of Online Photo Sharing Practices", Queen's University: 1-164.

Schiano, C & Isaacs, 2003. "How teens take, view, share, and store photos" Proceedings of the conference on computer supported co-operative work. New York.

Shove et al. 2007. *The Design of Everyday Life*. New York: Berg.

Slater, D. 1995. "Domestic Photography and Digital Culture" in Lister, M (ed.) *The Photographic Image in Digital Culture*. London: Routledge.

Smith, M. and Morra, J. 2006. *The Prosthetic Impulse* . MIT Press.

Sontag, S. 1977. *On Photography*. Hammondsworth: Penguin.

Sontag, S. (1979). *Illness as Metaphor*. Vintage Books.

Spence, J. Holland, P. 1991. *Family Snaps: The meaning of domestic photography*. Virago Books.

119

Sturken & Cartwright. 2008. *Practices of Looking: An Introduction to Visual Culture*: Oxford University Press.

Sutton, J. 1998. *Philosophy and Memory Traces.* Cambridge: Cambridge University Press.

Taylor, P. & Harris, J. 2005. *Digital Matters: The Theory and Culture of the Matrix.* New York: Routledge.

Taylor et al. 2009. "Collocated Social Practices Surrounding Photos". Science Direct: 995-1004.

Tendahl, M. and Gibbs, R. 2008. "Complementary perspectives on metaphor: Cognitive linguistics and relevance theory." Journal of Pragmatics. 40: 1823-1864.

Thrift, N. 2005 *Knowing Capitalism.* London: Sage.

Trachtenberg, A. 1980 (ed.). *Classic Essays on Photography.* New Haven: Leete's Island Books Ltd.

Van Dijck, J. 2005. "Mediated Memories: Personal Cultural Memory as Objects of Cultural Analysis", Continuum, Vol. 18(2): 261-277.

Van Dijck, J. 2007. *Mediated Memories In The Digital Age.* Stanford University Press: California.

Van Dijck, J. 2008. "Digital Photography: Communication, Identity, Memory", Visual Communication, Vol. 7(1): 57-76.

Van Dijck, J. 2010. "Flickr and the culture of connectivity: sharing views, experiences, memories", Memory Studies, Vol. 4(3).

Van House, N. 2009. "The Social Life of Cameraphone Images".

Van House, N. Churchill, E. 2008. "Technologies of Memory: key issues and critical perspectives", Memory Studies, Vol. 1(3): 295-310.

Warde, A. 2005. "Consumption and Theories of Practice." Journal of Consumer Culture. 5(2):131-153.

Wells, L. 2000. *Photography: A Critical Reader.* New York: Routledge.

Wells, L. 2003 (2nd ed.). *The Photographic Reader.* New York: Routledge.

Whittaker, S., Bergman, O., Clough, P. 2009. "Easy on that trigger dad: a study of long term family photo retrieval." Personal Ubiquitous Computing.
1-17.