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Object Data Memory

*An exhibition*

The Material Forms of Memory: a creative arts praxis examining family archive materiality and the performance of memory through installation art

*An exegesis*

This thesis is presented for the degree of
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SECTION FOUR

NEW MEDIA LANDSCAPES

THE BRAIN IS THE SCREEN... THAT IS TO SAY OURSELVES

- GILLES DELEUZE (AS CITED IN MONDLOCH, 2010)

Literature in this section explores how humans are mediated by new media technologies and the influences this might have on the performance of memory. As illustrated in the previous sections of this literature review, our mnemonic processes and archival practices are reliant on and determined by external technologies (Derrida & Prenowitz, 1995). This section maps discourses in new media studies that directly inform my creative arts praxis and has been divided into three parts. The first part will provide a brief historical background to the data explosion that frames the understanding of the contemporary digital landscape. The second part will illustrate that new media has transformed the materiality of family archives from tangible objects to intangible digital data. The final part will investigate how new media and our culture of connectivity (Jose van Dick, 2010) has significantly altered our mnemonic processes in relation to family archive.

The Data Explosion: Computers, the Internet and Digital Consumer Devices

An abundance of literature from the last decade focuses on the phenomenon of new media (Athique, 2013; Dewdney & Ride, 2006; Garde-Hansen, 2011; Kember & Zylinka., 2012; Manovich, 2001, 2009; van Dijck, 2005; 2008; 2010; Hand, 2012). The concept of new media can be placed within “the history of modern visual and media cultures” (Manovich, 2001, p. 8), yet there is no definitive definition of new media. The term digital media reflects merely on the technology, however, the term new media indicates “a set of more radical and fundamental shifts and changes in the ways in which human affairs are conducted” (Dewdney & Ride, 2006, p. 21). The shift from old to new technologies is not
definitive and the term new media raises debate across culture theory. As Glen Creeber and Royston Martin (2009) discuss the main concerns with the term new media is that all technology is new at some point and at what point does media become new media. Creeber and Martin (2009) state that new media is “generally associated with the technological transformations in communication that have recently taken place” (p. 2). The term new media is used in my creative praxis to encompass myriad of technologies that influence social and cultural dimensions of contemporary culture and to encompass the shift in the way these technologies influence human activity.

Seminal research in media culture is largely credited to Marshall McLuhan (1964) who explores modern media from a technologically determined viewpoint (Athique, 2013; Dewdney & Ride, 2006; Garde-Hansen, 2011; Kember & Zylinka, 2012). McLuhan (1964) provides an essential departure point for many theorists, scholars and artists concerned with media studies (Carr, 2014). In his most notable text Understanding Media: the extensions of man (1964), McLuhan outlines that during the mechanical ages we had extended our bodies in space. Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace, abolishing both space and time. Rapidly, we approach the final phase of the extensions of man—the technological simulation of consciousness. (p. 3)

For McLuhan (1964), “by means of translation of immediate sense experience into vocal symbols the entire world can be evoked and retrieved at any instant” (p. 63). Electric light is an example of how humans have extended their sensory abilities by allowing us to turn night into day—an invention that has considerably altered the dynamics of human life for the past century (Athique, 2013). McLuhan’s theories surrounding how technologies can act as sensory prosthetics that extend our senses and ultimately, the externalisation of memory underpin my creative praxis. The way family history is narrated and archived is through the technologies available at the time—as technology has developed the infrastructure of our external memories has shifted and altered as a result.

In McLuhan’s view, “the content of any medium is always another medium” (McLuhan, 1964, p.8). For example “print media extended our capacity of speech. Photography and cinema extended our capacity of vision. Radio and the phonograph extended our capacity of hearing” (Athique, 2013, p. 23). Therefore, it can be theorised that every media is dependent on another media for its survival and existence (McLuhan, 1964; Dewdney & Ride, 2006; Carr, 2014; Athique, 2012). McLuhan (1964) introduces the term remeditation to describe “how a new medium in its early stages relies upon, i.e. adapts, co-ops or incorporates elements of, previous media” (as cited in Dewdney & Ride, 2006, p. 314). The significance of this, as explained by Adrian Athique (2013), is that “a media,
inevitably transforms (mediates) the way that sensory actions are performed in society” (p. 22). The real power of any media lies in the ability to “extend the human senses, such as sight, speech and memory to an exponential degree” through technology (Athique, 2012, p. 23). Nicholas Carr (2014) argues McLuhan’s (1964) early texts have become central to media studies by stating “a medium moulds what we see and how we see it—and eventually, if we use it enough, it changes who we are, as individuals and society” (p. 3). With this understanding, Athique (2013) asserts “in providing humanity with these sensory extensions, the media apparatus radically transforms both the scale of human society and our perception of that society” (p. 23). The extension of the human senses and the translation of immediate sense experiences (McLuhan, 1964; Athique, 2012) resonates with what classical mnemonics strived to achieve. In general, research suggests that modern society is underpinned by the desire for technology to encapsulate human senses in order to heighten knowledge and memory (McLuhan, 1964; Carr, 2014; Athique, 2013; Hand, 2012; Manovich, 1995, 2001, 2009; Garde-Hansen, 2011).

An understanding of McLuhan’s (1964) theories is useful when evaluating more recent literature by Lev Manovich (2001). In his seminal text *The Language of New Media* (2001), a more contemporary discourse surrounding media culture is established. Manovich (2001) proclaims the “impact of new media is still yet to be known” (p. 19). However, what he does acknowledge is

> the introduction of the printing press affected only one stage of cultural communication—the distribution of media. Similarly, the introduction of photography affected only one type of cultural communication—images. In contrast, the computer media revolution affects all stages of communication, including acquisition, manipulation, storage and distribution—it affects all types of media—texts, still images, moving images, sound and spatial constructions. (Manovich, 2001, p. 19)

In this statement, Manovich (2001) defines two separate but fundamental developments in history that have affected the definition of new media—“computing and media technologies” (p. 21). Manovich (2009) illustrates that from 2005 there has been an explosion of user-created content on the web, and therefore “we have moved from media to social media” (p. 319). Michel Mandiberg (2013) explains, that as a result, social media has transformed “our concept of what an image is—they turn a viewer into an active viewer” (p. 183). This notion is derived from Manovich (2001) who states, “the image becomes interactive, that is, it now functions as an interface between user and a computer, or other devices” (p. 183). It is important to note that Manovich is careful to use the word *interactive* to describe new media. In his view, the concept of *interactivity* is a fundamental principle that governs characteristics of a computer. Manovich (2001) argues interactivity “is a structural feature of the history of the modern media” (p. 57) and to describe new media as *interactive* is too broad a statement. What Manovich
(2001) proposes is that “the literal interpretation of interactivity is just the latest example of a larger modern trend to externalise mental life, a process in which media technologies—photography, film, VR—have played a key role (p. 57).

Shawn Dubravac (2015) elaborates on Manovich’s (1995; 2001; 2009) arguments to provide a more detailed understanding of our contemporary digital landscape. Recent research by Dubravac (2015) acknowledges that three elements converged during the early part of the 20th century—“ubiquitous computing, Internet access and the proliferation of digital consumer products” (p. 39). Micheal Mandiberg (2013) explains, mass media shifted in the late 1980s with the wide spread use of photocopiers, home video cameras, desktop publishing, the home computer and increased internet access. By the early 2000s, when financial costs associated with computers, software and Internet access decreased, a new form of media emerged based on active participation between the media producer and media consumer (Mandiberg, 2013). The escalating speed that digital technologies have advanced is unprecedented. Eric Schmidt and Jared Cohen (2013) exemplified this by stating: “In the first decade of the 21st century people connected to the Internet worldwide increased from 350 million to more than 2 billion (p. 5). To understand the magnitude of the data explosion, Dubravac (2015) claims that “in 2013, researchers at SINTEF, a Norwegian research organisation, reported that 90 percent of the world’s data had been generated over the past two years (p. 49). Dubravac (2015) further emphasises this by drawing on data visualisation firm DOMO to calculate how much data is produced using some familiar examples

As of 2014, every minute...

204 million email messages are sent;
Google receives over 4 million search queries;
46 million pieces of content are shared on Facebook;
277 000 tweets are sent;
216 000 photos are posted on Instagram;
48 000 apps are downloaded from Apple’s App Store;
26 380 reviews are posted on Yelp!
3472 images are pinned to Pintrest; and
72 hours of new videos are uploaded to YouTube. (p. 50)

In addition, Dubravac (2015) proclaims the biggest growth in data since the Internet corresponded to the advent of smartphones and tablet PCs. “Today roughly 3.6 billion people have a mobile connection and there are over 7.1 billion total mobile connection...[and]...soon there will be more total mobile connections than there are people on the planet” (Dubravac, 2015, p. 51). Although already now out of date, these are phenomenal figures that put into perspective the influence that computing, the Internet and digital consumer products have had on contemporary culture. In more
recent research Manovich (2014) argues, “software has emerged as the main new media form of our time” (p. 79). What McLuhan’s text does not account for is the ubiquitous use of computers and digital technologies in daily life. Manovich (2014) suggests, “it is time to update *Understanding New Media*. It is no longer the medium that is the message today. Instead the software is the message. Continuously expanding what humans can express and how they can communicate is our content” (p. 81). Consequently as new technologies and ways of externalising our memories become available, “the content cannot be dissociated from the structure, just as an artwork cannot be read independently from its production conditions and context. It is therefore essential to analyse both in tandem (Salah, Manovich, Salah, Chow, 2013, p. 410).

**Mnemonic Processes in ‘Connected Culture’**

The complex relationship between human memory and machine is far beyond the scope of my research to define scientifically, psychologically and neurologically. The literature in this section does however establish a platform to begin to understand how our memory processes are altering biologically due to new media technologies. Memory has been intrinsically linked metaphorically with notions of photography and the archive (Sontag, 2008; Barthes, 2010; Carr, 2015). After the Industrial Revolution, the conception of the adult brain was represented as a mechanical contraption (Carr, 2015). As Carr (2015) explains, “the brain is not the machine we once though it to be...they change with experience, circumstance and need” (p. 29). Proposing that:

> the tools man has used to support or extend his nervous system—all those technologies that through history have influenced how we find, store, and interpret information, how we direct our attention and engage our senses, how we remember and how we forget—have shaped the physical structure and workings of the human mind. Their use has strengthened some neural circuits and weakened others, reinforced certain mental traits while leaving others to fade away. (Carr, 2015, p. 49)

The genetic evolution of our brain is incredibly slow in development, however; Carr (2015) argues that the way humans think has “changed almost beyond recognition over the last millennia” (p. 49). Using the Internet as an example, it provides a “convenient and compelling supplement to personal memory” (p. 192). Yet, Carr (2015) cautions that if we use it as a *substitute* for memory, then we “risk emptying the mind of their riches” (p. 192). The inundation of competing messages that we receive through the Internet and our personal computing devices “not only overloads our working memory, it makes it much harder for our frontal lobes to concentrate our attention on any one thing” (p. Carr, 2015, p. 194). The magnitude of online information available is conflated into a dynamic and participatory experience that conflates media across text, photography, video and
digital code. Hyperlinks are embedded within webpages, advertisements are designed to constantly grab our attention and we have adapted to using multiple screens and pages whilst undertaking tasks simultaneously across webpages, applications, software and telecommunications (Carr, 2015; Hand, 2012).

As a result, Carr (2015) argues that the more we use this media, the more we are training our “brain to be distracted—to process information very quickly and very efficiently but without sustained attention [in which] our brains become adept at forgetting, inept at remembering” (p. 194–195). This being said, the human brain has also acquired a new set of skills that allow the cognitive processes to conduct various tasks across different media (Carr, 2015; Kember & Zylinska, 2012). The extent to which the human brain is influenced by the emergence of new media are expanded by Kember and Zylinska (2012), who draw upon Carr’s theories, in alignment with Katherine Hayles (as cited in Kember and Zylinska, 2012) to argue, “we find ourselves in the middle of ‘a generational shift in cognitive styles’ that entails the ‘neurological re-wiring of the human brain as a result of performing small repetitive tasks’” (p. 161). Facebook is an example this re-wiring of the human brain, Hayles contends that

Facebook participation is not just a social experience but also a biological one: it is something that engages our cognitive apparatus, possible adjusts our “plastic brain” connecting as it does our eyes, fingers, and minds to the expansive network architecture of the web. (as cited in Kember and Zylinska, 2012, p. 161)

This model of thinking can be traced back to McLuhan (1964), who postulates that the materiality of digital technologies has “extended our central nervous system in a global embrace” (p. 3). The influence of this hyper-networked society turns “life itself into a product, constantly remoulded and repacked via the flickering pulsations and pings of data” (Kember & Zynliska, 2012, p. 163). As a multimedia platform, “the Net fragments content and disrupts our concentration” (Carr, 2012, p. 91) by the arrangement of information and media combined on a single screen (or multiple screens). The relevance of this literature underpins the technological deterministic and social constructionism view outlined earlier—the relationship between the brain and the world and “media and mediation [to affect] mutually constitutive aspects” (Kember & Zynliska, 2012, p. 163). What this research suggests is that the performance of memory has altered as result from the sensory and cognitive stimuli from new media and a connected and networked culture (Carr, 2015; Kember and Zylinska, 2012; van Dijck, 2010). This literature frames foundational ideas for my creative arts praxis surrounding the way our mnemonic processes are affected due to the new media technologies and provides context to apply these ideas in relation to family archives.
Family Archives ‘in Motion’: from objects of nostalgia to mediated social processes

This section examines the transition of family archives from physical objects to intangible data. As established by literature in Section Two: Archives, visual culture in the 19th century is represented by notions of the archive as relating to static, permanent and tangible characteristics (Barthes, 2010; Sontag, 2008; Edwards & Hart, 2004; Parkka, 2012; Lister, 1995; Hand; 2012). The materiality of family archives, as contended by Leadbeater (as cited in Athique, 2013), significantly altered as a result of the information revolution, which transformed from “physical to intangible (untouchable) commodities and actions, and from embodied to mediated social processes” (p. 5). These ideas are not new, but what can be established is that new media has extended, intensified and heightened inherent characteristics of analogue photography (Paragana Mota, 2013). Martin Hand’s (2012), text Ubiquitous Photography (2012) conflates a large volume of empirical research and literature on the significance of digital photography within historical, social and political-economic context. The fundamental difference between family photographic practices in the 19th century and those of contemporary culture, according to Hand (2012) are “based in the shift towards a globally networked environment. Images are now increasingly visible and visual alongside their increased normality within ordinary life and everyday experience (p. 11). Hand (2012) proclaims, our archival processes of “classification, storage and retrieval are altering through digitisation” (p. 143). Research suggests that the increased ephemerality, mobility and malleability of digital images across photo-sharing sites have significantly altered the architecture of memory-making processes (Hand, 2012; van Dick, 2008; 2010; Reading, 2008; Van House & Churchill, 2008).

More recent investigations by Michael Shanks (2012) contend “mobile media and ubiquitous computing create mixed and hybrid realities where the digital realm and physical environment are intertwined” (p. 1). The mobile phone is used as an example to highlight the extent that new media has become a sensory prosthetic, not just of vision, but of experience between the person and the machine (Shanks, 2012). The hybrid functions of a mobile phone, such as entertainment, organization, navigation, communication and creation, assert itself as a metamorphic device; part of a networked society (Shanks, 2012). Shank’s (2012) research, alongside a large volume of literature (Lev Manovich, 2001; Mondloch, 2010; Pargana Mota, 2013; Wood, 2007; Hand, 2012; McLuhan, 1964; Anthique, 2013) suggests our engagement with technologies mediates our spatial relationship, alongside our viewing experience and participatory engagement.
According to Alysih Wood (2007), we encounter digital technologies through a range of interfaces—we rely on machines and technology to transcribe and mediate our experiences with digital images and information. With this understanding, our sensory experience and engagement with family archives are significantly influenced by their transformation from tangible objects to intangible data. New media significantly redefines media archaeology (Ernst, 2013; Manovich, 2001; Parikka, 2013). Parikka (2012) suggests that unlike earlier modes of archives, which are related to the process of freezing time in order to store and preserve, New forms of “archives in technical media culture can be described as archives in motion”—they are “dynamic, changing forms” (p. 120). This is a key aspect of new media’s influence on family archives. The ubiquitous nature of digital photography has “intensified reflexivity in our relations with the past and in the modes of engagement we have our visual present” (Hand, 2012. p. 192). Digital technologies and new media have encouraged functions such as selecting, viewing, editing, re-shooting and deleting—essentially becoming our own archivists, documenting our individual lives through visual records on our personal devices. As technologies are produced and developed at an exponential rate, Luke Tredinnick (2008) argues the making of archives has become a by-product of digital technologies. With digital technologies and new media, Tredinnick (2008) highlights the shift from filtering content at the point of recording to filtering content at the point of consumption. As a result, new sets of cultural practices have emerged that redefine traditional notions of the archive, of which centralised the role of the individual as an active producer of their own visual narrative and memory. New media has transformed archives “from a read-only platform to a user orientated and participatory engagement” (Parikka, 2013, p. 82). The inherent materiality of new media encourages users to produce, store, edit and share a large quantity of visual documentation of our lives. What this research suggests that the production of our archives are no longer as controlled, permanent or deemed nostalgic artefacts.

Jose van Dijck’s (2005; 2008; 2010) theories contribute significantly to research in visual culture, new media and memory. Van Dijck (2005) advocates that digital technologies “tends to erase the materiality of inscription, but gives rise to a new materiality that may affect both cultural forms and practices of remembering” (p. 16). These ideas were first conceptualised by van Dijck in 2005, but have been developed further in her 2008 and 2010 papers. Van Dijck’s (2008) research suggests that technical changes, developments in “cognitive science and socio-cultural transformations affect photography’s role in communication and the shaping of identity and memory” (p. 3). Photography has shifted from “family to individual use, from memory tools to
communication devices and from sharing (memory) objects to sharing experiences” (van Dijck, 2010, p. 4). This is evident when I critically analyse my own family archives—they sit in a cupboard in my family house, and when they are revisited within private settings, they evoke story telling, remembrance and nostalgia. These albums ceased production within our family once the accessibility of digital cameras emerged alongside home computers. My family archives are now dispersed between my brothers, my mother and stepdad, whereby there is no centralised location (physical or virtual), but are controlled from the individual perspectives of family members. This change of materiality alters the way that stories are told—part of the story-telling aspect was the physical handling of these tangible objects from the past to evoke mnemonic function, rather than viewing them electronically through screens on phones or portable devices.

The emergence and proliferation of new media has delineated the traditional role of family archives. These ideas are expounded by Nancy Van House and Elizabeth Churchill (2008) and Anna Reading (2008) who examine family archiving practices within new media. Van House and Churchill (2008) argue the transformation of family archives from tangible objects into the “placelessness of cyberstorage …[which, essentially means]… we have more stuff in space, and most of it is faceless, all tidily hidden on the hard drive or floating somewhere out in the Internet” (p. 302). In western contemporary society, consumers are enticed by the idea that almost everything can be accumulated and stored with minimal cognitive and physical effort on personal consumer devices (Van House & Churchill, 2008). The cameraphone or smartphone equips us with portable archives of images, video clips and messages that are interwoven with diaries, organisers and memory prompts (Reading, 2008). The empirical research presented by Reading (2008) focuses on mobile use within different social and communicative contexts. Although only generalised theories can be made due to the small size of the focus groups, Reading (2008) suggests that “the mobile camera phone is used more like a portable ‘family album’” (p. 356) that transverses space, and time and public and private. When compared to the private function of the VHS tape, the accessibility of digital cameras that can capture and record has transformed our everyday experiences and communication (van Dijck, 2010). Analogue media can be described as “immediate, literal, and naturalistic, ... [whereas] ... digital video destabilises the supposed naturalness (Van Dijck, 2010, p. 32). New media produces new sets of archiving practices to interact with recorded home movies.

The culture of connectivity has resulted in “networks of multiple dyadic and technological relations that define and redefine not only the nature of memory, but also the way our
perspectives and experiences are formed” (p. 404). van Dijck (2010) suggests that memory is increasingly structured by “digital practices and the connectivity of our networks” (p. 403). For example, van Dijck (2010) highlights Flickr’s motto “Share your photos. Watch the world” (p. 401) to argue that it is grounded in the assumption “that sharing photos leads to collective perspectives, experiences and memory” (p. 401). Digital technologies and networked social media sites actively promote new archiving practices, such as tagging and connecting people, places and events (Parikka, 2013; Hand, 2012; van Dijck, 2008; 2010). Similarly, Sara Pargana Mota (2013) contends, “new technological platforms and devices are increasingly mediated by private memories” (p. 180). These new architectural spaces of memory have “transformed photography into performative everyday social practice, communicative tools, currency for social interaction and identity construction” (Pargana Mota, 2013, p. 181). Social media platforms are not explicit in my creative praxis, however they have become a significant element of the fabric of contemporary society and are important to address within the theoretical framework of this creative arts praxis. This research can apply the metaphorical association of architecture to new media—for example the computer is both a physical storehouse and figuratively, within the computer through its software and memory capabilities. The expansive architecture of the Internet resembles an infinite web of networked communications and connections—this architecture is constantly moulded, adding, shifting and re-appropriating.