POSTHUMAN MEMORIES

A Thesis
Submitted to the Faculty of the
Graduate School of Arts and Sciences
of Georgetown University
in partial fulfillment of the requirements for the
degree of
Master of Arts
in English

By
Travis John Collins, B.A.

Washington, D.C.
April 22, 2009
Thanks to Steve Wurtzler, who managed to instill confidence while balancing insightful criticism with understanding patience. Thanks also to James Schaefer for always having his door open—leading to many fruitful brainstorming sessions. Finally, thanks to Seung Hyun Song, a companion with whom I am continually coming to new understandings of the meaning of lived experience.
POSTHUMAN MEMORIES

Travis John Collins, B.A.

Thesis Advisor: Steve Wurtzler, Ph.D.

Abstract

This thesis examines the interaction between technologically mediated memories and the embodied individual. More specifically, the following engages fictional representations of visually mediated posthuman memories. Posthumanist conceptualizations posit the human as necessarily technological; posthuman memories, therefore, are always both embodied and technological. A photograph, so conceived, neither erases nor opposes a multisensory embodied memory; rather, the photograph always intertwines with that original embodied memory experience. As the individual uses the photograph as a memory prosthesis, so too that same photograph works back upon the individual, altering both conceptually and affectively his or her memories of that original embodied event.

This analysis filters the above theoretical underpinnings through the prism of several films and novels. Each of these works depicts variously an individual’s interactions with either a photograph or camera. Each of these individual experiences, then, collectively understood, contributes to an understanding of visually mediated posthuman memories.
Finally, in addressing these posthuman memories, this work looks primarily at the analog format. The digital, then, though it is addressed throughout, is represented only as it stands in relation to the analog. The analog, here figured, is always already the ground of the digital. Analogously, this work aims to provide a theoretical foundation for any future consideration of posthuman memories, whatever their format or sensory modality may be.
# Table of Contents

- Introduction .............................................................................................................. 1
- Chapter I .................................................................................................................. 9
- Chapter II ................................................................................................................ 21
- Chapter III ............................................................................................................. 43
- Conclusion .............................................................................................................. 51
- References .............................................................................................................. 57
Introduction

Memory and consciousness both are species-specific. Any evolutionary conception of these two functions, it then follows, differs from a theory predicated upon some originary substantiation. Human consciousness conceived as an outgrowth of evolution implies not an analogous event of interspecific schism, but rather a general and gradual realization of heterospecific difference. Important to posthumanist conceptions of this evolutionary differentiation is the acquisition by humans of the ability to self-other. Michael Tomasello encapsulates this perspective: “Individual human beings possess a biologically inherited capacity for living culturally.”

Continuing, Tomasello writes:

Nonhuman primate individuals regularly produce intelligent behavioral innovations and novelties, but then their groupmates do not engage in the kinds of social learning that would enable, over time, the cultural ratchet to do its work.

---

1Tomasello (2000), 53. Tomasello later connects this capacity for self-othering to language. See also Deacon (1997) and Leroi-Gourhan (1993). Leroi-Gourhan figures prominently in Stiegler (1998), and is of seminal influence to those theorists coming to posthumanist perspectives from the traditions of Continental philosophy.

2Op.cit., 5. Tomasello’s phrase “cultural ratchet” refers to the ability of a species to build upon previous generations’ work. Humans are the only species (or, more correctly, the genus Homo, of which homo sapiens are the only remaining species) able to enact this ratchet.
Many species are social, but only humans have the capacity for social learning, that primary trademark of self-othering. This ability, then, both differentiates and defines the nature of the human. To be human is to be able to see oneself through others, and, in turn, to use that ability to both acquire and transmit cultural knowledge.\(^3\)

Though this evolutionarily inherited ability to self-other is important to posthumanists, the more prominent concern of their work is a conceptualization that locates this evolutionary differentiation at the intersection of the species with technology. For the posthumanist, tools are extensions of the human only insofar as those extensions provide feedback. Tools create the human; writes Bernard Stiegler: “The human invents himself in the technical by inventing the tool—by becoming exteriorized technologically.”\(^4\) The human splits itself off as a species through its use of technology. To be human is to be technological. This conceptualization goes hand in hand with conceiving

\(^3\) Though there is not room enough here for a full fleshing-out of the split, it should be mentioned that posthumanists argue against hard-line constructivist understandings of the subject. See Latour (1993), as well as Massumi (2002), 11: “The point is that the ‘natural’ and the ‘cultural’ feed forward and back into each other…It is necessary to theorize a nature-culture continuum.” See also Hansen (2006), 7-13; and Hansen (2003), passim, wherein Hansen argues against both modernist’s and poststructuralist’s “Common allegiance to the strategy that I shall call techness, or the putting-into-discourse of technology,” page 20. Techness has become a term used often by posthumanists when countering discourse theorists and deconstructionists.

\(^4\) Stiegler (1998), 141. See also, 153: “The prosthesis is not a mere extension of the human body; it is the constitution of this body qua ‘human’”; and Massumi (2002), 95: “Extensions. The thing, the object, can be considered prosthesis of the body—provided that it is remembered that the body is equally a prosthesis of the thing.”
of humans as necessarily self-othering. Technology, in this formation, is the locus of cultural transmission; humans self-other both through their use and contemplation of tools. Andy Clark summarizes these concomitant views, writing: “It is a mistake to posit a biologically fixed ‘human nature’ with a simple wrap-around of tools and culture; the tools and culture are indeed as much determiners of our nature as products of it.”\textsuperscript{5} For the posthumanist, then, technology is the embodiment of Tomasello’s “cultural ratchet.”

Régis Debray coalesces these various approaches:

One says of the technological world that it has become our second nature, yet since there never was an unmediated first nature, humans never had any choice in the matter. Human being in the world is secondhand to start with.\textsuperscript{6}

Conceiving of the human as always already technological in turn calls for a conception of cultural transmission as predicated on the technical. Clark again offers a summation, here paralleling the work of both Terrence Deacon and Andre Leroi-Gourhan:

The evolutionary emergence of the mammalian neocortex is generally accepted as the key neural innovation underlying advanced reason. Cortical evolution…is a story about the addition of a plastic resource geared to allowing the encountered

\textsuperscript{5} Clark (2003), 86. Important to this distinction, especially in the work of Deacon (1997), is the idea of language as one of these tools. See also, Wills (2006). Wills is in dialogue primarily with Stiegler’s 3-volume \textit{Technics and Time}, the main fault of which, for Wills, is its forgetting of language. In this sense, Wills returns to Stiegler’s predecessor, Derrida.

\textsuperscript{6} Debray (2000), 77. Debray draws upon both Stiegler and Leroi-Gourhan.
environment to build dedicated, delicately neural substructures ‘on-the-hoof.’

The human neocortex and prefrontal cortex, along with the extended developmental period of human childhood, allows the *contemporary* environment an opportunity to partially redesign aspects of our basic neural hardware itself.\(^7\)

Central to the posthumanist, then, is the idea that the human is plastic (including especially the brain), and that this plasticity is what contributed to the differentiation of the species.\(^8\)

Clark’s use of the word *contemporary* emphasizes the idea that the human qua posthuman is, as a species, always mutating, ever building upon previous generations’ work; and, as, individuals, ever incorporating technologies into plastic formations of the self. N. Katherine Hayles also considers the posthuman from the perspective of the contemporary temporal and cultural milieu. In setting forth her analysis, she outlines a number of posthuman attributes:

- First, the posthuman view privileges informational pattern over material instantiation, so that embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life. Second, the posthuman view considers consciousness….as an epiphenomenon, as an evolutionary upstart trying to claim that it is the whole show…Third, the posthuman view thinks of the body as the

---

7 Clark (2003), 84.
8 On posthumanism and brain plasticity, see Wolfe (2007) and Cartwright and Goldfarb (2006).
original prosthesis...so that extending or replacing the body with other prostheses becomes a continuation of a process that began before we were born.⁹

Hayles’ work immediately brings to light the possibilities of a re-thinking of the human qua posthuman within a contemporary environment. As posthuman, an individual is not swallowed up by technologies, but instead enters with them into a reciprocal relationship.

Hayles’ second provision, however, calls for a certain amount of trepidation. In this regard—in viewing consciousness as an “epiphenomenon”—Hayles echoes the work of techno-determinists such as Friedrich Kittler, whose dictum is, “Media determine our situation.”¹⁰ In this sense, Kittler is more cyborg than posthuman theorist; which assessment, if apt, in turn calls into question Hayles’ own position between those two

---

⁹ Hayles (1999), 2,3. It is no doubt by now clear that no two posthumanists hold exactly the same view of the term. Adding to the confusion, posthuman is often equated with cyborg, depending upon the author. Hayles’ work traces a genealogy of posthumanism as arising from the cyborg—the cybernetic-organism—as originally conceptualized by early cybernetic theorists. She uses the term posthuman, then, to distinguish herself from that tradition. Generally speaking, the cyborg is disembodied (as depicted, for example, in the novels of William Gibson, where users can “jack in” their brains to cyberspace; see Gibson (2004)), whereas the posthuman is embodied yet fluid. The cyborg is teleological, pointing to the future; the posthuman is always already, dispersed through past, present, and future. In this sense, Clark (2003) and Haraway (1991), though they use the term cyborg, fit squarely into the embodied always already posthuman.

¹⁰ Kittler (1999), xxxix. Kittler is considered the father of German Media Theory, the proponents of which view humans as constructions of media/technology. For further elaboration, see Kittler (2006), wherein Kittler makes the comment: “My topic is the question of what consequences the global conquest of computers has for the humanities, that is, for those quaint but no longer very functional disciplines that should rather be called cultural studies or, even more preferably, become part of media theory,” 40.
paradigms. As this thesis brings out, my own view, in line with Mark Hansen and Brian Massumi, is that, rather than a mere epiphenomenon, embodied consciousness reverberates against technology, sometimes rationalizing actions after the fact, at other times anticipating and subsequently actualizing future acts.\(^{11}\) In a later work, Hayles returns to this issue and modifies her position:

> For Kittler it is all about media…For Hansen it is all about embodied subjects…From where I stand, it looks like Kittler and Hansen are perched on a seesaw that teeters up and down while they fail to notice that both ends are connected by a fulcrum joining the two correlated actions. Certainly media are dependent upon embodied subjects…There would be no media without humans to invent them…on the other hand, media clearly determine and help constitute humans' embodied responses.\(^{12}\)

Ultimately, then, any reading the of the posthuman theoretical paradigm through contemporary situations and subjects requires ever a balancing between these two extremes, moving at once to the technological substrate and again back to the embodied individual.

\(^{11}\) Both Massumi (2002) and Hansen (2004) emphasize the primacy of embodied perception—both also drawing upon the work of Bergson and Deleuze. Hansen explicitly sets his work against Kittler.

\(^{12}\) Hayles (2005), 35.
In what follows, I enlist this *seesaw paradigm* to examine the relationship between individuals and their own technologically mediated memories (TMM). Strictly speaking, in that we are always already posthuman, all of our memories are likewise. Beyond this implicit understanding, however, the more explicit domain of this work is to examine posthuman memories as embodied multisensory memories (EMM) that have interacted with a technological medium. Posthuman memories, so conceived= (EMM) x (TMM). As of yet, however, there are very few technologically mediated forms of smell, taste, touch, or proprioception. The primary TMM, then, are of sound, vision, and sound-vision. This particular work deals almost exclusively with visually mediated memories; even more specifically, the main visually mediated memories discussed herein are of photography.

---

13 Haptic technology, however, is progressively making headway. For a general overview, see the *International Society for Haptics*, at http://www.isfh.org/. Other examples of haptic technologies include video games (especially the *Nintento wii*, which requires the participant to mimic their screen avatar), “touch” cell phones, and haptic robotic surgery.

14 By no means does this work call for some sensory hierarchy arguing for the primacy of the visual. It in fact holds, following critics such as Brian Massumi, that all senses are always mixed. He writes, “Vision always cofunctions with other senses, from which it receives a continuous feed and itself feeds into: hearing, touch, proprioception, to name only the most prominent.” Massumi (2002), 145. See also Mitchell (2007). This work, then, aims more to serve as a prolegomenon, using the visual as a foothold into the further study of all embodied interactions with (multi-)sensory TMM.
All technological objects are an embodied form of a cultural memory; any individual interaction with a technological object is then concomitantly an interaction with an embodied cultural memory.\textsuperscript{15} The circumscribed area of this thesis, however, is \textit{individual} posthuman memories. That is, though all posthuman memories implicitly are filtered through the cultural (e.g., through a technological substrate), this thesis is concerned with that cultural background only insofar as it \textit{explicitly} interacts with the individual experience.

Photography conceived of as a memory-tool differs only in kind from any other object that is appropriated as a memento. That difference in kind, however, becomes over time a difference of exponential proportions. The visually mediated memories of a posthuman subject become ultimately constrained by that singular sensory modality; those memories may not be determined by those photographs, but certainly they are delimited. Yet that same delimiting difference is realized also as an enlargement of temporal subjectivities. The present self is able to return virtually to the past self, which ability in turn shapes both the subject’s self-conceptualizations and future becomings.

\textsuperscript{15} I address this issue tangentially throughout. However, the main concern of this work is with technologically mediated \textit{individual} memories. For a study analyzing the relationship between individual and cultural memories (specifically in the digital age), see van Dijck (2007); see also Alison Landberg’s conceptualization of “prosthetic memory,” in Landsberg (2004).
Chapter I

Early cybernetic theorists were concerned most with the one-to-one interaction between a subject and prosthetic machine. Regarding this interaction, the two concepts of primary importance were those of feedback (between human and machine) and homeostasis (maintaining an equilibrium). Expanding the scope of this first generations’ paradigm, the second wave of cyberneticians constructed a conceptualization including not only the theorists themselves (the observer), but most especially a dynamic feedback loop linking subject, machine, and environment.16 This neocybernetic wave spawned a number of differing theoretical approaches corresponding exponentially to a number of different fields. Beyond posthumanism, many of these neocybernetic offspring continue working yet today. The work of Niklas Luhmann, for instance, employs the tools of second-order cybernetics as a means to engage various social systems (including everything from the mass media to art to love to society itself), examining in turn how those systems act as both self-sustaining and self-creating (autopoietic) organisms.17

16 This two-sentence description necessarily simplifies the differences between the two groups. On early cybernetics, see Dupuy (1999). For a general overview of second-order cybernetics, see the chapter entitled “The Second Wave of Cybernetics” in Hayles (1999), 131-159. This second wave is also known as neocybernetics, second-order cybernetics, and new cybernetics. Besides Luhmann, also included in this group are thinkers such as Humberto Maturana, Heinz von Foerster, and Francisco Varela. The influence of neocybernetics, however, has spread to most every discipline, including the fields of physics, architecture, biology, medicine, and economics.
17 See, for example, Luhmann (1995).
Second-order cybernetic conceptualizations are important to the posthumanist most especially in that they provide a matrix for positioning the cyborg subject as always already enmeshed within an historical multisensory environment, a technological form of being-in-the-world.\textsuperscript{18}

Consider, as representative of the conceptual framework associated with early cyborg theorists, the work today being performed at the USC Center for Neural Engineering. The Center, headed by Biomedical Engineer Ted Berger, has developed a neuro-silicon chip designed to be implanted within the brain. The goal for this chip is to act as a memory-prosthesis, used, for example, in assisting Alzheimer’s patients. Jeff LaCoss, an assistant of Berger’s, explains the actions of the chip as mediator: “The chip…represents 100 neurons that can individually receive analog signals from live brain tissue, convert them to digital signals, and then reconvert them to an analog signal relayed to healthy neurons on the other side.”\textsuperscript{19} Implicit within the Center’s attempt at creating a successful neuro-silicon memory implant are two central metaphors: the \textit{brain}

\textsuperscript{18} It is worth mentioning that, as the posthumanist is always in dialog with both media and critical theorists (on this, see Chapter 2 below), so too early cyborg theorists were ever debating with early continental philosophers, beginning most famously with Heidegger. See Michelsen (2006) and Dupuy (1999). Luhmann, as much influenced by Maturana and Varela as by Derrida, is a good example of a neocybernetic poststructuralist.

\textsuperscript{19} Handelman (2007).
Berger’s cyborg memories, then, are but bits of hardware that can be packaged, copied, and replaced. Another grand trope here at work, one which has influenced Western thought for centuries, is of the mind as disembodied. Effectively, Berger’s cyborg brain could as well be the proverbial brain in a vat; that is to say, inside a lab, outside the world of experience.

Neuroscientists critical of Berger’s work note that researchers at the Center have no more understanding of how memory works than does anyone else. Berger, for his part, concedes their point: “‘They tell me I don’t know what memory is, which is true…And they ask how I can replace something that I don’t understand.’” This, then, is the response of an engineer cum cyborg theorist: whatever works in the lab (maintains homeostasis), works in all environments. Doing obviates knowing.

For organs such as the heart or eye, the engineering approach employed by USC’s Center is often at least partially successful. The brain, however, unlike those other organs, is much less static. The underlying assumption of a cyborg engineer such as

---

21 This mind (qua soul) floats about, yet is vaguely connected to a compartmentalized brain; a brain in which each physical lobe corresponds to a particular brain-function. This tradition spans from as far back as the pseudoscience of phrenology to contemporary thinkers such as Jerry Fodor. However, though these ideas have held sway for centuries, more and more neuroscientists are coming to view the brain as plastic. See, for example, Ramachandran (2004).
23 For example, the Jarvik-7, a temporary prosthetic heart. On the viability of ocular prostheses, see Chapter 2.
Berger and his colleagues can be characterized as holding that if one replaces the hardware (damaged neurons), then the software (the content [memories]) will naturally follow. However, if we can continue the analogy, the software of the brain is continually changing not only its embodied physical location (its position within the neural network), but also its relative position within the associational memory matrix. Replacing brain tissue, then, is a long way away from replacing memories.

Contrary to the implants of the cyborg, posthuman memories are best kept outside the head. Consider as representative of the posthumanist perspective the protagonist of the film Blow-up. At the center of this film is the transition from a photographer’s experience of an event to his mediated memory of that same event. At the beginning of the film, this photographer, Thomas, takes pictures of a couple in a park. Back at his studio, Thomas, in blowing up the photographs, notices something which before he had not been able to see. At the end of the film, Thomas returns to the park, seeking a physical confirmation of the blown-up images. Once there, however, he is unable to find any such confirmation, and is thus left forever in doubt as to the blow-ups’ authenticity.

Thomas’s photographs, “blown-up”, represent not what he saw, but rather what he did not or could not see: a body and a gun pointing from the trees. The photographs,

[24] In this conceptualization, language, or at least its meanings, too is outside the head. On language as a prosthesis, see Wills (2006). This argument is known as externalism in Analytic philosophy.

then, become what Walter Benjamin calls, “the optical unconscious.”26 The word
unconscious, however is potentially misleading, for it suggests that Thomas either did not
want to see or was perhaps fooled by some trick of his own mind. Unconscious is
misleading as well in that it is a concept connected to the idea that we all each of us walk
around with libraries of our past lives in our head, repositories both complete and
multisensory. This idea leads in turn to a conception of forgetting as equivalent to
repression, an interpretation of memory put forth by the Freudians and Lacanians.
Unconscious used in this sense becomes a continuation of the metaphor of memory as
storage, a perfect catalogue of our lived experience. Phenomenologists and
posthumanists, erasing such misconceptions, conceive of memory instead as an active,
lived process. Thus, Alva Noë writes: “Why not let the world serve as an external
memory…why not let the world serve…as its own model? It makes good evolutionary
and engineering sense to off-load the representations. We are built in such a way that we
can get the information about the world that we need, when we need it.”27 Optical
unconscious in this paper is simply a metaphor used to bring out the idea that
photographs allow Thomas to see either that to which he was not attentive, or that which
he could not have seen without the aid of his camera, photographs, and darkroom.

26 Benjamin (1979).
The world itself, then, is a storehouse for memories. Unlike the cyborg living in a controlled lab, the posthuman subject lives within historical time within an enculturated world. If we conceive of our visual systems as tools for getting about in this world, rather than as map-makers capturing and collating everything, a necessary syllogism of this argument is that our visual systems fail to see *everything*. Evolutionarily speaking, we use our eyes to see only what helps us toward our goal. A photograph of what we are seeing, it then follows, *necessarily* captures more than we can see with our eyes. This statement again is a roundabout way of translating Benjamin’s conceptualization out of the language of psychoanalysis. Rather than a photograph as “the optical unconscious,” we can think of a photograph as an optical memory prosthesis.

With this in mind, we can return to Thomas, re-approaching his experience initially from a phenomenological point of view. Thomas has first a multisensory memory event (MME): standing, taking pictures of a woman and man in a park. That first experience always involves the mediation of his camera. Following this, Thomas returns home and develops his pictures, thus creating an encoding of that initial memory event. The encoding process amputates the multisensory environment, leaving behind only the visual memory. In looking at the pictures, Thomas notices something which had before escaped his attention: a hand holding a gun and what may or may not be a body.\(^{28}\)

\(^{28}\) Though many critics dispute both the body and the gun, I find that a denial of the gun is plausible only for those that have a particular argument to put forth about the nature of mediation and representation.
This act of looking at the blow-ups immediately alters Thomas’ memory experience of the initial event. This looking-at act, then, represents the initial stage of Thomas’ posthuman memory experience.

The photographs of the gun and body are, for Thomas, creations whole cloth; even more specifically, they are visual encoded memory creations (V-EMC). It is because he has no embodied experience of these V-EMC that Thomas is compelled to return to the scene. Without a corresponding multisensory memory event, he cannot fully claim the memories as his own. In this sense, Thomas’s return is parallel to the actions of the protagonist in Chris Marker’s La Jetee. Through time-travel, the main character of this film is able to return physically to the exact same temporal moment of an earlier memory. Time, then, is the sole mediator. In La Jetee, however, time is mapped not onto the world, but instead onto only the protagonist himself. He revisits the same place (the same multisensory environment) at the same moment in time, but he himself has aged.

Thomas, in returning, too has aged (perhaps a few days in time), but the environment has remained the same as he had experienced it before. He has no way of knowing, then, whether or not the encoding process of the photograph has created a fictional memory. In returning to the scene, then, Thomas is enacting not a repetition of the original MME, rather he is attempting to add a multisensory environment to a photographed event. In this sense, the return is not a simple encoding of time, but an
attempt instead at creating a multisensory memory that corresponds to the photographed event. For Thomas, because he has not actually experienced the event depicted (the gun, the body), the photograph-event occurs first, with the MME it depicts following after.

As a means to situating Thomas’ experience within a posthuman framework, consider briefly the neocybernetic conceptualization of memory depicted within the film *Blade Runner*. The main character of the film, Deckard, is a private detective whose job is to detect *replicants*, or androids.\(^{29}\) The method for this detection entails asking a series of hypothetical questions designed to elicit an emotional response. The idea behind this method of detection is that replicants cannot have real emotional responses to imagined events. Attempting to convince Deckard that she is not a replicant, the character Rachael offers Deckard photographs of herself as proof of her human childhood. “Look, it’s me with my mother,” she says. “Implants!” Deckard responds. “Those aren’t your memories, they’re somebody else’s.” Rachael’s photographic memories, then, are representations of MME’s that she never actually experienced. In this sense, they are *no different* from Thomas’s blow-ups. That is, without corresponding multisensory embodied experiences, both Thomas’ and Rachael’s photographs remain (potential) encoded memory creations—fictions, works of art. Equating Thomas’ experience might be easier to accept if we were to imagine Thomas, during his initial MME taking pictures

with his eyes closed. It might be more acceptable in such a scenario to say that he never experienced that which he could not see. Effectively, however—phenomenologically—not seeing and not being attentive amount to the same thing.

Rachael and Thomas, then, represent two poles of the V-EMC scale. Rachael, in remembering, enacts the encoded repetition of an event that never actually took place (or, at least, never took place for her). Her memories, as implants, have no place for change, even over time. Every memory will remain as it is, unchanged from what has been deposited within her. Rachael’s memories, then, are more cyborg than posthuman. The addition of the corresponding photographs, however, places Rachael’s experience within the neocybernetic realm. Her memory experience involves a feedback between the implants and the photographs. Thomas, however, has no corresponding memories implanted within his brain—neither gray matter nor neuro-silicon implants. This does not mean, however, that the photographs cannot alter his memory. Even though they are stolen, he yet had the experience of looking at those blow-ups. Thomas’ memory, then, represents a low-level form of posthuman memory. I qualify it as low-level, because without his stolen photographs he is unable to continue the feedback loop between himself, the machine, and his environment. However, Thomas’ memory of his initial embodied experience will forever remain altered by his brief interaction with the photographic blow-ups. This ongoing interaction, ever changing, and ever dependent
upon the environment is what differentiates Thomas (the proto-posthuman) from Rachael (the neo-cyborg).

Conceived of this way, posthuman consciousness and memory are not static vessels to be filled, but active lived experiences. Expanding the phenomenological dictum, “All consciousness is consciousness of something,” we can now say that all memories are memories of something. Memories are intentional; that is, they are directed toward the world. What this means is that the posthuman subject does not “have” a memory as one has money in the bank (Rachael), rather the posthuman “does” a memory (Thomas).³⁰

All remembrance, then, entails necessarily an erasure through mediation. To fully remember a multisensory event, a subject would have to return to the scene of that original moment: to smell, hear, see, and touch that original multisensory environment. Such a recreation, however, would be not a remembrance, but instead a repetition. Strictly speaking, an event-repetition can never transpire, for every repetition-act is always mediated by time. Subtract time, and the repetition of the event is the same as the original event itself. An embodied memory repetition, then, is a lived experience of time. This event represents one end of the memory scale (R-MME).

Any mediated memory immediately pulls the subject away from the R-MME end of the scale. That is to say, any encoded capturing of a memory event becomes

necessarily something more than a simple embodied repetition of that event. The encoding amputates the multisensory experience.\textsuperscript{31} In photography, the process of encoding the event becomes an amputation of the other senses. A multisensory event becomes a single-sense memory. A photographic memory, then, is always under threat of creating a memory experience whole cloth (that is, a V-EMC).\textsuperscript{32} The subject’s interaction with the photograph, then, in recreating a MME, is always a negotiation between enacting a repetition of a past MME and creating an EMC whole cloth. Setting up the scale, then, we have on one end lived experience repetition (R-MME), and on the other, encoded memory creation (EMC): R-MME $\leftrightarrow$ EMC. On one end is an embodied repetition of the event mediated only by time, on the other an event created solely through the processes of encoding (an artistic creation, a fiction). All memory experiences fall somewhere on this scale.

Memory is the process of enacting within the present an encoded repetition of a past event. That enaction is always then a translation, a deciphering of the code. A

\begin{itemize}
  \item \textsuperscript{31} This is not to say that that encoded memory wholly erases that multisensory memory event. I offer this caution in light of the fact that more than a few critics have argued that photographs erase memories. This is not my assertion.
  \item \textsuperscript{32} Photography has then its own scale; see Chapter 2. It is important to note that, though encoded memory creations represent primarily those fictions created by the medium (such as the dinosaurs of \textit{Jurassic Park} and the ghost images of early photography), also included within this category are any photographs that an individual claims are their own but to which they have no physical connection. An example would be if I found someone else’s photograph in my drawer and, assuming it was my own, created for myself a corresponding memory experience.
\end{itemize}
subject returning to the beach enacts a one-to-one code. The only mediation within the
code is time. If a subject stands on the same beach that they stood on twenty years prior
and says, “I remember,” that verbal utterance provides a caption, a conceptualization.
For the posthumanist, any such conceptualization is always a post-hoc categorization.
That categorization, in turn, becomes a mediation. Language, then, is also a memory-
prosthesis, an extension feeding back into the subject’s experience of repetition.

The transition from memory-implant to Rachael to Thomas represents a
corresponding transition from cyborg to neo-cyborg to posthumanist conceptualizations
of memory. We have, then, a bare-bones outline detailing the transition from an
embodied memory event to memories of the cyborg, neo-cyborg, and posthuman: (1) the
R-MME, wherein the only mediator is time, (2) the verbal MME, which could easily
become (3) a written MME, as well as (4) the cyborg memory implant (Ted Berger), (5)
Rachael’s implant-photograph loop, (5) Thomas’ photographic MME, which, when
“blown-up” leads finally to (6) visual encoded memory creations (V-EMC), the basis for
Thomas’ low-level posthuman memories. The following analyzes further examples of
posthuman memories, expanding upon Thomas’ low-level loop.
Chapter II

Though they are ever implicitly in dialog with the cyborg metaphor, those critical theorists that approach posthumanist conceptualizations do so often without any explicit reference to the tradition of cybernetics. For thinkers coming to posthumanist perspectives not directly through the neo-/cyborg route, the prosthesis trope serves often as stepping-stone. For instance, Bernard Stiegler, describing the role of technology in the play of the subject, writes:

The evolution of the “prosthesis,” not itself living, by which the human is nonetheless defined as a living being, constitutes the reality of the human’s evolution…this is the paradox of a living being characterized in its forms of life by the nonliving.33

Stiegler’s conception of the human evolving via the prosthesis paves the way for fleshing out those posthumanist conceptualizations realized without recourse to cybernetic theory.34 The following employs these various alternate frameworks as a means toward examining both posthuman memories and vision.

34 Compare Hayles (1999): “The construction of the tool as a prosthesis points forward to the posthuman,” 34.
A camera or photograph is always initially a copula, a mechanism inciting the viewer to make connections—“is” or “as”—that approach yet never grasp the depicted object in itself.  

“Perceptive action,” writes Raymond Bellour:  

Focuses all the more clearly on the impression of analogy from the moment…a visual machine becomes a visual reference. So the quality of the different ways of focusing what is visible is in direct proportion to the amount of analogy they are capable of producing.

The phrase “amount of analogy” could well name a scale whose function would be to measure the embodied incorporation of the photograph into memory. The range of this scale would span, then, from metaphors conceptual to indexical. Each photograph—

---

35 On (mediated) perception and analogy, see McLuhan (2003), 85: “All media are active metaphors in their power to translate experience into new forms”; Hayles (2001), 144: “Perceptual experiences are metaphors for reality rather than representations of reality”; and Aumont (1997), 152: “There are degrees of analogy corresponding to degrees of similarity, but analogy is present in any representational image.”


37 For “hard” arguments of the conceptual metaphor, see Derrida (1984) as well as Lakoff and Johnson (2003). The range of the “metaphor scale” is discussed in Moran (1989); see especially page 98, wherein Moran places on the conceptual side (what he calls the “dead” metaphor) writers such as “Friedrich Nietzsche, Nelson Goodman, Jacques Derrida, and Paul de Man” and on the indexical side (what he calls the “live” metaphor) writers such as “Davidson, Ricoeur, C.S. Peirce, and aspects of the work of Booth and Cohen.” Generally, “hard” or “dead” metaphors are metaphors that, over time, have lost their connective capabilities: the sentence “I ran the store,” or less obviously, “I’m on fire!” “Live” or “soft” metaphors are metaphors that still force the listener to draw a
according to the terms of this scale—forces the viewer to see of that which is pictured something between “is” and “like/as.”

Context (captioning) and the position of the embodied observer (affect) are the two main parameters through which the range of this scale is narrowed and subsequently fixed. Don Delillo, through his novel *Mao II*, provides a framework within which the *lived experience* of these two filters can be observed. Each character in the novel establishes an embodied position along the series of photographic scales. Each moment of each character is located within a fixed context, a temporal frame which necessarily limits his or her perceptive movements. In these characters’ lives, then, the acts of both connection between two different concepts: “He’s a panda,” “No, he’s more of a manatee.”


39 This scale could be said to run roughly parallel to the analog—digital scale. See Rodowick (2007), 120: “In digital capture, transcoded information becomes abstract…In this manner Peirce returns once again to take the measure of analogical photography and digital capture in a logical continuum that runs from indexicality to symbolization.” It is important to note that the three parallel scales never intersect on their own; it is rather the individual’s embodied experience that connects one scale to another. See Figure 1 in the Conclusion for a visual illustration of the three scales’ position within the memory matrix.

40 On fixing context to a photograph through captioning, see William J. Mitchell (1994), 83-84; Barthes (1978), 37-41; and Benjamin (1979), 256. On the fixing enacted by the embodied observer, see Hansen (2001), 83: “Analogy must instead be derived from the embodied user-participant’s interaction with the work.”
seeing and taking a photograph represent posthuman incorporations, feedback loops between memory, affective perception, and the technological.

The following passage well illustrates this event:

In the loft she went through many books of photographs, amazed at the suffering she found…She looked at the pictures, read the captions, looked at the pictures again…The words helped her locate the pictures. She needed the captions to fill the space. The pictures could overwhelm her without the little lines of type.\(^{41}\)

Ostensibly, context in this scene is provided solely through captions, through the language attached to the photographs. Prior to reading the accompanying text, the range of the subject’s—Karen’s—seeing is almost unbounded: “The picture was bare without words, alone in open space” (174). The words, then, act as a means to closing off this limitlessness—they “fill the space” (174). However, though Karen cannot comprehend simultaneously the image and the text (one must follow upon the other), this does not imply that either the photograph or the caption negates its other; writes W.J.T. Mitchell:

> The real question to ask when confronted with these kinds of image-text relations is not “what is the difference (or similarity) between the words and the images?” but “what difference do the differences (and similarities) make?” That is, why does it matter how words and images are juxtaposed, blended, or separated?\(^{42}\)


\(^{42}\) W.J.T. Mitchell (1994), 91. See also Bellour’s essay, op. cit.
The photograph and caption enter into a feedback loop, the mediator of which is the observer. As she looks at the photographs, Karen’s affective seeing is altered by the captions, which captions in turn are meaningless without reference to the picture itself.

The above scene takes place in a photographer’s apartment. Karen is alone, sitting and looking at picture after picture of atrocities: “She looked at the limbs of Africans starving. The hungry were everywhere, women leading naked children in a dust storm…It was suffering through and through. It was who is dying in the jungle rot” (174). She has come to this apartment after hours spent walking the streets, seeing in person these same tragedies lived on a localized scale: the drug dealer, the homeless man, the bag lady “dragging bags behind her with a trusty length of twine” (172). In addition, Karen carries within her act of perception her own more-distant past. Karen’s vision thus involves not only a complex interaction between photograph and caption, but also always her embodied memories, her affect. Of this, writes Merleau-Ponty, “Every perception presupposes, on the bodily subject’s part, a certain past, and the abstract function of perception, as a coming together of objects, implies some more occult act by which we elaborate our environment.”43 The photograph, as mnemo-technique, as prosthetic memory, becomes entangled with the vision of the observer, itself already infused with affect; writes Bergson: “These two acts, perception and recollection, always

43 Merleau-Ponty (2005), 328. See also Bergson (1999), 150: “Every perception is already memory. Practically, we perceive only the past, the pure present being the invisible progress of the past gnawing into the future.”
interpenetrate each other, are always exchanging something of their substance as by a process of endosmosis.\footnote{Bergson (1999), 67.} The photograph does not replace memory; rather it fits as an additional cog within this interpenetration, a supplement feeding into both subject and caption. Mitchell summarizes this perspective when he writes:

> Suppose we de-reified the thing that seems to “stand” before us, “standing for” something else, and thought of representation, not as a thing, but as a process in which the thing is a participant, like a pawn on a chessboard or a coin in a system of exchange?\footnote{W.J.T. Mitchell (1994), 420.}

The text, itself a memory supplement, a linguistic prosthesis, points Karen toward an indexical seeing of the photographs. Yet her sight itself is always already shaped by her position within the world, by her body and by her past, which past infuses even the barest of indexical (or “is”) photographs. She clings to the captions to avoid having the pictures “overwhelm her,” but this does not mean that the words are able to erase that initial overwhelming feeling. Instead, her gut reaction acts as a guide, a background for her photographic experience of the events depicted.\footnote{On the influence of “gut reactions,” see Gigerenzer (2007).} Karen’s posthuman memory, then, involves a complex feedback loop between the protheses of language and photography, both of which shape and are shaped in turn by her embodied present and past affects.
The photograph, however, is not the only means of access for a critical theory-cum-posthuman account of vision and memory. To talk about a photograph is as much to talk implicitly about a camera.\textsuperscript{47} Prior to any photographic event is the experience of image-capture, the moment of the feeling enacted by the camera-photographer dyad: the click. In \textit{Mao II}, each character’s interaction with the camera is as mediated as their involvement with the image which that machine produces; in Bellour’s words: the “visual machine becomes a visual reference.”\textsuperscript{48}

The book in fact begins with mirroring images of two visual prostheses.\textsuperscript{49} Two parents sit in the stands of a stadium, each alternately striving to isolate their daughter from a crowd: brides and grooms standing in preparation for a mass marriage ceremony.

\textsuperscript{47} Mirzoeff (2005), 7: “A photograph necessarily shows us something that was at a certain point actually before the camera’s lens. This image is dialectical because it sets up a relationship between the viewer in the present and the past moment of space or time that it represents.”
\textsuperscript{48} Op. cit.
\textsuperscript{49} For a recent collection of essays addressing the idea of technology qua prosthesis, see Smith and Morra (2006). Generally, the common thread guiding the essays in this collection is a desire for technology theorists that make use of the prosthesis trope to develop a recognition of the actual lived experience of disabilities and prostheses. For an influential essay examining the complexities of this trope, especially in relation to disability theory, see Jain (1999), wherein she concludes: “Prosthesis may be recuperated as a useful, although limited, trope insofar as it can be used to underscore the ironies of supplying deficiencies, in the sense of instigating the needs for the consumption of technologies,” 50.
As the father looks through a pair of binoculars, the daughter (a bride) feels upon herself the mass of machine-extended eyes:

Did she ever think she’d find herself in a stadium in New York, photographed by thousands of people? There may be as many people taking pictures are there are brides and grooms. One of them for every one of us. Clickety-click. The thought makes the couples contagious. They’re here but also there, already in the albums and slide projectors, filling picture frames with their microcosmic bodies, the manikin selves they are trying to become. (10)

The scene conveys much about the photographic prosthesis as realized from both sides of the lens. The myriad cameras exponentially (as well as multi-dimensionally) extend the eyes of the crowd. For the subject being observed (the daughter), however, the camera is a means toward making the self into a package for the future, making the present self into an already-past self. For the posthumanist, the machine is not then—as many theorists would have it—a mechanism for enframing death, but rather a prosthesis extending the perceived subject’s life.

For the crowd waiting to be married, the mass of machines incite the act of

---

50 McLuhan (2003), 257: “Both monocle and camera tend to turn people into things, and the photograph extends and multiplies the human image to the proportions of mass-produced merchandise.”

51 This sentiment is widespread throughout writings on photography. See, most recently, Mulvey (2006); and, perhaps most famously, Barthes (1982).
Posing, in this sense, however, becomes not the act of consciously performing one’s body, rather it is a “technique of the body” – learned not only culturally (as in the work of Mauss), but also as a technological transmission. That is, the feedback loop between technology, culture, and the body precedes the conscious decision to pose. This is not to say, however, that that conscious reflection does then feedback into the posing act; quite the contrary. In this sense, then, posing represents the paradigmatic example of the posthuman interaction with the technological gaze, a loop in which the machine and the embodied enculturated subject become one.

The position of the photographed subject is further shaped by what Benjamin calls Erlebnis, a concept underscored further in the work of Mark Hansen. In Hansen’s

---

52 See Barthes (1982), 10: “Now, once I feel myself observed by the lens, everything changes: I constitute myself in the process of ‘posing,’ and I instantaneously make another body for myself, I transform myself in advance into an image.” See also Sontag (1977), passim.
53 Mauss (1995). See Hayles (1999), “Framed by technology at the same time that it creates technology, embodiment mediates between technology and discourse by creating new experiential frameworks that serve as boundary markers for the creation of corresponding discursive systems. In the feedback loop between technological innovations and discursive practices, incorporation is a crucial link.” 205.
54 For an argument conceiving the technological as a tool for shaping the subject, see Kittler (1999).
reading, Erlebnis is a form of second nature, a “nonconceptual account of experience.”

Hansen elaborates:

Erlebnis is made to designate what is most fleeting and transitory—those shocks that impact us immediately and corporeally without entering the psyche, leaving traces, or producing representations. If such shocks nevertheless stay with us indefinitely, it is not because they are cognitively or psychically unforgettable but rather because they impact us at the deepest level of our embodied experience, prior to the mediation of memory. (239)

The daughter, Karen, reflects upon the thousand camera-eyes; yet her thinking is secondary to her bodily reception, to the shock, the feeling of those eyes. This is not to say that her thoughts are epiphenomenal, rather that her reflection can only appear post hoc, a mirror to the transmission received by her body. In the words of Alva Noë:

It is an open empirical possibility that our experience depends not only on what is represented in our brains, but on dynamic interaction between brain, body, and environment. The substrate of experience may include the non-brain body, and the world.

---

55 Hansen (2003), 261. Hansen’s primary text is Benjamin’s essay “On Some Motifs in Baudelaire.”
56 Noe (2004), 429, 430.
Karen’s thinking provides a commentary on her feeling, a commentary that is not impotent, but which feeds back into the body, informing in turn how her memory realizes that originary absorption.

For the posthuman subject being photographed, then, the camera is a prosthesis that shapes both embodied experience (the *pose*) and memory (prosthetic life). For the observer (however, the parents sitting in the stands) the technological works upon the subject in quite a different way. Consider the image-thoughts of the father as he uses binoculars in an attempt (and subsequent failure) to pick his daughter out from the crowd:

> It knocks him back in awe, the loss of scale and intimacy, the way love and sex are multiplied out, the numbers and shaped crowd. This really scares him, a mass of people turned into a sculptured object. It is like a toy with thirteen thousand parts, just tootling along, an innocent and menacing thing. He keeps the glasses trained, feeling a slight desperation now, a need to find her and remind himself who she is. (7)

The binoculars extend vision. They are prosthetic *glasses*, enabling the father to perceive objects from a distance, to see a mass of many and select a singular one. Put another way, the binoculars constrain the subject-observer to metaphor that which is far: far “is” near. For Paul Virilio, this excision in the form of constraint translates into speed:

> The telescope, that epitome of the visual prosthesis, projected an image of the world beyond our reach and thus another way of moving about in the world, the
logistics of perception inaugurating an unknown conveyance of sight that produced a telescoping of near and far, a phenomenon of acceleration obliterating our experience of distances and dimensions.\textsuperscript{57}

The prosthetic adding-on becomes reciprocally also a cutting-off, a closure; on this, McLuhan writes: “Any invention or technology is an extension or self-amputation of our physical bodies.”\textsuperscript{58} Karen’s father is able to see things that are distant, yet he is unable to locate his daughter. His vision is siphoned, funneled into a small chamber.\textsuperscript{59} Without the binoculars he sees a crowd; with them he sees individuals. Without the binoculars, he sees his daughter without “seeing” her—that is, he sees her as an indecipherable part of the mass; with the binoculars, he “sees” without seeing his daughter—he sees only the act of focusing itself, the selection of attention without context.

Effectively, perception without contextual content is meaningless, just as, by definition, perception without conceptual content is without meaning. The definition of perceptual meaning itself thus becomes at issue; so, too, by extension, does the meaning

\textsuperscript{57} Virilio (1994), 4. Virilio could well be named the Philosopher of Speed, as this is the prime topic of most all of his works, especially his later works.

\textsuperscript{58} McLuhan (2003), 67. See also Derrida (1997), 144: “The supplement adds itself, it is a surplus, a plenitude enriching another plenitude, the fullest measure of presence. It culminates and accumulates presence...But the supplement supplements. It adds only to replace. It intervenes or insinuates itself in-the-place-of; if it fills, it is as if one fills a void.”

\textsuperscript{59} On mechanical vision as a means toward “disciplining” the subject, see the work of Jonathan Crary.
of technologically mediated perception. For John Johnston, it is the very intervention of the machine between human and vision that necessitates these questions. He writes: “These prosthetic visual devices unanchor natural perception from the field of the human body’s natural capacities,” and later, “The very fact that there are machines initiates a decoding of perception and flight into the perceptual unknown.”

Defining meaning in relation to mechanically mediated perception thus becomes a question of whether or not such perception is either necessarily or sufficiently embodied. This is put quite succinctly by Joseph Vogl:

The device is no longer simply for enlarging, for bringing things closer or reproducing them. The telescope is not just an extension of the senses nor an auxiliary device to improve or correct the senses…rather, the telescope creates the senses anew: it defines the meaning of vision and sensory perception, turning any and all visible facts into constructed and calculated data…the eye and its optical natural vision are now merely parts of a single optical case among many others…the telescopic view is no less natural than the eye’s vision is artificial.

---

60*Erlebnis* could be considered a kind of “meaning”-less meaning. I would also include in this category of “meaning”-less meaning, or non-conceptual content, what Daniel Dennett refers to as “sub-personal” meaning; see McDowell (1994). For a collection of recent debates concerning arguments for and against the possibility of “non-conceptual content,” see Gendler and Hawthorne (2006).

61 Johnston (1999), 30 and 38, respectively.

In this sense, the introduction of visual media redefine vision only insofar as they expand the meaning of the concept. In so doing, these media necessitate the specification of to what kind of vision is one referring. There is no longer only one vision, but many. Among them, for example, is computer vision—of which, Lev Manovich writes: “The combining of image processing with pattern recognition made it possible in some case to delegate the analysis of photographs to a computer,” and later, “Was this enough to automate human vision completely? This depends upon how we define vision.”

However, any contention that computers can see, or that computers are capable of vision, should, if it is to avoid eliding an assumption, address the argument that it is only for the sake of convenience that these computer “actions” are being coded within the already available language. That is, it could well be argued that what these computers are “doing” is not seeing or vision; rather, it is only for lack of a neologism—or perhaps because of the linguistic history that the terms carries with them—that “vision” and “seeing” are the terms used rather than some other words which have no connection to the human sensorium.

Concluding his remarks, Manovich draws a parallel between computer vision and the vision of the blind:

A computer vision program thus acts like a blind person who “sees” objects (i.e., identifies them) by reading their shapes through touch. As for a blind person,

---

63 Manovich (1996), 235, 236.
understanding the world and the recognition of shapes are locked together; they cannot be accomplished independently of one another.\textsuperscript{64} Manovich’s analogy of the blind subject, rather than de-humanizing vision, instead serves to call into question any ocular-centered notion of the concept. Indeed, the binding of vision to the eyes is a view troubled by the possibility that human seeing may take place in blind subjects. Consider the experiments of Paul Bach-y-Rita, here recounted by Alva Noë:

The subject is outfitted with a head-mounted camera that is wired up to electrodes (say, on the tongue) in such a way that visual information presented to the camera produces patterns of activation on the tongue. For subjects who are active…it becomes possible, in a matter of hours, to make quasi-visual perceptual judgments.\textsuperscript{65}

To say whether or not a blind person using Bach-y-Rita’s Tactile Visual Substitution System (TVSS) is able to see (with or without scare quotes) requires at the very least a redefinition of the term standing it in relation to other types of seeing. Noë continues, “What makes an eye an eye is its deployment in the context of a network of sensorimotor

\textsuperscript{64}Manovich (1996), 236.
\textsuperscript{65}Noë (2004), 111. Bach-y-Rita has performed a number of similarly themed experiments over a span of thirty years. For a recent example of his work, see Bach-y-Rita and Kercel (2003).
In other words, disembodied vision necessarily is not human vision. Posthuman vision, unlike cyborg vision, requires an embodied subject. Technological intervention between human and vision, then, is just that—not an usurpation, an erasure of the human, but instead a plugging-in, a re-coding of the network conceptualizing the human as always already posthuman.

The ability of a blind user to see with TVSS suggests not only brain plasticity, but also an unstable barrier between the human and machine. Consider, by way of example, the following scene taken from *Mao II*. A photographer, Brita, is hired to photograph a reclusive writer, Bill, for an author-picture. The two are alone together in a room. Delillo describes in detail Brita unpacking her equipment while Bill observes her. Then, as the photographer stands and begins shooting the author (he also standing, against a backdrop), they start to talk to each other. The reader’s perspective is the photographer’s perspective:

Through the viewfinder she watched him smile. He looked clearer in the camera. He had an intentness of gaze, an economy, and his face was handsomely lined and worked, embroidered across his forehead and at the corners of the eyes. So often

---

66 Noë (2004), 112. See also Cartwright and Goldfarb (2006), 145: “The very definitions of the senses, their organs, and the abilities that cling to them change with the reorganization of the body on the neural model”; and Clark (2003), 126: “The lesson, once again, is that our brains are amazingly adept at learning to exploit new types and channels of input…The human eye provides one such complex of information, the TVSS grid another, and the direct cortical interface yet another.”
in her work the human shambles was remade by the energy of her seeing, by the
pure will that the camera uncovered in her, the will to see deeply. (37)

Ostensibly, the camera does not provide an extension of vision in the manner of the
binoculars; it instead would seem to offer a form of sight parallel to that of the eye.
Seeing through the camera’s viewfinder would equal seeing without machine mediation.
Yet this supposition, upon closer scrutiny, does not hold. There exists no viewfinder (as
of yet) that maps onto the eye in the manner of, for example, a contact lens. As with the
binoculars, each viewing through the camera is a prosthetic extension and amputation.

The camera, like both the binoculars and TVSS, is a virtual visual prosthesis. It is
also haptic, fundamentally altering Brita’s being-in-the-world. For Noë, perception is a
work of action; he writes: “Perceptual experience acquires content as a result of
sensorimotor knowledge.”67 Placing a visual prosthesis before her eye necessarily alters
Brita’s proprioceptive awareness. In Virilio’s words, the mechanism creates “another
way of moving about in the world.”68

Later, towards the end of the book, Scott—Bill’s assistant—looks over the contact
sheets:

The pictures of Bill were glimpses of Brita thinking, a little anatomy of mind and
eye…He took the magnifier to frame after frame and saw a photographer who

68 Op. cit. See also McLuhan (2003), 67: “Such an extension also demands new ratios or
new equilibriums among other organs and extensions of the body.”
was trying to deliver her subject from every mystery that hovered over his chosen
life. (221)

For Brita, this recoding augments the subject perceived: “He looked clearer in the
camera” (37). “Clearer,” however does not seem to mean “more real,” but instead
“better.” The implication is not that the camera acts as would prescription glasses,
correcting a flaw in the Brita’s vision, rather that the machine, in intervening, convinces
Brita that the real itself is flawed. The camera, in this reading, does not make reality
more real, rather it makes it more digestible, more prettified. This argument certainly
stands in line with assertions made by Brita earlier in the book. During a meeting with
Scott—Bill’s assistant—interviewing her for the assignment, Scott asks of Brita:

“You only photography writers now.”

“Only writers. I frankly have a disease called writers. It took me a long time to
find out what I wanted to photograph…I roamed the streets first day, taking
pictures of city faces, eyes of city people, slashed men, prostitutes, emergency
rooms, forget it. Many times I used a wide-angle lens and pressed the shutter
release with the camera hanging at my chest from a neck strap so I wouldn’t
attract the wrong kind of attention, thank you very much…No matter what I shot,
how much horror, reality, misery, ruined bodies, bloody faces, it was all so
fucking pretty in the end. Do you know?” (24 25)
For Brita, the pictures of the street/candid photographer, what would seem to be the most real—the most indexical—form of photographing others—catching them unaware, unposed—becomes instead in the last instance always artifice. She reacts against this by beginning a project which follows a trajectory the opposite of August Sander’s; rather than creating a catalogue of stereotypes, she begins an index of the various individuals behind a singular stereotype, the author. Scott asks of her:

“And what happens ultimately to your pictures of writers as a collection?”

“Ultimately I don’t know. People say some kind of gallery installation. Conceptual art. Thousands of passport-size photos. But I don’t see the point myself. I think this is a basic reference work.” (26)

By the end of the book, however, Brita has ended this project:

She does not photograph writers anymore. It stopped making sense. She takes assignments now, does the interesting things, barely watched wars, children running in the dust. Writers stopped one day. She doesn’t know how it happened but they came to a quiet end. (229, 230)

Brita no longer sees the camera as a means toward making the real hyperreal, it is now a political tool, a machine for making ideologically encoded images. She takes her camera to Beirut, to the base of a terrorist leader to photograph him. The camera is now

---

69 For a series of polemical arguments holding a similar viewpoint, see Sontag (1977). On the photographic prettifying of other’s suffering, see Sontag (2003).

70 See Baudrillard (1994).
for her a weapon, a technology of power. She takes several rolls of pictures of the man, all the while listening to his rhetoric:

Eloquent macho bullshit. But she says nothing because what can she say. She runs through the roll, leaving a single exposure. On an impulse she walks over to the boy at the door and removes his hood...She is smiling all the time. And takes two steps back and snaps his picture. She does this because it seems important.

(236)

For Brita, now a reporter, the camera has become a technique of power, a mode of shaping the thing perceived. Her mode of being-in-the-world has changed over time, which change has necessarily altered her embodied position within the camera-photographer dyad. She no longer photographs authors, those who construct fiction—lies—about the real; she instead now shoots pictures of terrorists, mass murders, those who seek to alter reality through action rather than representation. Before the world was seen as ugly; photography made the real ideal, false. She collected her photographs and hung them in museums. Now Brita sells her photographs to newspapers. Now the world is fact; photographing is an act, a decision to make the real represent a particular way of seeing.

Brita’s transition over time well represents the dynamic progression of posthuman vision and memory. Her life itself is ever a series of feedback loops between the camera, her photographs, her embodied experience, her conceptualizations, and her memories.
The interaction between the prosthetic eye and her affect originally produces within her a feeling of beauty. As she looks through the camera and at her photographs, she sees a vision of the world made art. That vision as well feeds back, altering her way of being-in-the-world, of living. As time passes, and as Brita visits parts of the world wherein atrocities occur, her embodied experience alters, in turn shaping the gut feelings grounding her experience. As she then continues interacting with her photographs and camera, she sees that, though she has changed, they have not. That prosthetic eye and memory both continue to represent the world as art. In turn, those static depictions hit against Brita’s affect, her altered embodied worldview, which reaction causes Brita to change the way in which she uses that prosthesis. Time, effectively, forces Brita to see how her prosthetic perception has altered her embodied ways of seeing; and she, in reaction to this realization, works back upon the prosthesis, negotiating the splice.

In outlining the interaction between this splice, the subject, and the machine, critical theory approaches to posthuman memory focus primarily upon prosthetic perception. These conceptualizations of prosthetic perception in turn form the ground of all dialectically realized posthuman visual memories. The posthuman subject, so conceived, is always a subject living within a particular culture during a particular historical moment; a subject that is both perceiving and perceived. By looking at the characters within Don Delillo’s novel, we are able to see the lived experience of subjects that move between cultures and change over time. Each of these subjects, in turn,
interacts dynamically with a visual prosthesis. In observing these subjects through the critical theory framework, we see as well how prosthetic visual memories are as much an outcome of the interaction between an individual and a camera as they are between an individual and a photograph. Posthuman visual memories, then, are realized as tied both to prosthetic memories and perceptions. For the critical theorist qua posthumanist, the machine alone is not the seat of prosthetic vision, neither the eye, nor the human. Prosthetic vision instead is located within a networking of culture, machine, and embodied subject. At once a being and becoming of perception, the memory act occurs not only at the interface of the camera/photograph with subject/observer, but also within the user minus the machine. Embodied perception, always penetrated with the past, with affect, once infected with the strain of mediated perception, becomes forever enmeshed in that logic of seeing—the memory of the machine, the affect of technics.
Chapter III

Visual mediated memories (VMM) occur in forms both analog and digital. In that they are always already embodied, posthuman memories are ever grounded in the analog. That is to say, the world itself is analog and the posthuman is always already a subject within that world within time. A posthuman individual may interact with a digital medium, but, because that subject is always embodied, always grounded in lived experience, in the last instance the VMM are always converted into the analog. Brian Massumi describes this movement thus: “The digital always circuits into the analog. The digital, a form of inactuality, must be actualized.”\(^{71}\) The fact that embodied experience always grounds VMM does not mean, however, that the digital is ultimately ineffectual. Hayles explains how, in fact, the digital recodes the analog structure:

I will here call this digital/analog structure the ‘Oreo,’ for like the two black biscuits sandwiching a white filling between them, the initial and final analog representations connected with embodied materialities sandwich between them a digital middle where fragmentations and recombinations take place.\(^{72}\) Digital technologies thus exponentially expand the analog loop. Digital affect-memories, it follows, alter the subject differently than their analog counterparts. However, this

\(^{71}\) Massumi (2002), 138.
\(^{72}\) Hayles (2005), 207. See also, Massumi (2002), 138: “The digital is sandwiched between an analog disappearance into code at the recording and an analog appearance out of code at the listening end.”
experience of affect occurs prior to any categorization by thought. Consciously verbalized memories, then, are only ever post-hoc; thought always follows upon the interaction between affect and technology. Digital visual memories, it then follows, are always analog after the fact.

For Mark Hansen, the body provides the digital’s analog ground: “The body must create analogy where there no longer is any or, more exactly, where none is pregiven.”

Taking up this idea elsewhere, Hansen adds:

The analog creates reality out of the fusion or mixing of realms, out of transformation; not surprisingly, the body forms its primary agent…because experience as such is ‘analog processed,’ there can be no difference in kind demarcating virtual reality…from the rest of experience.

Though Hansen specifically addresses virtual reality, his argument applies to any mediated format. Photographs, too, are virtual insofar as they momentarily enmesh the subject within a past moment. The technological machine provides an impetus, driving the individual into a memory experience which may or may not overwrite that causal image. Any posthuman experience, then, always loops back to the analog.

Conversely, digital experiences that are unable to convert to the analog have no connection to actual lived experience. Such memories effectively are no different than

---

the implants of Rachael the *replicant*. In order to demonstrate this primacy of the body in framing the digital, the following details the experience of what I will call a *purely digital subject*, that is, a subject with no grounding in embodied (analog) experience.

The beginning of the film *Memento* shows a hand shaking a Polaroid picture.\(^{75}\) The picture develops in reverse, the image fading and becoming gray then black, the hand slowly depositing the print back in through the slot of the SX-70. The scene begins with these backward-moving actions (as if the viewer were pushing the rewind button), initiating (like the unwinding of a clock) the reverse chronological structure of the film.

The man holding the photograph, the main character, Leonard, suffers from short-term memory loss. “I have this condition,” he says, repeatedly reminding the other characters of his mental state.\(^{76}\) Indeed, the film is as much about repetition as it is about forgetting. For this subject without the experience of memory, however, these repetitions affect no difference; they are repetitions, then, for the viewer only.

Each scene within the film chronologically precedes the previous scene. This forces the spectator to become aware of Leonard’s memory lapses only after the fact. Only after the film moves onto the scene chronologically previous is the viewer able to piece together what Leonard has forgotten and how he has acquired his new memories.\(^{77}\)

\(^{75}\) Nolan (2002).
\(^{76}\) Nolan (2002).
\(^{77}\) While certainly exceptional, Leonard’s condition yet has precedent, the most famous case being that of the patient known as H.M. Suffering from violent seizures, H.M.
He is able to add on to his pre-trauma background that which he can acquire during the span of only one of his memory sessions (within the structure of the film each session is equal in length to a scene). Leonard’s short-term memory loss is complete, allowing for no spaces of intermittent embodied experiences.

Leonard’s remedy for his *condition* is to store his memories outside of his head. His self lives outside of his body. For each important event, Leonard snaps a Polaroid and writes a caption. Andy Clark argues for the ontological validity of this method, offering the following thought experiment:

Inga hears of an intriguing exhibition at MOMA…She thinks, recalls it’s on 53rd St, and sets off. Otto suffers from a mild form of Alzheimer’s, and as a result he always carries a thick notebook. When Otto learns useful new information, he always writes it in the notebook. He hears of the exhibition at MOMA, retrieves the address from his trusty notebook and sets off…The functional poise of the

underwent an unorthodox cutting on the brain. “The outcome,” writes Suzanne Corkin, “was twofold: H.M’s seizures decreased markedly…and he immediately showed a severe anterograde amnesia that has persisted,” 153. Continuing in her essay summarizing fifty years of neurological memory research involving H.M, Corkin writes, “H.M.’s anterograde amnesia manifests as deficient acquisition of episodic knowledge (memory events that have a specific spatial and temporal context) and of semantic knowledge,” 153. See Corkin (2002). Both Leonard and H.M. are able to remember their lives before their respective traumas, but for both, life after those incidents lasts only in short bursts. New memories cannot be added on to the background of the subject.
stored information was, in each case, sufficiently similar...Otto’s long-term beliefs just weren’t all in his head.\textsuperscript{78}

For Clark, both Otto and Inga remember; that is, what Otto is doing when looking at the notebook is considered remembering even though that memory act was not stored within either his brain or body. Otto, then, is a posthuman subject making use of posthuman written memories.

Both Otto and Leonard rely upon exterior memory devices with which they automatically engage. Further, neither Otto’s notepad nor Leonard’s photographs could be considered part of a memory system of another individual. If, for example, Inga were to use Otto’s notepad, she would not as implicitly trust it, or she may not be able to read the handwriting. Otto’s notepad can be considered part of his memory only because he so implicitly trusts it, because without thinking it is automatically always there for him, inciting him to action. So, too with Leonard; though a stranger coming upon his photographs may become puzzled, for Leonard they are part of the narrative structuring of his memory. In using them, he does not think about them, rather he thinks through them. The difference between Otto and Leonard, however, is that Leonard is not simply

\footnote{\textsuperscript{78} Clark (Forthcoming), 5. At the beginning of his essay, Clark briefly mentions the film \textit{Memento}. The thought experiment here recounted was developed by Clark with David Chalmers; reprinted in Clark and Chalmers (2008). Clark and Chalmers give also the following example: “But for visual phenomenology consider the Terminator, from the Arnold Schwarzenegger movie of the same name. When he recalls some information from memory, it is ‘displayed’ before him in his visual field,” 230.}
trying to remember a single thought; he is, rather, attempting to store the whole of his experience outside of himself for later retrieval. Because of this, we can say that Otto is a posthuman, whereas Leonard is not.

For Leonard’s condition, there is no technology wherein he can store his multisensory experience without causing a further delay. Because he has a limited amount of time in which he has to both record new memories and interact with old memories, Leonard needs a memory-device that not only allows for quick encoding, but also for quick retrieval. He cannot use a video or taperecorder, because he would have no way of succinctly editing their linearity. He would never have time to acquire new memories, instead spending all of his time editing. The Polaroid provides Leonard with a visual-verbal memory (a photograph with a caption), the best—in that it is the quickest—of the available mnemo-techniques.

Necessarily, however, the Polaroid itself is a limiting memory device. In storing a multisensory experience within a verbal-visual formant, the captioned photograph implicitly erases those other senses. For the posthuman subject, this erasure is never permanent, and thus recuperable. Cycling back between each various memory loop, the posthuman is able to access variously affects, sounds, conceptualizations, and sense of space (proprioception). That is to say, because of the posthuman’s grounding in the body, her always has an analog base from which to connect to those other memory experiences.
Leonard, on the other hand, in returning to his memories, has no olfactory or auditory experience (he remembers neither the sound of his friends’ voices or the smell of their bodies). Even his sense of space is absent. In one scene, we see him enter a room with no idea that the room is not his. “This is not my room?” asks Leonard. “No, come on, let’s go,” says the Landlord. “Why is this my handwriting?” asks Leonard, holding up a piece of paper found on the bed. “This was your room,” says the Landlord. Without a sense of space, Leonard can only fall back on bits of information and his general distrust of anyone not approved by his photographs. His memories are untethered visual-written bits of information, lacking either context or the guidance of gut feelings.

Leonard, in fact, does not want memories. Repeatedly, he distinguishes between facts and memories. He wants: “Facts not memories,” because memories, “They’re just an interpretation, not a record.” Leonard is seeking, then, to replace memories with disembodied information, memories minus their emotion-markers. This view, castigating the body as so much noise that just gets in the way, directly contradicts posthuman conceptualizations; Katharine Hayles, for instance, writes, “For information to exist, it must always be instantiated in a medium.” Posthuman memories are always grounded in embodied experience.

---

80 See Damasio (1998) and Gigerenzer (2007).
81 Hayles (1999), 13.
The noise of the body is what gives the analog coherence. Towards the end of the film, Leonard begins arguing with another character named Teddy. Trying to convince Teddy that in fact he does have a sense of self, Leonard states his name and where he is from. “That’s who you were,” Teddy says. “You do not know who you are.” Who Leonard is, as process, as becoming, is defined wholly by his memory supports. Lacking a narrative structure, an embodied grounding in experience, Leonard becomes the paradigmatic realization of a subject without a sense of self. Without the background of embodied memories, Leonard becomes effectively a purely digital subject, jumping from one memory event to the next. His self, then, is a series of prostheses unattached to a body. That is, though he has a body, because he lacks corresponding embodied memories, those prosthetic memories have no grounding within the world.
Conclusion

Technology is the storehouse of cultural memory, the foundation upon which the posthuman evolves. The realization of individual posthuman memories involves a series of loops which feedback from the embodied subject to the machine. Figure 1 offers an illustration detailing the movement from the initial embodied memory event (MME) to posthuman visual memory. Because the scope of this thesis has been primarily individual visual posthuman memories, the pictured matrix correspondingly leaves out a full detailing of areas such as “Cultural memories,” “Auditory-MM,” and “Haptic-MM.” Both haptic and auditory mediated memories, then, could well have their own series of scales attached. Language, in the form of captions, conceptualizations, conversations, is able to intervene at any and every stage of the scale, which intervention itself limits the parameters. Verbal memories include everything from thoughts to conversations to textual encodings.82

---

82 Discussions of verbal memories qua written memories (technological verbal memories) most usually come within the domain of the cultural (oral versus written cultures). Writing, of course, is a visual-tactile act (set against oral memory, which is a vocal-auditory act). See Derrida (1997). For a subfield of written memories, see studies that analyze the medieval art of memory, for instance in the work of Mary Carruthers and Frances Yates. See Carruthers (2008): “In discussing the acts of memory, we can be concerned with three quite separate matters: first, what is the actual origin of information entering the brain; second, how is that information encoded, and is it in a way that physically affects our brain tissue; and third, how is its recollection best stimulated and secured,” 19, 20.
Figure 1: The Posthuman Memory Matrix: a series of feedback loops connected by scales.

Key: R-MME=Embodied repetition of original multisensory memory event; EMC=Encoded memory creation (fictional memory); TMM=Technologically mediated memory.
The particular movement along the matrix is determined ultimately by the interaction between the technological substrate and the embodied subject. As posthuman, the TMM feeds from the user to the technology and back. As a low-level example of posthuman memory, consider again Thomas, the photographer in *Blow-up* (*Figure 2*). Thomas’ memory experience begins with the event at the park. From that event, Thomas, after collecting affective memories, bypasses verbal memories and memory objects, moving straight to visually mediated memories (his photographs). Once he has examined his blow-ups, Thomas again circles back through the series of loops, adding both verbal memories and auditory mediated memories (both of which as a result of his phone conversation discussing the photographs with his publisher). Because Thomas, in returning to the scene, is unable to find a physical confirmation of the images, his posthuman memory must forever circle between a fictional memory creation (EMC) and a repetition memory (R-EMC). As Thomas continues his circling, we can imagine him eventually writing his memories of the event (a linguistic prosthesis), or even collecting objects from the park to serve as memory objects. Each time that Thomas passes through the matrix, his position along the three photography scales (found under Visual-MM) potentially varies. As well, at every moment of his movement through the matrix, cultural memories infuse Thomas’ posthuman experience.
Figure 2: Thomas’ matrix (the proto-posthuman)
Against a constructivist argument positioning this matrix as *determining* the subject, the posthumanist instead argues that within this matrix the embodied subject is *delimited but not determined*. An individual revisits photographs time and time again. The incorporating of a particular memory experience (the endpoint of each arrow) is a decision constrained by both the individual’s past experiences and their particular cultural milieu. However, in that the number of passages back between the series of loops and scales is delimited only by the subject’s life span, movement along the matrix ever also dynamically alters the subject’s memory over time. Consider the experience of Brita, the photographer from Delillo’s *Mao II*. At the beginning of the novel, the camera qua prosthetic-eye provides Brita with a glossy view of the world. She takes beautiful pictures, and in turn sees the world itself as beautiful. Over time, however, as she continues looping back through the matrix, adjusting her position along the scales, her embodied experience of the world (her affect) changes. This, in turn, shapes and is shaped by her conceptualizations (verbal memories) of her experience. As she returns to the camera and her photographs, she eventually she sees them as false, as more symbol than index, as even more fiction (EMC) than repetition (R-MME). Her accumulated memory experiences, then, as much technical as embodied, alter her conceptualizations of both herself and the world.

What the experiences of both Brita and Thomas demonstrate is that posthuman memories are *active lived experiences* that alter over time. Unlike the various storage
memories of neo-/cyborgs such as Rachael, Leonard, and Ted Berger, posthuman memories are *enactive*, always ever directed toward the world. In connecting the posthuman to the virtual, Mark Hansen writes:

> Mixed reality appears from the moment that tools first delocalized and distributed human sensation...placed in this context, mixed reality, then, designates, *the general condition of phenomenalization* ensuing from the ‘originary’ coupling of the human and the technical.\(^8^3\)

The prosthesis, so conceived, is always both *virtual* and embodied. A human, in using a tool, becomes multi-dimensionally extended not only in space, but also in time. The prosthesis becomes an impetus to futurity. A photograph, then, is not only a prosthesis for accessing the past, but also a tool for actively engaging the future. Posthuman memories, so conceived, position the subject as a being ever in flux, an assemblage moving at one moment into the future and the next back into the past.

---

\(^8^3\) Hansen (2006), 9.
References


Bush, Vannevar. 1996. "As We May Think." In Druckrey. 29-45


57
Cambridge: Cambridge UP.


Neuroscience 3.2: 153-160.


Cambridge: MIT Press.


Chun and Keenan. 233-247.


Rodowick, D.N. 2007. The Virtual Life of Film. Cambridge: Harvard UP.


