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MAKING MEMORY: *TECHNE*, TECHNOLOGY, AND THE REFASHIONING OF CONTEMPORARY MEMORY

by

KIMBERLY LACEY

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

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In partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2011

MAJOR: ENGLISH (Composition Studies)

Approved by:

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Advisor Date

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DEDICATION

To Mom and Dad

ACKNOWLEDGEMENTS

Remembering to thank everyone who helped me write a dissertation about memory seems a little too cutesy for my tastes, but I want to be sure to give a few shout-outs to those who, without their encouragement, I could not have made it this far.

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TABLE OF CONTENTS

Dedication……ii

Acknowledgements……iii

List of Figures……....…….vi

Chapter One: Re-Membering Memory: Beyond Mere Storage……...1

Chapter Two: *Techne* Three Ways…….35

Chapter Three: *Techne*-monics and Digital Archives……85

Chapter Four: Memory Manipulation……..118

Chapter Five: Reply All: Networks, Memory, Forgetting……...163

Appendix……..185

References……194

Abstract……211

Autobiographical Statement…….213

LIST OF FIGURES

Figure 3.1. The Wayback Machine, Search Results, amazon.com…….….185

Figure 3.2. archive.org homepage……185

Figure 3.3. Yahoo! on December 20, 1996……..186

Figure 3.4. Yahoo! on June 15, 2010……...186

Figure 3.5. eBay on October 22, 2002…….187

Figure 3.6. eBay on June 16, 2010……...187

Figure 3.7. Amazon on October 13, 1999……188

Figure 3.8. Amazon on June 16, 2010…….188

Figure 3.9. The September 11 Digital Archive Homepage…….189

Figure 3.10. *Satan in the Smoke*……...189

Figure 3.11. "In seat 3B on American Airlines 313 at LaGuardia Airport, NY"……190

Figure 3.12. "Riegel Apt."……...190

Figure 3.13. "just prior to the plane impact with the South tower"…….191

Figure 3.14. "From the terrace of my highrise apartment in Union City, NJ"……191

Figure 3.15. "April 2001 i misse u 2 girls u stil in my heart"……..191

Figure 3.16. "Bee_Towers"…….192

Figure 3.17. "Flight 93 Crash Site"…….192

Figure 3.18. "Pentagon 2"……192

Figure 3.19. "Lubbock, Texas"……193

Figure 3.20. The Soweto '76 Live Demo Homepage……..193

Chapter One

Re-membering Memory: Beyond Mere Storage

Forget about the memory you are used to.

This idea is not as radical as you might think. I'm not suggesting that you purge your hard drives, forget the lifetime worth of memories you have in your mind, or even weed through your photo albums and discard the images you haven't looked at in years. Instead, memory needs to be rethought. On the surface, digital memory resembles ancient Greek mental storehouses of memory due to the remarkable potential for storing everything. By looking a bit deeper, I suggest that digital memory is much more than excess storage. Digital memory is a flexible memory—we can store what we want, in the ways we want, the quantity we want, and the quality we want. Because of this flexibility, it is my aim to suggest that memory, one of the five canons of rhetoric, needs to be reworked in relation to interactive technologies. By reworked I do not mean restarted, but rather graciously revamped. At the outset of the book *Lingua Fracta: Towards a Rhetoric of New Media*, Collin Gifford Brooke anticipates a struggle between old(er) constructions of rhetoric and new(er) forms of media. His solution is a compromise—new media must react to and learn from rhetoric in a similar fashion that rhetoric must respond to technologies. Like Brooke, in this chapter I present some of the ways rhetorical memory is responding to newer media. Contemporary rhetoric must refigure the idea of memory away from storage (which might be difficult since the notion of digital memory is so often storage based) and into one of production. To accomplish this task, in this chapter I suggest some of the possibilities for rethinking digital, rhetorical memory. Although massive server space is capable of storing literally everything we

want, contemporary rhetoric should not limit the role of memory by viewing it as an updated and unending 'storehouse.' Additionally, the concept of memory must also escape the remembered-or-forgotten binary. Rather, contemporary rhetoric needs to rethink the new roles memory inhabits by looking at the ways digital memory is created, shared, reproduced, and utilized. By moving digital memory away from the trope of storage, I argue that digital memory must be reconceived as a creative and productive concept instead.

In *Lingua Fracta*, Brooke draws on the concern about the limits of criticism and suggests two pathways that English departments create when trying to understand texts. Criticism, Brooke argues, entails "evaluating work that *has been* done, rather than focusing on invention—on what *might still* be done with new media" (Brooke 10, emphasis in original). The difference between "has been" and "might still" points to what I am recognizing as the distinction between digital memory as storage and digital memory as creation. On the one hand, digital memory as storage ("has been") is limited to a storehouse, a place-based memory structure whose main purpose is holding onto what "has been done" in the past. On the other, digital memory as creation ("might still") transforms the flat, stored memories into round, lively memories re-created with each use.

I am able to foster the connection between the "has been" and the "might still" forms of memory by introducing the rhetorical term *techne* to illustrate the creative and productive features of contemporary memory. Transforming "has been" to "might still" embodies the shifting essence from statically stored memory and into fluid and creative memory. Although I explore *techne* in great detail in chapter two, I find it useful to

briefly overview how exactly I define this concept in order to make the argument that contemporary memory is a creative formation a bit clearer. To make such a claim, I suggest three interpretations of *techne*: as a process that is inherently productive; as a force that renegotiates contemporary sources of power; and as a skill that balances expert knowledge with instrumentality. Using *techne* to examine the role of contemporary memory is a unique approach, one that has not been explicitly examined in much (if any) of the literature I have encountered. Throughout this dissertation, however, I will demonstrate how *techne* is one of the most useful concepts through which we can understand the new shapes of contemporary rhetorical memory.

Since our capacity to store information is unlimited, we often capriciously delete files or pictures from our hard drive without a second thought. Speaking for myself, I have declined photo ops knowing that I can find better, clearer, more interesting photos of the same landmarks online. In a sense, I can use someone else's memory to supplement my own. I argue that such popular consumerist appeal should be a prime opportunity for several academic fields to take notice. In particular, the field of rhetoric should seize this opportunity to revisit and reclaim one of its own canons. Cicero's five canons of rhetoric (invention, arrangement, style, memory, and delivery) were established as a method by which orators could accomplish all of the tasks involved in speech preparation. However, in the centuries since the canons were created, memory has unfortunately been sloughed aside in favor of the other four. For example, in the sixteenth century, French rhetorician Peter Ramus argued that there are only two parts of rhetoric (style and delivery), relegating the other three (invention, arrangement, and memory) to the dialectic. Within the past decade, Kathleen Welch argues in *Electric*

Rhetoric that current composition textbooks emphasize invention, arrangement, and style while at the same time ignoring memory and delivery. Some other texts in rhetoric and composition utilize phrases and theories that, without explicitly naming memory, implicate the canon while mobilizing related terms instead. For instance, The New London Group uses the term "designing" to signify a process through which "meaning making" occurs, whereas "redesigning" is the creative result of interactions with available designs in order to produce a new result (Cope and Kalantzia 23). Much like "meaning making" as a design theory, I argue that "making memory" as a rhetorical theory is ultimately concerned with the creative aspect in the production of memories. Since information technologies easily allow users to make, create, reproduce, and manipulate memory, my project is a fresh perspective on an obviously important, albeit neglected, topic. My dissertation, therefore, revisits and interrogates these moments where memory and *techne* have simply been implied in order to question the repeated oversight of the canon of memory in the digital age.

Interestingly, while technological devices that offer expanded memories woo consumers everyday, I wonder why contemporary rhetoric continues to ignore the one of its foundational aspects. My research, consequently, is prompted by instances of 'forgotten' memory in the field of rhetoric in relation to our culture's growing desire to increase external, digital memory in personal computing devices. This chapter explores the presence of memory studies in academic circles, while also showing that the canon of memory in rhetoric has, for some reason, been "forgotten." Consequently, I aim to present contemporary memory as a productive and creative concept, and not limit memory to mere storage, the past, or forgetfulness. To riff on Aristotle's distaste for

Gorgias' use of "mere rhetoric" for a profit, I suggest that contemporary memory is more than "mere storage" that is bought and sold as upgrades and to stockpile as much as possible.

Also, by utilizing the term "contemporary memory," I am moving away from the concept of memory-as-storage while instead emphasizing memory in its digital form, a form that allows for malleable reconstructions and shared responsibility. Such flexibility also makes contemporary memory a rhetorical technology in that its creative opportunities expand the available persuasive possibilities at one's disposal. By looking at digital archives, photo manipulation, and digital networks in the later chapters, I demonstrate that the contemporary memory is a persuasive technology that we use to *re-make* and *manipulate* memory. However, one of the larger issues with contemporary memory, as Brooke has also noted, is that instead of adapting the canons alongside changing media, rhetoricians continue to use the models that were designed for oral and early print cultures, not the digital texts with which we deal today. Rather than dismissing the canons, I argue that rhetoric should focus on updating the canons for contemporary audiences. If the canon of memory is to be resuscitated, then it must respond to digital texts differently than it did previous media constructions. By utilizing *techne* in order to rethink contemporary memory, I explore the creative potential that interactive technologies pose to the canon of memory.

Fortunately, though, the canon of memory has not been entirely neglected, but I do believe that rhetoricians have not aggressively looked beyond memory as anything beyond remembered-or-forgotten. The ways we think about memory creation, reproduction, and utilization must all be reexamined, and I intend to explore in what ways

memory itself needs to be refashioned with present day digital texts. I choose to "refashion" memory instead of redefine, rework, or even reassemble because of this term's reference to older media. Some of the texts I examine later in this dissertation, like archives, are not new structures, but are instead refashioned along the lines of what David Jay Bolter and Richard Grusin call "remediated." For Bolter and Grusin, remediation is refashioning—it is the act of borrowing from or paying homage to an older media form. For example, the photograph refashioned the oil painting; while the subject might still be the same (say, someone sitting for a portrait), the medium itself has changed (gelatin-silver paper instead of canvas). Similarly, although the subject memory might remain constant (I will always have memories my thirtieth birthday), the ways I choose to remember and replay those memories (I have my own photos and I have also been "tagged" on Facebook in other's) have the potential to be radically different because of the technologies we use to shape the memory itself.

In what follows, I overview some of the ways memory has peeked through the rhetorical curtain in several fields outside of English. Afterwards, I follow the development of contemporary memory by riding three distinct waves: natural and artificial memory, externalized memory, and memory presence. I aim to leave this chapter with a thorough understanding of how memory has evolved since antiquity and by demonstrating the creative possibilities for contemporary memory.

Wait, Wait Don't Tell Me: Finding Our Rhetorical Memory in Other Fields

Despite few attempts to move memory to the fore of the rhetorical canons, memory has not been entirely neglected, surfacing sporadically within English departments as well as in different academic circles throughout its long history. For

instance, memory has been the focus of several significant recent publications. The book series *Cultural Memory in the Present* has published several trans- and inter-disciplinary humanities texts emphasizing "the close attention to the detail of the cultural object" to highlight the interpretation and "the meaning of the object for a present that is not amnesiac" ("Cultural Memory"). Launched in 2008, the interdisciplinary journal *Memory Studies* emphasizes the critical study of memory in the humanities and social sciences, indicating the desire to 'remember' memory in this contemporary moment. Even still, several aspects of memory studies have been emphasized in some important recent texts. Svetlana Boym's *The Future of Nostalgia* accentuates nostalgia as the memory of a time or longing for home that no longer exists (xiii). In Jose van Dijck's *Mediated Memories*, she questions the stability of memories by interrogating the technologies we employ in order to actually recall specific personal events. While Bernard Stiegler's recently translated *Technics and Time, 2: Disorientation* maintains that memory is indeed a technological tool, Matthew Kirschenbaum's *Mechanisms* reminds readers that memory "storage today is both an accessory, something you hold in your hand or slip into your pocket (your iPod or memory stick), but is also increasingly disembodied and dematerialized" (4). Although these books are critical to my project because they highlight the recent interest in digital memory studies, these texts all ignore digital memory's immense potential for rhetorical practice. Because interactive technologies greatly expand the "available means of persuasion" in the sense that they can bend, mold, and make unique memories out of existing ones, I am interested in what interactive technologies can actually 'do' to memory.

Other disciplines, such as sociology and communication, have several well-known studies of monuments and memorials as inscriptions of contemporary memory. Take, for example, Ekaterina Haskins' study of the United States Postal Service's collection "Celebrate the Century," in which she recognizes the affectivity of several national iconic "pop" images that were immortalized in the postage stamp series. Such focus on the construction and interpretative value of various national events highlights the tangibility as well as the flexibility of such memory markers. Haskins suggests that "because contemporary icons serve an important emotional and political function," the possibility for "counter-hegemonic interpretations" of widely recognized historical events is almost inevitable (2). Such personal renderings are all informed by unique memories, causing conflicts between the national historic events that the stamps immortalize and the individualized interpretations of the remembered occasions. Conversational inquiries such as "where you when Kennedy was shot?" represent the tension between national history and the personal memory studied in Haskins' article. In chapter three, I return to the idea of national memory by utilizing Alison Landsberg's concept of "prosthetic memory" to argue in favor of memory creation from a distance. As another example of memorial studies, visitor contributions at national monuments, such as the Vietnam Memorial Wall in Washington D.C., shift the rigidity of monuments into fluid structures marked-up with material memories (e.g., notes to loved ones left at the wall and military identification tags). Although monuments like the Vietnam Memorial Wall are meant to encapsulate a memory of national importance, Carole Blair argues that the frequency with which personal effects are left at/on the wall are alterations to the actual text of the stone monument (272). However, such contributions do not remain part of the

memorial's permanent "text," since all the personal effects are removed regularly. The digital archives I examine in chapter three suggest that the current shape of memorials is dramatically different because users' contributions actually create the permanent text of the digital site. Also in chapter three, I distinguish between closed memory museums (such as the Vietnam Memorial Wall the personal effects left at the site) and open memory museums (the digital archives that thrive on users' contributions for its existence).

While each study is significant in its own ways, neither connects memory and *techne* as the motivation behind the memorials' flexibility. Although Haskins and Blair's arguments both note that the constantly shifting text of monuments make the historical markers fluid memories, there are more relevant examples (like digital archives) of "making memory" that need consideration. Personal devices like iPods, smart phones, and digital cameras encourage their users to Tweet, blog, or shoot video in order to make and share memories, but rhetoric has not yet critically engaged with these ubiquitous forms of persuasive possibilities that new technologies inspire. As a result, I argue that the ease of creating, reproducing, sharing and "making" digital memories should signal an important moment to think about memory and *techne* together.

I also want to emphasize the importance of such an expanded notion of rhetorical memory for understanding the interactions of subjectivity, sociality, and persuasion today. I am particularly interested in thinking through contemporary rhetorical memory in reference not only to the Greek tradition, but also to a much more recent segment of Western intellectual history: the "big theory" era of the critical humanities in the 80's and 90's and the multiple claims in the past decade concerning the "death of theory" and the

end of this era. Indeed, while the status of memory as a crucial concept in twentieth-century rhetorical theory and pedagogy has been a degraded one, many of the pre-modern vectors of memory returned both implicitly and explicitly in the initial days of postmodern critical theory. Thus, even a quick review of some of postmodern theory's "greatest hits" reveals that the notion of "meaning making" (similar to The New London Group's claim mentioned earlier) was often mediated through a rethinking of memory. For instance, in Derrida's influential "Plato's Pharmacy" the importance of memory to Greek thought and its role in the struggle over (Platonic) philosophy and (sophistic) rhetoric is the lynchpin through which the now famous postmodern "critique of presence" (to which I will return at the end of this chapter) and of the logocentrism of the Western metaphysical tradition is articulated.

Similarly, although the most popular legacy of Lyotard's *The Postmodern Condition* is its prediction of the collapse of "grand narratives" and the parallel resurgence of localized knowledges, Lyotard's thematizing of sea-changes in epistemology, politics, and pedagogy is undergirded by a more general argument about the changing status of memory and information in postmodernism. On the one hand, Lyotard writes of the increasing importance of "memory" as it is stored in nonhuman realms: "the traditional teacher is replaceable by memory banks, didactics can be entrusted to machines linking traditional memory banks (libraries, etc.) and computer data banks" (50). On the other hand, as nonhuman memory sites become central to human learning and social life (Lyotard calls technological memory "nature" for postmodern man), there is a shift in what counts as intelligence and skill in humans. Although the "modern" conception of genius may have been the individual who has

recourse to personal, specialized knowledge, the "postmodern" genius is the individual adept at exploiting and making innovative connections between the vast and accessible "stored" knowledge located in networks of information technology (51-52).

Memory was also a crucial concept in Foucault's "archaeological" method through his focus on "the field of memory" woven by archival materials (64) and later in his "genealogical" work wherein, as C. Colwell glosses, the "counter-memory" of genealogy is used as a critical wedge against the "collective memory of a particular social group" (2). To provide just one more example, memory was equally important to Fredric Jameson in periodizing postmodern culture and aesthetics from that of the high modern, the former having lost the sense of "deep memory" so pivotal to the sensibilities of the latter (36). All of these works hailed both rhetorical memory's earlier character as an interface between the interior and exterior of human subjectivity, as well as, much like the early Greek association of *mnemosyne* and *lethe*, the recognition that the present and future of memory as a capacity is bound up with that of forgetting. More specifically, they all focused on the fragility of traditional notions of memory and the need to create new tools of critical sense-making (cognitive mapping, archaeology, language games, deconstruction, genealogy) and the potentially liberatory power of such tools to challenge the domain of collective or personal memory and, by proxy, totalizing systems of knowledge.

Let's return to finding memory in other disciplines. Memory has also been a popular subject in some major Hollywood films such as *The Bourne Trilogy*, *Eternal Sunshine of the Spotless Mind*, *Memento*, and *Slumdog Millionaire*. While I am not a film scholar (as a tired grad student, I fall asleep during too many movies anyway), I am

interested in the popularity of these films because they emphasize the co-dependence of memory creation and technology. *Memento*, for instance, follows the main character Leonard Shelby (played by Guy Pierce), a man who is unable to create new memories due to an injury incurred while fighting off his wife's murderers. As a result of his accident, Shelby can recall everything previous to the attack, but injuries sustained in his assault prevent him from creating new memories. Because he relies on physical reminders, such as Polaroid pictures and tattoos, these material memories do not simply supplement his personal memory, but they are his only form of memory. In *Memento*, Shelby is relying upon the permanency of the memories he makes in order to function.

The correlation between biological memory (Shelby's is damaged) and externalized "made" memory (on which Shelby depends) is another example of the tension in which I am interested throughout this dissertation. Much like Leonard Shelby, individuals supplement their biological abilities by placing their memories in external memory devices more regularly. Further, our growing reliance on externalized memory simultaneously requires users to place trust in apparatuses that are not limited by self-control as biological memory is thought to be. For instance, because Wikipedia entries can be modified by anyone, the information contained on certain pages can be intentionally falsified. During an episode of *The Colbert Report*, comedian host Steven Colbert jokingly denounced Wikipedia and its users' inability to distinguish between true or misleading information. To demonstrate, Colbert encouraged his viewers to update the Wikipedia entry on African elephants to note that its population had tripled in size in six months ("Episode 128"). Because viewers were successful at updating the site's content, this modification suggests that the line between true and false information can be

misleading. Similarly in *Memento*, characters purposely mess with Leonard's inability to remember—a hotel clerk charges him for two rooms, an informant hides pens so Leonard cannot take notes (i.e., make memories). *The Colbert Report* and *Memento* both suggest that externalized memory is vulnerable to malicious actions; furthermore, these instances of manipulated memory represent the apprehension about total reliance on externalized memory. Even though externalized memory still causes a certain amount of hesitation, I intend to show that contemporary memory does not always end in deception, but instead memory as a *techne* can be created and designed for productive ends.

All of the examples noted above accentuate the fact that memory is a continually intriguing topic within academic and pop-culture circles, but it also highlights that memory has unfortunately been of little interest to rhetoric studies in English departments today. Because certain sites encourage users to contribute to universal knowledge, new media outlets such as Twitter, (the now defunct) Google Wave, Wikipedia, and blogs explicitly increase the possibility for persuasiveness by way of collective memory. While these platforms have been engaged through pedagogical inquiry and questioned about their social implications, rhetoric has not rigorously investigated these programs and their persuasive content. In what follows, I highlight how memory has been a continual force since its inception as a canon of rhetoric; however, by tracing memory's history, I argue that it has detoured from its original rhetorical aims by neglecting to critically engage with the available means afforded by contemporary digital media. In order to engage rhetoric, memory, and interactive technologies, I feel it is best introduce some critical terms that I will be employing when discussing memory and rhetoric; these terms will be utilized throughout this first chapter in order to strengthen the connections between

memory, *techne*, and technology. The three terms that are most important to employ in this chapter are: *natural and artificial memory*, *externalization*, and *presence*. These terms trace the development of memory from its classical rhetorical origins to its theoretical implications within recent contexts. I have selected these three terms because of their correlation to the development of memory as a rhetorical structure and also because they highlight memory's drift away from rhetoric, signaling a dire need to return to its roots. Because I am defining memory through the intersection of *techne* and technology, these three terms also showcase the influence of technologies on the creation of new memories.

The Practice of Storage: Natural and Artificial Memory

In the oral culture of the ancients, an expansive and trained memory indicated that an individual had a great storehouse of knowledge; more importantly, a trained memory was essential because print culture was underdeveloped and underemphasized, forcing individuals to ready their memory with practice and storage techniques. Many ideas and theories of memory have been informed by stories about individuals with large memory capacities. For example, the tale of Simonides has been captured and retold by numerous rhetoricians—Cicero and Quintilian's accounts are among the most popular. In sum, Simonides was the sole survivor of a ceiling collapse that killed everyone else attending a dinner party, but he remembered each individual who was fatally wounded by recalling where they sat (Yates 2). Simonides was able to remember all of the guests because he recalled each of their places at the dinner table, a technique that later translated into using "places" or *loci* to remember practically anything. In *The Art of Memory*, Frances A. Yates' extensive text on memory, she references many writers who have titled Simonides

the "inventor of the art of memory," a result of how the importance of place and a heightened sense of sight influenced later rhetoricians' theories of memory (82). More recently known as mnemotechnics or "mnemonic devices," this method of memory storage linked words or ideas with visual representations designed to trigger the memory. To explain, when I was memorizing a timeline for an exam in a high school history course, I was able to remember that Marco Polo returned from his Asian voyage in 1295 because I created an image in my mind—a polo shirt with a price tag for $12.95. The fact that I still remember it to this day speaks to the effectiveness of such mnemonic techniques; but the ancient method of memorization went a bit further. In order to build a strong memory, Quintilian believed that one should place different ideas or topics for a speech in various places in an imaginary house, that way the orator could mentally walk among the *loci* and retrieve information, with accuracy and without fail, in any order and at any given time while delivering long speeches (11.2). Accordingly, I might have visualized that Polo shirt hanging in a closet so that as I was "walking" through the house, I could see the garment and remember the facts I attached to it.

Others in antiquity have also created elaborate memory systems in order to organize thoughts; for instance, Quintilian refers to Metrodorus who created a memory system based upon the zodiac, expanding the twelve signs into thirty-six, and eventually finding "three hundred and sixty places in the twelve signs through which the sun moves" (qtd. in Yates 40). Each of the three hundred and sixty *loci* could be used to store information, allowing the orator to be prepared to speak on any topic and in any given order. To name just one more example of memory places, in the Middle Ages, Guilio Camillo created a theater initially centered upon seven planetary gods and expanding

each segment seven-fold, noting that the intricate structure of this celestial system relied on "the affective or emotional appeal of a good memory image" (Yates 144).

Because the *loci* emphasize visual, imaginary constructs, the ancients also believed that the senses were vitally important to memory, causing significant rifts between the memory theories of Aristotle and Plato. In the case of Aristotle, he argued that the senses outside of the body created such strong impressions, that he likened their mark on one's memory to the imprint left by a wax seal (*On Memory* 170). Aristotle placed such importance on the visual in relation to memory, he states in his treaty *On Memory and Recollection* that, "it is not possible even to think without an image" (168). Plato, on the contrary, believed that memory was inherent, and that senses only allowed an individual to remember what had been dormant ("Theaetetus" 151d-e). For Plato, the role of memory was merely to recall what was already known, or innate, in each individual. Essentially, and unlike my definition of contemporary memory, Platonic memory was not 'in the business' of making new memories.

The notion that memory is aided by the senses and improved through the creation of images suggests that our biological brains, as they are, need some additional help from outside sources. Recognizing this split in the *Rhetorica Ad Herennium*, Pseudo-Cicero divided memory into two categories: natural and artificial. In the *Ad Herennium*, natural memory is defined as "memory which is imbedded in our minds, born simultaneously with thought" while artificial memory is characterized as "memory which is strengthened by a kind of training and system of discipline" (207). This division was important for the ancients because of their primarily oral culture, and thus a trained and readied memory was crucial for an orator to appear polished and prepared for any situation. The stronger

the artificial memory, the more easily the rhetor could perform at any time, and speak on any given topic. Much like Simonides in the earlier example, in order to bolster natural memory, one fortified artificial memory by creating images of places and backgrounds where one could place ideas to be remembered for later use. Pseudo-Cicero combines natural and artificial memory by linking the words of a verse with related images. In the following passage he explains, for example, the necessity of coupling words and images in order to remember content more effectively: "But such an arrangement of images succeeds only if we use our notation to stimulate the natural memory so that we first go over a given verse twice or three times to ourselves and then represent the words by means of images. In this way art will supplement nature" (217, emphasis added). Artificial memory, therefore, mimics the inherent processes of natural memory and is strengthened through repetition and image creation. Pseudo-Cicero asserts that replaying an idea and also matching it to a related image in the mind is the ultimate mode of memorization.

As the previous examples highlighted, an organized memory is the co-development of natural and artificial memory, a synchronized relationship between biology and practice. If natural and artificial memory becomes more powerful as separate processes, then the combination of the two is a reliable and ironclad system, as demonstrated in *De Oratore*, Cicero's encompassing text on oratory and orators. In that text, Cicero examines the individual's capacity to speak well in any given situation. To achieve this state, Cicero suggests that a full and organized memory is a useful tool in proportion to the weight of the other four canons (40-41). In order to prepare one's memory for oration, Cicero acknowledges that practice and training is the most

successful combination (43). As a result, a well-stocked storehouse of memory assists the orator, allowing one to draw on numerous examples and ideas at a moment's notice to reinforce or refute an argument. In sum, Cicero emphasizes memorizing a great number of others' writings as well as creating your own syntheses between them. By encouraging our students to gather research in order to figuratively enter the conversation, this practice is one we continue in college writing courses even today by instructing our students to collect theories, ideas, and arguments in order to synthesize them with their own informed opinion. For Cicero, gathering ideas aided the memory so that orators could recognize the connections between those ideas, allowing one to commit the connections to memory more easily. Cicero remarks that memory is strengthened over time through experience; a prodigious memory is the result of practice and training, trial and error.

Jump forward a few millennia and we can see that the coupling of natural and artificial memory is still an active force in discussions about contemporary memory, but any mention of rhetoric is now missing from the picture. Even though many of us cannot remember our closest friends' or relatives' phone numbers, it does not mean that we are incapable of ever phoning them. Instead, our memories are displaced into external, artificial systems used to aid our natural processes of remembrance. In the next section of this chapter, I review the shift from the internal juxtaposition of natural and artificial memory towards a displacement of memory as a non-biological process altogether. Because externalization symbolizes and acts on the desire to move memory outside of the body and into other apparatuses, it is important to begin tracing that journey by first examining Plato's own hesitation about writing.

Thinking Outside of the Brain: Externalization

The next phase of memory that I am exploring, externalization, is a natural successor to the coupling of natural and artificial memory. Because natural memory is limited by biology, and since age and disease can affect our ability to remember, artificial systems must be developed to increase the efficacy of memory. The two systems I have already explored are all designed to shape one's ability to organize memory internally, although the development of print literacy increased the possibilities to locate memory outside of the body. Alongside the evolution of print culture, the growing number of "available means" of persuasion also increased exponentially, drawing some rhetoricians to question the ethics of externalized memory. In what follows, I explore the evolutionary co-development of rhetoric and externalized memory, recognizing that with external sources, a growing distrust of externalized memory erupted.

In an age before print literacy, the emphasis on orality reinforced the power that the remembered word held over the written; in fact, memorization was so favored that even Plato and Quintilian have suggested that writing destroys the memory. In the *Phaedrus*, Socrates winces at the suggestion that Phaedrus recite Lysias' recent oration. Socrates counters Phaedrus recommendation by stating that any copy of the speech is unnecessary when they could simply go to Lysias himself for 'an instant replay' of his oration. Later in *Institutio oratoria*, Quintilian, acknowledging Plato's influence, demonstrates just how writing weakens personal memory: "Yet I find it said indeed by Plato that the use of letters is a detriment to memory, because, as he intimates, what we have committed to writing we cease, in some degree, to guard, and lose it through mere neglect" (11.2). For Quintilian, memory does not always stay with us, but instead returns

after being lost. In order to recapture "lost" memory, one should emphasize organization techniques in order to help the brain process information more quickly. When the memory is trained and efficient, there should be no lag time between inventing and arranging the argument and delivering the speech clearly. Today, it seems easy to remedy forgetfulness by writing down information, an act that Socrates and Quintilian were both vehemently against. Siding with Plato, Quintilian argues that what we commit to writing we lose to mere neglect, for it cripples our memory. Whereas the natural and artificial memory focused on strengthening memory internally, new developments in print and digital culture increase the possibility for additional externalized sources of memory.

Even so, when Socrates first lashed out at Phaedrus, it was an important moment for rhetoric. Socrates' distaste of externalization represents a move away from the nature of rhetoric, summed up later in Aristotle's classic definition: "the faculty of observing in any given case the available means of persuasion" (*Rhetoric* 6). This early shift towards the externalization of memory recognizes some of the fears that arise from transferring our biological processes into non-biological mechanisms, one that has not disappeared even in this current digitally-dependent age. Aristotle's definition of rhetoric is a good place to begin recapturing the canon of memory in this contemporary moment, namely because the notion of "available means" can be interpreted differently and more encompassing since the onslaught of externalization. For early rhetoricians, being prepared for oration meant collecting and having argumentation organized and readied for any given situation. One of the means to accomplish effective oration was to exercise the memory so that during a speech, one could quickly employ a number of memorized

techniques as evidence. The ability to efficiently recall these effective approaches allowed the orator to appear natural; rather than having to create appropriate evidence in the moment, the orator would simply retrieve what he already held in his memory. This 'storehouse' of techniques is similar to today's ideas of external memory storage—digital spaces allow individuals to store an infinite amount of information, while mundane activities, such as Googling, fill the gaps in one's knowledge. With Google aiding our memory to the point where no one needs to "forget" anything, the modern emphasis on externalized memory sharpens our mental reflexes so that the information we need to retrieve can occur more rapidly. Even though it is too reductive to claim that information technologies simply offer 'more' in terms of storing available means, it is helpful to characterize the available means as the method by which the information can be sorted, tagged, and informed by the user in order to be recalled quickly and utilized effectively. I am suggesting that the crucial issue with contemporary memory is not how much we can store, but rather the structures and networks we develop in order to process and use that information efficiently, an idea that I examine thoroughly in chapter five.

Digital memory is constantly scrutinized because there is such a hesitation to rely on it completely. For example, we tend to see an age gap between those who bond with technology and those who are hesitant to let it come into their lives. My parents' generation, for one, is becoming more tech-oriented, although there is still a dramatic learning curve. For a while, my dad's favorite computer activity was reformatting his computer's hard drive when something went wrong (my brothers and I still believe he just liked DOS too much to let it go, and we're hoping those days are behind us). Even though my parents are slowly learning about the computer, and they are more apt to e-

mail or text one of us when they want something, they do not have Facebook pages or blogs that might give them a little more "tech cred" among younger generations. So why are they so slow to adopt new technologies into their lives? One reason might be drawn from years of schooling that reinforced the importance of memorization techniques, and perhaps they feel that using technology to supplement and replace the skills they have learned over a lifetime is, in a sense, "cheating." My peers (the last few years of the Gen Xers) do not feel the resistance that our parents' generation feels. Even though we were not born into the world of ubiquitous computing like those of the Gen Yers (or whatever people are calling them these days), my generation has fully accepted the additional capabilities that external technologies afford the individual. Admittedly, many of my peers do not have facts about each other memorized. Maybe I'm a bad friend, but without my iCal, I would not remember my friends' birthdays; further, if you ask me for one of their phone numbers, I am at a blank. Conversely, my mom keeps track of these details by writing them on the calendar in her kitchen and the phone numbers written in her phone book. However, there is an important and significant difference between these two types of storage.

When Socrates insisted that writing degraded the memory, a suggestion which sparked the division between print literacy, rhetoric, and memory, the distinguishing feature between the written memory of my mom's calendar and her phone book and the digital, externally stored memory of my iCal and cell phone database is the automaticity of the latter. To explain, each January my mom rewrites everyone's birthday on her new calendar, forcing her to be reminded of each date. This reminder then serves as a recollection, or re-memorized fact—she may have forgotten the date over the year, but by

re-writing it at least once, she recalls the details in specific relation to a date. The Spanish rhetorician Ramon Llull devised a memory technique that he called "chew it over"—if there is a fact you would like to remember, you should keep it present in your mind and keep "chewing" it until you have "digested" the important information ("Memory Training"). The digested information could then be regurgitated as needed. When my mom rewrites (externalizes) the important dates on each new calendar, she chews on the facts as she rewrites them. More importantly, even though she might say that her memory is slipping from age, she actually has all of the birthdays on the calendar memorized (and with twenty siblings and in-laws, over forty nieces and nephews, and a dozen or so friends, this is no small feat). Her constant return to the calendar and the annual act of rewriting the birthdays represents that writing does strengthen the memory when an individual returns to the original site in order to replicate the act.

Let's turn to my system now, which I find easier and much less time consuming. Once I learn of someone's birthday, I open my iCal, create a new "event" for that occasion and simply select "repeat every year" and, voila, my work is done—for good. I do not have to sit down each January with a new, blank calendar and transfer the dates—the dates are automatically transferred for me. I do not have to, as Llull argues, "chew on it" to keep it in mind. Since my iCal is also linked to many of my devices, such as my iPad and my e-mail, reminders are simply handed to me with a sound and a message notifying me of the important event. Because the device "remembers" for me, once I enter a new event, it no longer requires any 'memorization' on my part. I have delegated my memory to a device that 'does the dirty work for me.' Even though some technophobes argue that technological devices are destroying the memories of adults in

my generation, I disagree with those sentiments. For instance, although my memory is being shifted from my biological memory into technological devices, I am not necessarily forgetting the events. Just as my mom's calendar reminds her of family members' birthdays, my iCal reminds me in the same way. The difference between the two types of externalization lies in active and passive memory. My mom's annual tradition of filling in the dates requires a much more active memory, whereas my iCal, which automatically repopulates itself each year, takes almost no action on my part and is a passive type of memory.

The passivity (and some might even say "automaticity") of digital organization systems tends to be a major rift between those that endorse the benefits of technological memory (like my peers) and those that shy away from it (my parents' generation). The work of Merlin Donald, a cognitive psychologist who has studied the intersection of life systems and information systems from early hominid development to the current moment of high technology, is particularly helpful in beginning to think through the relationship that *techne* played in the role of organization and arrangement that is now most associated with information technologies. Donald is not the first to highlight the influence of technology on biology. To name just two others, Eric Havelock and Walter Ong have also suggested that technological advances are reflected in biological developments. Havelock, for instance, notes that when writing and written texts gained popularity, many were hesitant to rely on these written records, believing that they could be easily altered – more so than biological memory (100-1). In *Orality and Literacy*, Walter Ong points to a split in the oral tradition. By differentiating "primary orality" (a culture untouched by knowledge of writing or text) and from "secondary orality" (our

present-day high-technology culture which depends on writing and print for their existence), Ong recognizes the dependence of written technology on our recent biological progress (6, 11). However, Donald's work is especially important to my argument because the central focus of his most recent work is the co-implication of biological and cultural evolutionary mechanisms, particularly how these processes intersect through what he names 'storage systems.' We tend to think that human evolution primarily takes place through biological responses to environmental changes and that culture or technology intrudes in the process, but the shift towards externalized memory highlights the fact that technology has co-opted biological memory. Donald suggests that cultural changes have long been implicated in biological evolution and those cultural developments, such as the advent of language and literacy, have directly impacted biological evolution, rewiring not only the human mind but also the physiological brain. The relation between the dual mechanisms of evolution fore grounded by Donald is most apparent with the introduction of the external symbolic storage (ESS) system. Donald defines ESS as the establishment of various organized spaces into which humans place knowledge that can be accessed at any given time in the future (308). Coupled with the ubiquitous utilization of devices such as smart phones, flash drives, and GPS navigation, use of ESS infers that there is a decreased dependence on internal (natural) memory and increased dependence on externalized (artificial) memory, emphasizing the fact that the assimilation of these instruments into many daily activities has been practically subliminal. Furthermore, the most important feature of ESS is that it proves that the brain's size and capacity are increasing, but that this expansion is actually occurring

outside of the body. Further still, ESS represents that the accumulation of knowledge is no longer restricted by the brain's physical storage limitation.

It has been important to trace the resistance of externalization from Plato to Donald in order to highlight the tension between rhetoric and memory, especially because several aspects of the digital are wrapped-up in memory. In the final section of this chapter, I explore how the idea of presence is an equally critical concept by which to refashion memory. In what follows, I explore some of the difficulties that rhetorical memory encounters in relation to presence. Keeping digital memories present (or at least not forgetting memories by haphazardly deleting them) is one of the largest roadblocks concerning contemporary memory. If we can easily store and remember every event, then forgetting them is no less of a challenge. Presence, then, provides an insight into how contemporary memory is complicated by the tension between memory and forgetting.

Up Close and Personal: Presence

When I hear the term "presence," a few ideas come to mind. Most likely, presence suggests the here-and-now, a sense of being in the moment, or a reappearing (like a ghost or specter). For memory studies, presence is always a contested term. At the start of *Memory, History, Forgetting*, French philosopher Paul Ricoeur questions Aristotle's connection between memory imprints on the body and the soul: "What is it that we remember? Is it the affection or the thing that produced it? If it is the affection, then it is not something absent one remembers; if it is the thing, then how, while perceiving the impression, could we remember the absent thing that we are not at present perceiving?" (Ricoeur 17). Like Ricoeur questions here, I, too, wonder what is recalled

in the process of memory. For instance, the item that enables a spontaneous recollection (think of the madeleine made famous in Proust's *Remembrance of Time Past*) allows us to recall an event in a certain contextualized package, but we are unable to recreate the actual presence of the past event. As a result, absence becomes the crux of the "presence problem"—memory does not (and cannot) recreate what "has been" or what has been stored. Contemporary memory, on the contrary, is highly invested in the possibility of the "might still," or the creation of moments that spark spontaneous recollection. French philosopher Jacques Derrida is an important contribution to my conception of presence. By examining the unconscious in texts like *Archive Fever*, by coining the term *différance* in *Of Grammatology*, and even considering the lingering effects of Marxism in *Specters of Marx*, Derrida's work is tightly bound up with the ideas of presence. In this section, I will use Derrida's theories to inform my own thinking about presence and memory.

However, even before Derrida wrote *Archive Fever*, other philosophers were grappling with the suggestion that memory is a creative force, and that recollection is the result of reinterpreting the unconscious. Although the term "unconscious" was not prevalent in the Enlightenment, John Locke argued that memory, which he argues is inherent in all individuals, surfaced through sensory perceptions, a notion that is certainly a precursor of Freud's unconscious (67). Locke's process of creating and gaining knowledge was the benchmark for most other Enlightenment thinkers. Because the Enlightenment weighed empiricism and fact-based evidence so heavily, Locke maintained that truth in the world was an attempt "to understand knowledge as a psychological phenomenon," a stark contrast to those who believed that knowledge could be attained through perception alone (Bizzell and Herzberg 697). From this perspective,

Locke's theory of memory, or what he calls "retention," is the storage of a sensation once the object of that sensation is removed (96). Later, Proust's madeleine is another good example of this theory—once he encountered the treat, the madeleine caused the individual to recall an event he once thought long lost, one that was buried so deeply that he did not even know the memory had faded. Whether through the senses, the madeleine, or a shuffled song on your iPod, recalling memories is always a process that involves retracing old paths via new connections and, arguably, new technologies.

In the essay "The Technical Substrates of Unconscious Memory," Patricia Ticineto Clough interrogates the distanced relationship between Derrida and Freud throughout *Archive Fever*. In *Archive Fever*, Derrida explores the role of unconscious memory as a collection of events that an individual may have forgotten he forgot about. Derrida argues that the way an event is stored changes the way it is remembered, thus the technological developments that were not around in Freud's lifetime (e.g., e-mail) would have made a larger impact on his psychoanalyses (*Archive* 18). Clough introduces the term "teletechnology" as a way to represent our current subjectivity in relation to technologies. For Clough, teletechnology represents our vulnerability of exposure, and ultimately our powerlessness, to decide whether to turn technology on or off (384). There is an important distinction between public and private, and teletechnology does not negate those spaces; rather than deterritorialize, teletechnology actually reterritorializes social spaces. Clough defines this new space of teletechnology as the "increased possibility of the release of the human subject's agency from non-reflexive relationships to tradition, community, and large social structures" (384). What this means for human agency, then, is that the reflexive power of non-human agents (i.e. teletechnologies) is

forcing humans to act unconsciously in relation to them. Furthermore, these unconscious reflexive acts represent the blurred lines between human and machine, the ontological and the technological, fantasy and reality (Clough 385). These unconscious interchanges between humans and machines are critical ideas for rethinking memory because they represent the capacity to produce new memories while overcoming the limitations biological memory.

Rather than opposing the unconscious and the machine, Derrida's reading of Freud in *Archive Fever* fills in the gaps with the technologies that were absent in Freud's lifetime. Clough states, "it is possible to understand Freud's treatment of unconscious memory as compensating for what could not be thought without the machine metaphors yet to come in the future" (386). The unconscious does not simply record and replay memories. Instead – and this is a crucial moment for my dissertation – the unconscious *makes new memories* by forcing new paths of memory. As Derrida explains it, there is always a trace of a memory but how we arrive back at that memory will always be different—it will never be the same event we originally remembered because we are recalling it from a privileged standpoint. A present memory, then, is never a recollection, but is a recreation, a new memory altogether. It is impossible to recall an event exactly as it occurred because many things have happened in the in-between, forcing our perception to change, if even slightly.

Derrida's term "*différance*" helps to explain this idea more thoroughly. *Différance* is defined as the lag time between understanding the signified and its sign (*Grammatology* 62). If recollection is always new, we are experiencing the delay between the past (remembered) and the present (recollecting) moment as an original

event. Because there is always a delay between the two moments, the lag will always cause the recollection to be the creation of something new. "In relation to unconscious memory," Clough argues that, "the text is always produced through a 'supplementary delay,' a secondary revision of an event that has never been lived in the present" (391). Furthermore, this supplementary delay is why Derrida argues that the memory archive is always for the future, never for the past or the present. The archive is created in the past, but can only be understood in the future.

To illustrate this idea, in *Archive Fever*, Derrida examines Freud's "mystical writing pad," a child's toy where you can write on the surface, pull back the film on the top, and the writing disappears. Even though the writing on the top of the pad is erased, the imprint of the original writing is still left in the wax beneath. Therefore, all the writing and drawing ever done on the surface of the pad is permanently retained in the wax underneath. Freud likens this toy to unconscious memory—we always have a copy of our memories, but they might not be visible or readable. This copy is what Freud calls "behind perception," or the brain's palimpsest of every event we have ever experienced.

The "mystical writing pad" also represents the different ways we recall events. For example, if I write the word "memory" on the surface of the mystical writing pad, the wax underneath will be a pure copy of the word on the surface. Once I lift the film to erase the word from the viewing surface to write another word, the wax below will still have the word "memory" written in it. Let's say I write the word "unconscious" on the blank surface; now, the wax will not only have the word "memory," but it will have the word "unconscious" carved in it as well. When we look at the wax with the two words, it might look like a jumbled mess, but if we look closely enough, we could probably trace

the original words. After repeated use, the wax will become increasingly more difficult to decipher—using the mystical writing pad for a week, the wax might look like a bunch of scribbles with no decipherable text. However, I know that the words "memory" and "unconscious" are still imprinted in the wax, but the route to find them will be changed or unclear with every new word written over them.

The example of Freud's mystical writing pad illustrates just how memory is creative—each new memory (or on the writing pad, each newly written word) creates a new path by which to make older memories present. The exchange between memories is a result of a creative co-production by which old memories are rewritten just as new ones are written. For Derrida, Freud, and myself, unconscious memory is a creative, memory-making apparatus, not a memory-keeping one (Clough 388). This is a critical distinction for my dissertation, especially when thinking of *techne* as a creative and productive force of contemporary memory.

Furthermore, Derrida acknowledges that even though there is repetition in memory, he argues that it is not the memorized content that is repeated, stating: "repetition is an 'originary' repetition; it is not the repetition of an original" (Clough 388). In other words, a memory is only stored once, but its recollection is always an original event. During recollection, what was retained in the wax will always force an original perception of the event that was stored because the path to arrive at that memory will be different. Recollection is *not* repetition. Instead, recollection is creative, not static, because the interactions between memories during the act of recollection force an individual to recreate the event in relation to all of the accrued events that occurred between the original memory and its recollection. This is an important idea to keep in

mind for my project because many other theories of memory have argued on the contrary, suggesting that recollection was simply the surfacing of an old, stored idea.

Making Memory, Using *Techne*: Conclusion

To wrap up this chapter, I want to share one more example of memory as a productive concept rather than one of storage to highlight the importance of introducing *techne* into the conversation. Even though I am not a gamer by any stretch of the imagination, years ago I recall playing Kirby's Dreamland for the Nintendo GameBoy for days on end. Without counting the hours of Solitaire I have under my belt, Kirby is still the only video game I have ever beaten. During my quest to conquer the game, I distinctly remember dreaming about the music, the challenges, the enemies, and the mistakes I made trying to "level-up." Surprisingly, I beat Kirby's Dreamland after a few days of playing and as many days dreaming about it. While dreaming about the video game, my brain retraced and replayed that day's events not to provide me with a play-by-play, but to help me learn something new about the situation. Recent studies conducted on video gaming and dreaming have suggested that when a gamer concentrates on a certain game for long periods throughout the day and before bedtime, she awakens with a renewed ability to complete the tasks more efficiently (Stickgold, et al). During sleep, the brain revisits the pathways by which we attempted to complete the task, and while the unconscious forms new connections that will help us the next morning when we pick up the game again.

To illustrate, let's say you are in your car and stuck on a snowy road, but you desire to turn around and head home. You put the car in drive, maybe go a couple of feet, get stuck and switch the car into reverse to try again. This event may occur a few times

until you give-up, too exasperated to continue. A little while later, you decide to give it another go, only this time you maneuver your car into the tracks of a car that has just passed you—success! The final effort of waiting and tracing another's path represents what transpires in our brains when we are asleep. During sleep, our brain forms new connections by reprocessing memories we made while we were awake to help us learn new ways of completing a task even when we are not consciously participating in the learning process.

Researchers who discovered the connection between sleep, learning, and memory asked participants to play both Tetris and the downhill skiing simulation game Alpine Racer II for hours during the day while researchers noted their (oftentimes poor) performance (R. Stickgold, et al 1056). What is most interesting about this study is the majority of participants dreamed about methods by which they could increase their performance in the game ("The Sleep-Memory"). The next morning when the participants were asked to play Tetris and the ski simulator game once again, everyone's performance dramatically improved, suggesting that the brain creates new connections and pathways based on the memories of lived events. If the possibility exists to create mental connections based on unconscious memories that we made ourselves, then what does this discovery suggest for research in rhetorical memory? Because advances in information technologies allow us to create sharable "memory files," how does a digital archive function within a collection of memories over which the original user does not have complete control? Finally, is the seemingly arbitrary tracing and resurfacing of the unconscious similar to the undetermined ends of a digital memory?

I will explore these questions along with others in the upcoming chapters. As a creative and productive force, the coupling of memory and *techne* highlights the necessity of refashioning memory for contemporary rhetoric. While the evolution of memory has been witnessed through three specific waves (natural and artificial, externalization, and presence), all three represent the gradual shift from memory as a strict biological attribute into its contemporary place in technological apparatuses. The importance of the latter offers an entrance into several reconceptualizations of contemporary rhetorical memory; but the specific use of *techne* will allow me to focus on how memory is being produced for future use.

Chapter Two

Techne Three Ways

Each semester in my technical writing classes, my students are required to write instructions, a standard assignment for practicing engineers. Because the students select their own topics, I usually end up with an assortment of complex and sophisticated subjects, ranging from detailed origami folds to in-depth instructions on various computer programs. The students always find it difficult to teach someone what they know so well—one of the most frequent complaints I hear is, "I just know how to do it, I don't know how it's actually *done*." When I hear this complaint (aside from thinking it is an undergraduate cop-out), I realize that we feel this way at different levels of education and our careers. Thinking back to my first semesters of teaching composition, I did not feel competent teaching other students how to write—I did not know how the words appeared on the page, they just, well, *happened*. In those first few semesters of teaching, I identified more closely with those students *qua* student than with my role as their instructor. In retrospect, my lack of solid teaching skills and confidence was certainly because my own pedagogical abilities were in need of serious practice and understanding. In fact, it turns out that the words do not magically " just happen," and I eventually figured out not only my method of teaching writing but also the ways to circumvent classroom mishaps, like failed classroom discussions or poorly designed writing assignments. As Ryan Moeller and Ken McAllister have suggested, learning how to overcome seemingly random classroom occurrences is not just "beginner's luck," but the culmination of experiences is the "trick" to successful adaptive techniques (201). The difficulties with the instruction assignment may have fallen into the "failed assignment"

category in my earlier days of teaching, but with some decent classroom experience under my belt now, when I hear my students moan over the pending deadline for their instructions, I bring out the play-dough.

The audience of technical documents is oftentimes a phantom one—we do not know whom, yet alone how many people, will read what we have written. In order to help my students think critically about teaching a skill with which they are quite familiar to a phantom audience, I find it helpful to level the playing field. So on that fateful Play-dough day in the semester, I drag containers of the gooey, smelly, malleable childhood putty across campus. Unless they have children of their own or are employed as a childcare provider, the majority of the students have not played with Play-dough since they were quite young. The students stare, flatten, and roll around the Play-dough until (seemingly miraculously) a clay sculpture is created. Afterwards, the students are required to draft instructions so that another group can replicate their original design. As straightforward as this seems, the results are often quite messy—literally. Here's how it usually plays out: in almost every group, the instructions tend to omit certain steps because the designers thought the other group would "get it" or just know "what we meant by X." Groups leave out measurements, sizes, and directions for placement, resulting in a confused mass of Play-dough only somewhat resembling the original idea. Once each group completes writing their own and replicating another group's instructions, my students and I discuss the pitfalls of such an assignment—Why is it so difficult to teach someone how to follow a process? Is it because the directions need to be created and followed precisely? Is it a language "thing"? What strikes me, however, is how difficult it is to teach a task and follow someone else's instruction to a tee.

Both the Play-dough exercise and the instruction assignment are not just some coincidental nod shared between *techne* and technical writing. In 2002, *Technical Communication Quarterly* devoted its entire spring issue to *techne*, with particular focus on how technical communication as a field might benefit from incorporating the practices and techniques of *techne* into its theoretical applications and individual pedagogies. *Techne* is a great fit the classroom, particularly in the technical writing classroom, because of the ways we (as teachers) must encourage our students to see beyond the constrictions of workplace document templates and instead view technical writing as a mode of anticipation, one that thoroughly understands the readers' perspective (Moeller and McAllister). Much to my satisfaction, the Play-dough activity always reminds me that the concept of *techne* is much more complex than simply repeatability or teachability, and that to actually have a *techne* is even more difficult. One of the most interesting, albeit frustrating, aspects of *techne* is its widely debated definition. Not only do Plato, Aristotle, and even Isocrates have widely ranging interpretations and applications of the term, but the debate rages on even in today's rhetoric circles. As a result, the definition of the Greek term *techne* has always been a critical debate, largely the result of the inability to locate a precise word by which to translate it. *Techne* is frequently translated as "skill" "craft" or "art" but more regularly *techne* has become grouped along side – or even absorbed completely – by the use of the word technology. Because their linguistic roots are nearly identical, it is not unusual to see the words "*techne*" and "technology" used interchangeably, although sometimes incorrectly, for one other. For example, in his essay "The Question Concerning Technology," Martin Heidegger searches for the essence of technology, employing *techne* in order to

differentiate between making and bringing-forth. Edwin T. Layton, Jr. opens his essay "Technology as Knowledge" by borrowing two aspects Charles Singer's classic definition of technology: "how things are commonly done or made" and "what things are done and made" to explore the epistemic implications of *techne* in recent technology studies (31). Carl Mitcham reminds us in *Thinking Through Technology* that, "virtually all historians use the word 'technology' to refer to both ancient and modern, primitive and advanced making activities, or knowledge of how to make and use artifacts, or the artifacts themselves" (116). Additionally, Jan Edward Garrett also comments that, "'technology' would not be a bad modern translation of '*techne*'" (Garrett 286). Certainly the linguistic tendency to swap technology and *techne* is an easy one—they both sound and look alike. In fact, this substitution now happens so naturally that those of us in digital studies utilize "technology" as a blanket term to cover any process of advancement, the tools used to move forward, and as a suggestion of the future itself. In this chapter I will explore the relation between *techne* and technology in order to rethink the canon of memory. I am arguing that the differences between *techne* and technology lead directly to the contemporary questions we face when thinking about "making" memories. Because my interest extends beyond thinking of memory as storage capacity, I am interested in the ways users can create new memories from their interactions with various technologies. As a result, the intersection between memory, *techne*, and technology leads me to wonder if memory is now a technology, and if memory is now "made" usable through its externalization, is memory a *techne*?

But before I can make such a claim, I must first explore what *techne* actually is. Because of the recent combinations of *techne* and technology, this chapter is an attempt

to explore *techne* by focusing on the most accurate translations and frequent usages of *techne* in ancient and contemporary rhetorical scholarship. Even though such fertile arguments about *techne* are helpful for my task, it also proves to be equally difficult to sift through and determine which definitions of *techne* are the most effective to pair with memory. In order to whittle my definition of *techne* from of the existing block of critique, I define *techne* three ways: as creativity or production; as a renegotiation of power; and as a balance of expert knowledge and instrumentality. This chapter will be devoted to reviewing the most prevalent debates on the definition of *techne* by focusing on Plato and Aristotle while at the same time incorporating some more recent interpretations of *techne* suggested by David Roochnik, Joseph Dunne, Carl Mitcham, Robert Johnson, Frances Ranney, Martin Heidegger, and Janet Atwill. The detailed work of these scholars indicate that the wide range of interpretations of *techne* cannot be subsumed under one single definition, so by offering a complete and complex look at *techne*, I avoid reducing or ignoring the existing body of scholarship.

But why the turn to *techne*? For many philosophers, *techne* suggests a sense of making, production, or use value. Although such terms are in themselves loaded, they signify an insightful view into contemporary memory. We constantly store memories outside of own neuronal capacity by posting personal photos to Flickr, upcoming events and important dates to our iCals or smartphones, even saving our dissertations as a Google Doc. As a result, the idea of "making" memory becomes more apparent when we think about all the ways we actually produce and use memory for current and future purposes. In what follows, I employ three categories that encompass much of the *techne* scholarship: *making*, *expert knowledge*, and *use*. I argue that these three categories

highlight the most important characteristics of *techne*, especially in relation to my notion of contemporary memory.

As examined in chapter one, interest in memory in contemporary rhetoric is not simply characterized as memorization techniques or retaining information in bulk, but is instead focused on how efficiently we use the memories we make. In this dissertation, I intend the term "making memories" to be used quite literally—our memories are not only remembered by ourselves, but we transform them and make them useable by storing them on flash drives or sharing them through online networking sites such as Twitter or Facebook. By linking memory and *techne*, this chapter will ultimately consider two specific questions: What is the tension throughout history between *techne* and technology? How does the tension between these two influence, shape, and determine the nature and relevance of the canon of memory?

As I argued in the previous chapter, since memory has been neglected in rhetorical scholarship, I believe it is critical to resuscitate the canon of memory immediately, particularly at a moment when digital technologies afford the individual multiple occasions to literally remember everything. However, I am interested in pushing the conversation forward; rather than thinking about memory as storage alone, I suggest that combining memory with *techne* and technology will provide rhetoric with some fresh perspectives on this canon. More specifically, by viewing memory as a producible commodity, the relationship between interactive technologies and the users who contribute to such spaces must be rethought. Because digital memory is indefatigable, a look at how digital memories are being produced will of primary importance to this dissertation. The making of memory today involves much more than rote memorization

techniques; instead, memorization today is unlike techniques of the past. Our reliance on digital technologies – from small personal devices like phone number databases on our cell phones, to larger memory collectives like Wikis – all involve the individual in the creation of memory. Perhaps contemporary views on memorization are not what we typically think of as "storing for *our own* later use," but instead "storing for *shared* later use." The importance of linking *techne* with memory is the notion of sharing and collaboration—my memories no longer belong to just me, but they are shared and made available for others' use, too. In my research, I have discovered that a significant amount of ink has been spilled in two areas related to my interests: 1) memory and technology, 2) *techne* and technology. However, there is a scant amount of research that connects and involves all three. As a result, my work looks at how technology, the common thread between the two, invigorates memory and *techne* together by discovering memory's resurgence as an increasingly "made" product.

Making

Several scholars have suggested that one major way of defining *techne* is a process involving the making of some sort of product. I begin with this category not only because it appears most frequently in *techne* scholarship, but as my dissertation's "title track," it is also pivotal to my central argument. Later, I will rely on 'making' to elaborate on the differences between the storage techniques practiced in ancient rhetorical memory and those used today, and also to strongly emphasize that the networks we create and strategies we employ in contemporary memory are exemplary models of *techne*-as-making. When I use the term making, I am employing it quite generously to cover all materials and ideas that are reified rather than suppressed or kept to oneself. Opposed to

an inward trait such as moral virtue, making produces a secondary product that is independent of its agent. In other words, making always involves three separate entities: someone who initiates the making, the product that is created, and the user who actually utilizes that product. Making memory, then, implies the sending outwards, bringing forth, or physical non-biological sharing of memory.

There are two prominent couplings of *techne* in Aristotle's writing that I will use to elucidate the importance of making. To commence this trek, I start with two of the most often cited Aristotelian texts in *techne* scholarship: *Physics* and the *Nicomachean Ethics*. In each of these texts, Aristotle narrows his definition of *techne* by balancing it against another term, *physis* (nature) and *poiesis* (the act of making) respectively. By looking at *techne* in comparison to the other two terms, it becomes easier to recognize how differently *techne* functions in relation to nature and the act of making. The first coupling appears in the *Physics* where *techne* (art) is contrasted with *physis* (nature) to examine the actuality and potentiality of something coming to be, in particular how the produced object retains or veers away from the natural. The second coupling appears in the *Nicomachean Ethics*; in this text, *techne* (again translated as art) is compared to *poiesis* (the act of making) to differentiate between action and making. Here, it is important to note that *techne* is not itself "making," but is instead the habit of mind or the method associated with making. In the true Aristotelian sense, *poiesis* translates as "making" whereas *techne* is the means of achieving that goal. In what follows, I will unpack these two pairs in order to demonstrate how 'making' is a critical aspect of *techne*.

In the *Physics*, Aristotle is concerned with the process how something comes-to-be: does an object naturally exist or is it made? Aristotle distinguishes between the natural and the artificial in the following way: "For the word 'nature' is applied to what is according to nature and the natural in the same way as 'art' is applied to what is artistic or a work of art" (*Physics* II.193a32-33). What classifies something as natural is when the object is its own end result. It is, for Aristotle, a matter of determining actuality from potentiality. To explain, animals exist and replicate themselves as they are—humans create other humans, elephants lead to more elephants. "Of the things that exist, some exist by nature, some from other causes. By nature the animals and their parts exist, and the plants and the simple bodies (earth, fire, air, water)—for we say that these and the like exist by nature" (*Physics* II.192b9-11). The natural represents what already exists in the natural world around us. Trees, plants, water, insects, and animals: these all exist as an end in themselves, and there is no automatic potential to become something else. Although these natural items could become something else (i.e. a tree could become a desk or firewood), it exists in its natural environment for natural purposes (i.e., the tree absorbs harmful carbon dioxide while producing needed oxygen). Even though the argument could be made that people have the potential to become someone else (for instance, a former addict could clean himself up and become a well-to-do professional), Aristotle is not interested in biological changes, but is interested in what something is in its natural state and also what something can become when molded by another. He calls the movement from actuality to potentiality "motion"— the process of something coming-to-be as art (*techne*) and existing with the potential to become something else. As Aristotle explains it:

> The form indeed is nature rather than the matter; for a thing is more properly said to be what it is when it exists in actuality than when it exists potentially. Again man is born from man but not bed from bed. That is why people say that the shape is not the nature of the bed, but the wood is—if the bed sprouted, not a bed but wood would come up. But even if the shape *is* art, then on the same principle the shape of man is his nature (*Physics* II.193b.7-12).

Natural objects have the ability to replicate themselves as themselves; art does not since it needs something additional as its catalyst. *Techne* is the method whereby something can be made that would not otherwise exist naturally. For Aristotle, then, the outside agent is the distinction between nature and art. There must be something or someone acting on the object in order to make it into a different object. In the above passage, a bed is not made automatically; there are no trees in the forest that grow in such a shape. However, a tree has the potential to become a bed if and only if an outside agent acts upon it. A tree, too, can always be a tree but it has the innate potential to become something else.

It is this moment of shifting from actual to potential that causes some debate in the *techne* community. For example, some say that the mere existence of an object (let's say the tree), represents an always-ready potential. But how do we know for which ends this object should or can be used? Certainly the tree can be used just as well in a dresser or in a fence, but what is the object's "natural" use-value? Although I discuss "use" a bit later in this chapter, it is worth commenting on briefly here. Some *techne* scholars suggest that the maker or the object itself cannot determine use, and the real value of an object must 'wait' to be determined until a user utilizes the object. David Roochnik argues that since the value of *techne* is established after the fact, there is no way of inscribing *techne* as value-laden (71). Roochnik's interpretation suggests that *techne* is always a value-neutral process because its end is never pre-determined—the use-value of *techne* must be decided afterwards. It is important to recognize Roochnik's suggestion

because he implies that there is no "natural" or "given" use associated with any *techne* since its value cannot be established in advance. In that sense, *techne* can never have contrary use because there was no intentional use in the first place. For instance, if I gather all the ingredients to a birthday cake, all the components exists as separate ends: the eggs, sugar, milk, etc. When we see them on the shelf, we do not see them as a potential cake, but rather as eggs, sugar, and milk. The eggs could potentially be used in an omelet, the sugar and milk as coffee sweetener. When I bring these items together with the purpose of creating something new, it is at that moment that their potentiality is realized, not when they are just sitting around in the cupboard or fridge. Their existence as individual ingredients is also represented as a coming-to-be: they can be manipulated and made into another object simply by being activated by an outside agent. While the milk, sugar, and eggs are still sitting in the fridge and the cupboard, these ingredients are and are-not because they are in the process of becoming something; the eggs are no longer simply eggs but an important element of the cake. Those particular eggs become part of the cake at the same time the eggs are not (and will never be) a part of an omelet. As this cake example illustrates, *techne* always has a clear finishing point whereas its counterpoint, *physis,* does not (Glazebrook 104). As the cake-maker, I am the catalyst for the cake, or the end point. The ingredients by themselves are actualized as individual, natural products; but it is not until I combine them into batter that they are potentially something else. Combined, the ingredients end as a cake, but we do not know their endings separately. As Heidegger points out, "*Techne* has a special kind of rest…characterized as having-been completed, having-been-produced, and, on the basis

of these determinations, as standing-'forth' and lying present before us" (qtd. in Glazebrook 104).

In another example, Walter Brogan's essay "The Intractable Interrelationship of *Physis* and *Techne*" examines Heidegger's use of *techne* as a balance for *physis* in order to better illustrate this process of something coming-to-be. Brogan emphasizes Heidegger's stance that *techne* does not represent making of any particular kind while also maintaining Heidegger's philosophy that "not" is actually a characteristic of being. For example, we often classify an object by describing what it is (e.g., my new curtains are dark blue) and also what it is not (e.g., but the curtains are not as dark as blueberries). The characterization of "not" suggests that the object is one thing and is something else simultaneously; the essence of the object can be determined by differences. The relationship between *techne* and *physis* highlights the differences between artificial and natural, between something made and something organic. While *techne* and *physis* are not identical, they should not be thought of separately either; instead they are what Brogan calls "mutual favorings," a term he uses to suggest their interrelationality (44). For Heidegger, this mutual favoring is so strong, that "there can be no *techne*, not even the absolute reign of *techne* without nature, outside of the relationship of *techne* to *physis*. But for Heidegger, […] the opposite is equally true. That is, there can be no revealing of *physis* without *techne*" (Brogan 44). Following this logic, if we return to the example about the tree's potential, Heidegger (and I think Brogan, too) would say that it is the mutual favoring between *techne* and *physis* that highlights how the natural and artificial cannot be separated. If, as Heidegger suggests, an object always has the potential to become something else, then the object can be and not be at the same time; the tree can

be a tree but it can also *not be* a bed or *not be* a dresser, too. *Techne* and *physis* are entangled with each other in such a way that, for Heidegger, the relationship transforms *techne* from something that signals making into a process that, "concerned with the realm of coming-to-be" (47). *Techne* is the process that indicates something new, the becoming of an alternate object, and the motion of one object into something else. As Brogan's reading of Heidegger indicates, "*techne* approaches and relates to natural beings by also seeing them as they are coming to be, and thus not in their being" (50). For Heidegger, *techne* is the whole process, from inception to completion, leading to the creation of an object.

Coming-to-be is also considered by Jan Edward Garrett, who distinguishes two prongs of the art of making: and object's presence and its yet-to-emerge aspects. When we are in the middle of a project, we do not 'count' the unfinished product as an absence; instead, it is still "in progress." For instance, when I am baking that cake I mentioned earlier, I do not view the batter as the final cake itself, but I do see it as a part of the process leading towards the end product. The batter does not mean the cake will not exist, but it does mean that the cake does not exist yet. In the following quote, Jan Edward Garrett explains the process of making from its initial stages, through the middle that is anticipating the final product, and ultimately the finished art:

> Consider a block of stone found lying about, ready for the sculptor's chisel. Art is not responsible for any of its initial attributes A, B, and C. Now consider the same stone half way through the sculpting process. It will contain new attributes D, E, and F. Anticipating completion, we can say that the finished sculpture will also contain attributes G, H, and I. At the midway point, art is responsible for the presence of D, E, and F, but not for the absence of G, H, and I. However, any description of the making process now under way must mention both the presence and the absence; for so long as the making is under way, the sculpture is not characterized by full actuality (291).

In this example, Garrett shows that the potential of the block of stone to become something else relies exclusively on the sculptor; the stone could not become the sculpture on its own. The outside agent is the critical difference between *physis* and *techne*. Whereas *physis* always produces itself, *techne* never does, but instead something else must produce it (Glazebrook 106).

The capacity of someone to make a new object leads directly into the next pairing: *techne* and *poiesis*. Like *techne* and *physis*, *techne* and *poiesis* are tied very closely, but it is important to realize their differences. It is generally accepted that in the *Nicomachean Ethics* (*NE*) *techne* is translated as 'art' and it is one of the five states of virtue by which the soul possess truth (knowledge, practical wisdom, philosophical wisdom, and comprehension are the other four). Several scholars turn to Book VI of the *NE* for Aristotle's most explicit statements about the nature of *techne*, and it is here that we can begin to see how *techne* and *poiesis* (making) partner up to define each other. The relation between *techne* and *poiesis* is an especially demanding one. Although the *poiesis* explicitly translates as 'making,' Aristotle distinguishes *techne* by defining it as the habit of mind that making requires. For Aristotle, the relationship between *phronesis* (practical thought) and *praxis* (acting) is identical to the relationship between *techne* (art) and *poiesis* (making): the former is the habit of mind that enables the latter. *Praxis* and *poiesis* are each set in motion by the initial actions of *phronesis* and *techne* respectively. Joseph Dunne helps to clarify these differences in the following: "*Techne* is not itself a useful thing but rather a generative source (*arche*) of useful things, a habitual ability (*dunamis*) of the maker through which he can reliably produce and reproduce them" (249). As a result, *techne* is not the act of making, but it is the ability of the maker to

produce. In relation to memory, *techne* is highlighted within the interactions between the user and the technology, an interaction that allows the user to produce a memory with certain tools. To explain, Aristotle states that, "Making (*poiesis*) and acting (*praxis*) are different […]; so that the reasoned state of capacity to act is different from the reasoned stated of capacity to make. Nor are they included one in the other; for neither is acting making nor is making acting" (*NE* VI.4.1140a1-5). For instance, I am an honest person and when I know that the milk in my fridge is beyond its expiration day, I will tell my partner not to drink it. The capacity to act (being honest about the milk) is enough—it does not matter whether or not he drinks the spoiled milk because being honest is the complete action in itself. The capacity to make, however, is different because I must actually produce something else to 'prove' my abilities: "*techne* has a useful, a visible product, which is produced through the application of rational and clearly communicable means" (Roochnik 24). In terms of *techne*, because I say I can do something I must also be able to make good on that assertion. Roochnik and others call this capacity to make "hanging a shingle"—I am advertising my capacity to make something specific, and to make it well. To say it another way, *techne* is the capacity to make or produce *(poiesis*) something. In order for me to have a *techne* of fashion design, I must actually have the capacity to make clothes; in other words, I can talk a big game, but I must be able to execute, too. For Aristotle, the capacity to make indicates the capability to produce an object that is independent from the one who made it. He maintains that *techne* always results in an end product that is a separate object from its maker; *techne* is a means leading towards a distinct end product. *Techne* "is characterized by production in that the artist's aim is to produce" (Latchford 1). Contemporary memory, for example, is a

product that is separate from the person who stores it—the digitally stored memory is a new, external, separate end. What is even more exciting (or complicated, depending on your view) is that the end product of contemporary memory is unknown at the time of storage—we do not know how, or who, will use our memories in the future. While my digital memories might serve a specific purpose for my own recollections, someone else could just as easily use them for another purpose.

On the contrary, *praxis* indicates a specific action of whose end is contained within itself and, therefore, does not have a separate end: "For while making [*techne*] has an end other than itself, action [*praxis*] cannot; for good action itself is its end (*NE* VI.1140b.6-8, translations added). *Poiesis* is not activity, but is an ethical action that results in the production of itself (e.g., moral virtue). On the other hand, "*Techne* brings something into existence through the course of production. […] the good product, as the end result of an activity performed on material that, in turn, brings something into existence, *is techne*" (Latchford 2).

To summarize this section, techne-as-making is an activity involving an outside agent who actually has the capacity to make a new product. Compared with *physis*, someone else must always produce *techne*—it is not its own end. Both comparisons highlight *techne* as a process of "making" albeit from slightly different angles. As I will explore in the next section, the stability of that new product that *techne* produces is equally important as the one who made it, for the maker must be an expert and able to teach that skill.

Expert Knowledge

In *Of Art and Wisdom*, David Roochnik effectively summarizes this next category of *techne* as someone who is knowledgeable enough to be able to "hang a shingle," or advertise his expertise (25). Clearly, when one has attained expertise of a trade, the benefit of such knowledge is the recognition of being a master in a given field. Even in academia we are recognized through levels of expertise; completing the dissertation, for example, is the initiation into a career where our areas of "expertise" are determined by our focused research. I would not go to a butcher to have my clothes tailored, but I would certainly visit the meat vendor if I needed a few steaks for a barbeque. *Techne* represents a specific and limited level of expertise—one has become a master in one area, and one area only. Renaissance men are not covered by *techne*; jacks of all trades, and masters of none are best ignored, too. Instead, to have a *techne* is to show expert knowledge at a focused level of mastery in a single field to the extent that one is so recognized by and capable of demonstrating that in-depth knowledge, the individual is also able to teach it to others. Think back to the Play-dough example that opened this chapter; because my students are not experts in clay-modeling, they displayed difficulty when attempting to deconstruct, teach, and provide directions for others to recreate their design. In what follows, I argue that this category of possessing a *techne* is a tried-and-true mastery of a single process, but one so precise that it has the ability to be repeated without fail.

In order to explain the development of expert knowledge, David Roochnik notes that *techne* can be characterized at two different levels: "Techne 1" and "Techne 2." The former, T1, is a determinate knowledge where "end is identical to function" whereas the latter, T2, is stochastic, messy, less determinate, and its end is distinct from its function

(54, 52). Stochastic is derived from the Greek verb meaning "to aim"; T2, therefore, merely aims at an end point but can arrive there differently every time (Allen 86). T1 represents situations where the outcome will always be the same, much like mathematical equations whose endings are never vary, given they are performed correctly. T2, on the other hand, is used in situations where chance (*tyche*) interferes with the process, forcing someone with expert knowledge to take a different path to access an end. For example, if a cruise ship is scheduled to leave its port in Florida and dock several hours later in the Caribbean, but a storm (a natural, albeit chance, occurrence) interferes with the planned journey, then the ship's Captain must use his expertise to side-step the storm but still arrive at the same end point. What is at play in this example is the Captain's use of expert knowledge even in the event of natural forces acting against the original plan. The Captain's abilities to overcome chance by employing his expert knowledge averted a potential catastrophe between the ship and the storm. Later, T1 will take center stage when I discuss the teleological effects on use and T2 will also resurface during an exploration of the role of "error."

To begin detailing the significance of expert knowledge in *techne*, I turn first to the Socratic dialogue the *Laches* where the "*techne*-analogy" is first introduced. The *techne*-analogy is used to explain how specific expertise results in a specific, identifiable end product. Socrates insists that we know when someone is an expert in his field when he can successfully demonstrate his skill: "You would not want to trust [expert teachers] when they said they were good craftsmen unless they should have some well-executed product of their art to show you—and not just one but more than one" (*Laches* 185e9-186a2). Complications arise, however, when Socrates questions the ability in Melesais

and Lysimachus to recognize virtuous teachers since virtue is a bit more difficult to spot. Socrates then questions how Melesias and Lysimachus might seek out an expert to teach their sons certain qualities such as courage and virtue. They all decide that if their sons needed to learn gymnastics, for example, they could easily seek a good physical trainer (184e1-5). The expert in physical activities is easier to recognize because he can demonstrate his skills by actually performing physical actions or by showcasing some of his students as "success stories." On the contrary, Socrates says that the expert in courage or virtue is more difficult to spot because these traits are more situation-oriented and involve several other factors (e.g., nature of the act in relation to one's occupation). In conversation with each other, Melesais and Lysimachus are torn about whether certain virtuous acts have value or not, and decide to ask Socrates to cast the deciding vote. Insulted, Socrates remarks that since he is not an expert in that field, and subsequently lacks the in-depth knowledge to assess it properly, he is in no position to make such a judgment. Moreover, Socrates insists that Melesais and Lysimachus would be foolish to decide by casting votes, and suggests that Melesais and Lysimachus should instead consult someone who is an expert in the specific arts in which they are interested. Here is where the real issue arises: we can recognize a good craftsperson when he displays his products and we can also test the products' effectiveness by using them. We have trouble, however, assessing virtues like courage because we, too, must posses them to identify them. Thus, virtues are not as easily recognized because they are actions in themselves; crafts represent the skill and expertise of the craftsperson, but are separate from their maker.

As a result of this exchange, many scholars have referred to this passage in the *Laches* as the "*techne*-analogy," summarized nicely by Roochnik in the following: "as the expert, or technical trainer, is to the excellence of the body, so X, a *technites* is to the excellence of the 'soul'" (2). We can plug in a number of situations to explain the analogy: a butcher is to the excellence of carving proper cuts of meat, a doctor is to the excellence of providing a means toward health, and an auto mechanic is to the excellence of an efficiently running car. The *techne*-analogy represents two aspects of art: the high-level of mastery attained by an individual and the end result of that applied knowledge. *Techne* always incorporates these two details because it is always action initiated by an outside agent in order to produce a new product.

The important distinction, here, is the way one arrives at the end product. *Techne* is a way of renegotiating the power orientation between art and *physis* (nature), as the T2 cruise ship example showed earlier. Janet Atwill maintains that, "art intervenes when a boundary or limitation is recognized, and it creates a path that both transgresses and redefines that boundary. Fate and necessity may set temporary limits for invention, but their boundaries are perpetually redrawn by *techne*" (48). In other words, *techne* is a means of reorganizing and manipulating the limitations of nature in order to overcome the very restrictions nature imposes. Following this definition, I suggest that contemporary memory is T2 because of its flexibility and ability to overcome the natural limitations of biological memory. Even when natural forces attempt to steer *techne* off-track, T2 renegotiates the relationship between art and nature. Once again, the "mutual favoring" between *physis* and *techne* highlight the constant struggle between nature and art—*techne* always "creates a different order of power" (Atwill 7).

Like Prometheus stealing fire from the gods for human use, we, too, manipulate the elements of nature by taming its essence and reordering its original purposes. When *techne* is used to restructure *physis*, that same action becomes the catalyst for nature's rebuttal; nature will not disappear, but will return in another form that *techne* will again master. The complication of power, as seen in the relationship between *techne* and *physis*, is what David Edward Tabachnick calls the "tragic double-bind of *techne*": humans will continually mold and form the world around us to fit our needs and purposes only to be repeatedly subjected to nature's wrath. "Rather than allowing us to escape from the painful limitations of nature," Tabachnick maintains that, "*techne* is an invitation to nature's destructive power" (97). The constant cycle of *techne* overcoming *physis*, *physis* regrouping, and *techne* gaining control again is never ending; *techne* and *physis* will always try to overcome each other *ad infinitum*. Because "the technical imposition of human order is the spur for the violent renewal of the natural order," the relationship between *physis* and *techne* is aggressive and constant (Tabachnick 98).

However, overcoming nature does not happen by accident, but indicates a high level of mastery that overpowers natural restrictions. In *Rhetoric Reclaimed*, Janet Atwill explores the power relationship between *techne* and *tyche*. While *techne* can be characterized as a human's manipulation of nature, chance (*tyche*) is defined as "an agent or cause beyond human control" (Atwill 93). When someone possesses *techne*, she has complete control over the situation because of her in-depth knowledge, so much so that she knows multiple paths that will take her to the same end. The difference, here, rests in a distinction between *episteme* (scientific knowledge) and *techne*: "scientific knowledge aims at knowing the world, technological knowledge [*techne*] at controlling or

manipulating it" (Mitcham 198). The difference between the goals of *episteme* and *techne* are critical for understanding how art redraws the power structures of the world around us. As stated in the *Metaphysics*,

> But yet we think that *knowledge* and *understanding* belong to art rather than to experience, and we suppose artists to be wiser than men of experience […]; and this because the former know the cause, but the latter do not. For men of experience know that the thing is so, but do not know why, while the others know the 'why' and the cause (I.980b.24-30).

To utilize *techne* to overcome chance is a matter of "knowing-how" to accomplish a task even in the midst of nature's rebuttal. *Epistemic* knowledge does not extend as far as *techne's* reach, for it only knows the "how-to" but not the "why." Rather than going straight from the Florida dock to the Caribbean port in the midst of the storm, for instance, the Captain veered off the original route, yet still arrived at the same end point. The Captain's *techne* is recognized by its "rational prediction and control" in contrast to *tyche* that "lies outside of that domain because it is 'contrary to calculation'" (Atwill 96). *Techne*'s aim is to defeat *tyche* through a renegotiation of power, with aims to subordinate nature once again (Atwill 96).

Overcoming *tyche*, consequently, is not an easy or automatic task. The level of expert knowledge that is required for various power renegotiations can be seen in what James M. Dubinsky characterizes as the difference between "know-how" and knowing "how-to." The former is "a rhetorical knowledge, contingent and governed by rules of art rather than rules" while the latter is merely just doing something without actually understanding the process (Dubinsky 131). The difference between "know-how" and "how-to" is the level of competency in the acting agent. A person who has the "know-how" has the ability to react properly by shifting gears according to the situation, while

the person with *episteme's* "how-to" does not possess the competence to respond to nature or chance. We can parallel the ability to react properly to jazz musicianship; because jazz musicians understand their instruments and others' musicality so well, they are able to improvise at a moment's notice. Therefore, being a jazz musician is not governed by rules, but instead is governed by reaction. Jazz musicianship is not just a matter of "practice makes perfect" but also "practice makes possibilities"—even if the jazz musician does not know the next riff, he reacts and plays in accordance to the moment. Sure, the jazz musician knows "how-to" play his sax, but the true jazz musician has the "know-how" to react to others' beats and rhythms. In other words, a classical musician (while equally talented) is directed towards a specific end and is not encouraged to veer off the path of the sheet music. If an orchestra is performing Beethoven's 5th Symphony, each musician is expected to participate only in the capacity of the part written for him or her. Classical musicians replicate the same tune from beginning to end—there is little room for individual improvisation. The jazz trio, on the contrary, might begin playing "Autumn Leaves," but will most likely introduce new solos or jams to the mix. Because the structure of the song remains the same, the audience will still recognize the tune; however, the additional riffs or extended solos occur because the musicians are reacting to the situation. They arrive at the same end, but rarely the same way twice.

Arriving at some end on purpose is not a matter of happenstance, and so "know-how" encompasses the high-level of competency that is necessary for *techne*. When a maker understands the topic with such depth, he knows where the task will end even if chance interferes along the way. The jazz trumpeter will know when to back down for

his partner's drum solo in the same way the ship captain steered around the storm. The competency of the jazz musician and the captain exudes a level of know-how that is not automatic, but comes with a great deal of experience. In *Back to the Rough Ground*, Joseph Dunne summarizes "know-how" as expertise, actually quite similar to Dubinsky's claims: "*Techne* then is the kind of knowledge possessed by an expert maker; it gives him a clear conception of the why and wherefore, the how and with-what of the making process and enables him, though the capacity to offer a rational account of it, to preside over his activity with secure mastery" (Dunne 9). It is because of the Captain's "how and with-what" that the cruise ship still arrived safely in the Caribbean even in the face of a dangerous storm. Through experience, the Captain possessed the "know-how" to control the vessel by veering around the bad weather system. Such artistic "know-how" is what Aristotle calls "knowing the cause": "[Aristotle] accords those who 'know the "why" greater respect, saying that they are "wiser" and possess both '*knowledge* and *understanding*'" (Dubinsky 132). For Aristotle, the artist is wiser than the man of experience because of the combination of knowledge *and* understanding; such wisdom can then be applied in order to overcome encounters with chance. With *techne*, understanding the "why" of the situation fares better than experiences alone. Jazz, like teaching or captaining a ship or any other T2, "is an art that requires flexible attentiveness to the situation and audience" (Dubinsky 138). Per Roochnik, "The rhetorician, then, is one who is flexible, able to sniff out what is appropriate and respond accordingly" (80). Because the jazz saxophone player understands the instrument so thoroughly, he can recognize the prime moments that are ripe for improvisation by renegotiating the power structure between the original song and the additional riffs. The jazz musician's power re-

structuring is also what Martha Nussbaum calls the "systematic grasp." Like Atwill, Nussbaum notes that control over *tyche* is one of the defining features of *techne* because the "systematic grasp" of *techne* provides the artist with "some way of ordering the subject matter, that will take him to the new situation well prepared, removed from blind dependence on what happens" (qtd. in Gordon 148). Even though "Autumn Leaves" is a distinctly recognizable tune, the jazz musician can redraw the boundaries of the original song by introducing new rhythms and solos.

Yet "knowing the cause" introduces another level of mastery to the *techne* conversation—the role of error and failure. *Techne* scholars Frances Ranney and David Roochnik place significant emphasis on the importance of error in relation to *techne*. Because the expert has such a thorough understanding of his field, he knows when and how to manipulate the situation favorably. Error is only acceptable because a *technites* (one who has/practices *techne*) understands the complete picture; he has the foresight and the understanding to provide a complete account of the intended action. Again we come to the distinctions between T1 and T2; T1 is never susceptible to error or failure because it is so stringent. Contrary to T1, T2 then is the only place where error and *techne* are compatible because it provides "rules of thumb" rather than strict guidelines. T2 "requires appropriate responses to particular occasions, and is compatible with failure" (Roochnik 52). By linking *techne* and failure, expert knowledge is not only "knowing-how" but also "knowing-when": when to retreat, relax, or err in specific situations. "Knowing-when" is often used to explain *kairos*; in "Toward a Sophistic Definition of Rhetoric" John Poulakos defines the *kairotic* rhetorical moment as "the opportune moment," a temporal choice that considers not whether to speak but whether to speak

now (56, 60). In his essay "The Ancient Conception of and Art," James Allen notes that *kairos* and *techne* are directly connected and that, "stochastic artists needed to do more than acquire a mastery of the formal precepts of their art; they also needed to develop a sensitivity to the peculiar features of a particular situations, sense of the opportune moment" (88). Intentional error, thus, magnifies the influence of *kairos* on *techne* because the expert must not only know how to deploy his skills, but he should also know the precise opportune moment to eschew them. By "knowing-how" to execute error, the expert is once again overcoming *tyche* by mastering the situation. Take, for example, the field of medicine, one of the most frequent examples cited to explain the role of error in *techne*. Because it is prone to failure, medicine can only ever be a T2—it "cannot achieve the high level of precision or rate of success expected of a T1" (Roochnik 61). To explain, sometimes an ill person heals herself without the help of a doctor; by resting or self-medicating, she could be back on her feet in a few days. It is likely, however, that the patient changed her routine—it was not simply random good luck that healed her, but the amateur happened to stumble upon the correct treatment that worked for her individual case (Roochnik 46). Just because a doctor had no role in her returned health, it does not diminish the fact that the medical field is effective. Similarly, sometimes a doctor cannot cure one of her patients regardless of the tests and treatments she prescribes. Although such a failure might lead to death, it does not discredit her standing as a doctor. Failure, here, is a result of trial-and-error; even though the doctor used all of her expertise and skills with the intention of healing, the end result (good health) did not materialize.

At issue here is how a *technites* is able to retain her status while at the same time being prone to failure. In her reading of Aristotle, Frances Ranney argues that voluntary error is commendable in *techne* but is faulty in *phronesis* (practical wisdom), *episteme* (scientific knowledge) and *praxis* (action). Ranney suggests that *techne*, unlike the other three, can intentionally fail without losing its 'cred' (51). In this sense, even after the patient failed to respond to the doctor's treatment, the doctor did not lose any respect among the medical community, or with current and future patients. Failure, here, lies in the patient's inability to respond to the treatments and not in the doctor's inability to treat her—the doctor still used her knowledge with the hope of curing the ailing even though the skills were unsuccessful in this instance.

To say it another way, T2 is still considered *techne* because the expert can provide an account of his foreseeable action while at the same time responding to *tyche* and *kairos*. A *technites* is not incompetent simply because he did not arrive at the ending the same way as before (think again of the jazz musician). In fact, Aristotle claims that the reason *techne* can have 'excellence' is because it is prone to failure (Ranney 51). There is an exception, though, where failure is unacceptable. Let's say someone "hangs a shingle" advertising his skills as roofer. Based on the shingle, we can assume the following: the roofer has previous experience roofing houses, he is skilled at such a trade, and he will be able to perform that trade again in the future (i.e., the roofer is seeking new or repeated customers and is not just advertising a task he completed in the past). If the roofer does not live up to these assumptions and fails to construct a functioning roof, then he is stripped of his title because he does not perform what he set out to accomplish. His

lack of expert knowledge is manifested in his inability to perform his advertised duties. The roofer's failure lies in his lackluster skills.

The doctor, on the other hand, has the skills to perform but still failed at healing her patient; but according to T2, she did not fail as a doctor. But what is the difference between the types of failure seen in these two examples? The contrast can be seen in how well the *technites* executed his/her task; because the roofer does not have the skills to begin with, he was unable to construct a proper roof. The roofer, moreover, is dealing with materials (e.g., wood, roofing tiles, nails) that are consistent and are "easy to shape aright" (qtd. in Roochnik 51). The doctor, conversely, is constantly battling variety—no two human bodies will be quite alike, especially their healing properties. Even though the field of medicine strives to compartmentalize ailments by providing certain medications for all cases of certain diseases, the human body does not always react in the same ways. The theme of TV show *House*, for instance, is a prime example. The title character, Dr. House, leads a team at a university hospital that specializes in "diagnosing the undiagnosable" ("House – TV Series"). The twist of each episode revolves around the team's attempt to diagnose patients' strange and uncommon symptoms and their reactions to strange and unconventional treatments. In each episode, the patients are often non-responsive to traditional medicine and tests, forcing the doctors to respond creatively to each case. The team, however, often fails to discover a cure and several episodes end with a patient's death or diminished quality of life.

Like roofing, the materials used in medicine are the same: the pills, tests, and surgeries do not vary from one case to the next. The variable, here, is the patient. Because "diseases run various and sometimes unpredictable courses" (like the patients in

House), doctors "must exhibit 'a sensitivity to the peculiar features of particular situations'" (Roochnik 51). The roofer failed because he could not use his materials correctly; the doctor succeeded because she did. The doctor is equipped to react effectively even if that reaction does not materialize in good health for the patient. Because the doctor has the ability to act properly but the end result is still negative, the doctor ultimately comes out on top because she is best equipped to perform.

The distinction between voluntary and involuntary use of knowledge is, for Socrates, a critical juncture for the *technites*. As David Roochnik explains, "In running, speed is good, slowness bad. But if someone is fast, he can run slowly, whereas the slow runner cannot run fast. The good runner who voluntarily runs badly (slowly) is thus superior to the bad/slow runner who does so involuntarily" (137). With his current skills, the ill-equipped roofer could not build a good roof even if he desired. On the contrary, the proficient doctor could voluntarily choose to not administer certain drugs (Dr. House, again, is a prime example here since many cases are 'cracked' because he knows when to administer and withhold drugs from certain patients). Because it is backed by expert knowledge, voluntary "failure" is supremely better to that which is involuntary.

As I argue in the next section, how one uses tools and knowledge is another crucial aspect in the definition of *techne*. The relationship between *techne*, *physis*, *tyche*, and *kairos* have all played significant roles in the explication of "expert knowledge," but the following section will question how we actually "use" *techne*. What happens, in other words, when making and expert knowledge collide?

Use

In this section, I show how "making" and "expert knowledge" are woven together by looking at "use." "Use" signifies the instrumentality of *techne*: use suggests both human action (i.e. to use a tool) and human know-how (i.e. to make use of a skill I know well). It is important to reiterate that *techne* does not simply exist on its own, but that *techne* must be enacted to be effective—someone cannot just say she has a *techne* without actually using and proving her talents. Because *techne* relies on application, such talents must be constantly practiced and utilized. Put simply, if you don't use it, you lose it. By using one's *techne*, one avoids the unfortunate possibility of forgetting the skill. For instance, even though I waited tables as an undergrad and in the years before graduate school, that experience does not automatically qualify me to jump back into a full rotation on a busy Saturday evening dinner rush; but instead I would need several days (weeks, maybe) of training and practice to regain the competency I once had. *Techne*, in other words, must be used in order to be validated. In *Truth and Method*, Hans-Georg Gadamer states that the difference between *techne* and moral knowledge is how we acquire our skills and in what ways we apply them: "We learn a *techne* and can also forget it. But we do not learn moral knowledge, nor can we forget it" (317). For Gadamer, then, *techne* is the application of the skills we have acquired—*techne* means that we are using our expert knowledge and also that someone is using our product. Moral knowledge, on the other hand, is not acquisitive, and therefore cannot be lost either. Having moral knowledge is enough, but having *techne* and not applying it is not sufficient.

When we think of "use" and *techne*, I find it helpful to consider a few questions: How do we use the tools we make to extend our human abilities? What happens if we

use those tools "incorrectly"? How can these tools be used repeatedly to produce a certain outcome with some sense of reliability? While there have been several scholars before me who have asked similar questions (Johnson; Mitcham; Ellul; Winner), it is important to recognize that their contributions have steered the path for these inquiries while also helping to clarify the impact of the use/*techne* combo.

First, it is helpful to consider what "use" actually means. In *Thinking Through Technology*, Carl Mitcham defines use in the following way:

> The verb 'to use' commonly denotes 'to bring or to put into service' and 'to employ for some purpose' – hence the 'useful' arts and crafts, in the sense of making things to be employed. […] Furthermore, because of its connotations of regularity or commonness 'use' seems associated more appropriately with repetitive, not to say mechanical, processes than with creative or original ones, that is, putting into practice as opposed to bringing into existence (230-1).

This comprehensive definition takes aim at what I hope to accomplish in this section—to show how use is an action demonstrated by an expert as well as an action that is exerted on a made product. Mitcham's definition along with the questions I raised above will inform my definition "use" by referring to a few larger concepts: tools and tool-making; object-orientation; and repeatability and reproduction. These concepts help elucidate the importance and depth of "use" and *techne*.

To begin thinking about use more practically, I begin with several anecdotes describing some experiences as a user. The first one highlights the troubles and the disconnect between a maker, his/her product, and the end user. The second illustrates the knowledge we assume we (supposedly) have as an "expert user," but how quickly that knowledge can be dismissed or comes into question when we try to apply it to new technology. The final is a humorous tale about using a tool in a different way than intended.

Use Example #1: The Label Maker

This past year, I received a label maker as a gift. Its design seems straightforward enough—a full QWERTY keyboard along with standard punctuation and some random label embellishing designs and emoticons. Unfortunately, in order access any of these "extras," the user has to press an arrow key and scroll (with another arrow key) through the entire list of punctuation. While it sounds rather simple on paper, I am (admittedly) not that coordinated and have printed several misspelled and incorrectly spaced and punctuated labels. I always think to myself, "why couldn't the designers just program a 'function' key?" My frustrations with my label maker illuminate the distance between the makers and the users. Sure, once I got the hang of the machine (honestly, and embarrassingly, it took several tries), my dissatisfaction was a thing of the past; but, it still makes me wonder if the designers ever thought about how the product they were creating was going to be used. In much the same way that my technical writing students ignored their readers when writing instructions to recreate their Play-dough designs, I feel the label maker designers also neglected the end users.

Use Example #2: New Technology

Now a days, how often do we replace our existing tools with similar, but newer, models? My current cell phone contract states that I am eligible for a new phone every two years, and so I take advantage of the situation and select one of the upgrades offered by my phone company. Usually, I have no problem becoming accustomed to the new phone's features—sure it might take a minute to learn how to flip through my texting options, but I get the hang of it pretty quickly. Now, alongside the label maker story, I am fully aware that it sounds like I am completely inept with new tools, but these two

situations (albeit embarrassing) highlight the problems with "use" quite clearly. I was attracted to my newest phone because its sliding interface—the keyboard is hidden and you must slide the screen of the phone up to access the number pad underneath. In my mind, this phone is very sleek and James Bond-esque…although he would know how to answer the phone when it rings. That's where the problems kicked in: something as simple as answering the phone and hanging up after completing a call caused me significant problems as a user. (I am not alone in this, as I frantically Googled for others with this same phone and similar problems.) The problem, I eventually discovered, rested in the slide feature, the exact feature that attracted me to this phone in the first place. In order to answer the phone, the user must program the settings to answer an incoming call without sliding the interface and revealing the keys. Presumably, the user could click a button on the interface and answer the phone. So far, so good. I changed my settings, enabling me to answer calls without sliding up the screen. However, there is no way to turn off the "auto-lock" feature when the interface is covering the number pad—even if I wished to answer the phone without sliding the interface up, I have to "unlock" the phone first by pressing three different buttons. Eventually, constantly unlocking the interface became too much of a hassle, and I turned off the feature that allowed me to answer incoming calls without sliding the interface up, and now only slide the phone open when it is ringing.

Use Example #3: Basket hat

Many Christmases ago, one of my aunts made what my family jokingly nicknamed "basket hats." These were not initially designed to be head coverings; instead, they were supposed to be liners for baskets or serving bowls made in a festive

(ugly, actually) holiday print and elastic around the sides to hold them it place. When my grandma opened hers, she innocently thought it was a hat and proceeded to wear it. The rest of my aunts then followed suit, not wanting to offend their sister-in-law. However, even though the basket liners functioned just fine as (really unattractive) hats, its actual purpose was sidestepped for this new family fashion statement.

What these stories represent is the confusion between the tool and its user, and in what follows, I investigate that middle ground: the object, or tool, that is being used by different people for different ends. I will borrow the term "object-oriented" to indicate this middle-ground, and show that another characteristic of *techne* is its inherent neutrality and that the tool itself can be utilized in ways that differ from its original intention. Later, I look at the complications of use in terms of repeatability, replication, and reproduction and how information technologies, specifically digital external memory, spring *techne* into the limelight in this current digital moment.

Tools and Object-Orientation

With *techne*, there are two distinct agents: the maker and the user. The maker initiates the process of creation, makes an object, and the user then puts that object to work. The relationship can be illustrated simply: maker → object → user. In other words, as mentioned earlier in this chapter, the maker creates a tool or some product that is separate from and outside of himself—this made product is not, in other words, mental growth or moral righteousness. The shared tool, then, stands between these two independent agents. As a result the shared tool, or the made product, becomes the "middle-man"—it is the object that links the maker to the user. Now, even though the maker is deemed an expert because of his proven capabilities in a specific area of work,

he never verifies his own work. Thinking back, remember that the roofer failed because his product did not withstand the normal expectations of the user. In order for *techne* to be viable, it must be up to the standards of the user herself. The relationship between the maker, object, and user is interrelated and unbreakable because the user must verify the quality of the object itself, while simultaneously verifying the quality of the maker. Thus, the object is the tie-that-binds the maker to the user—their relationship must be harmonious for *techne* to be achieved.

Let's think of the object, now. The symbiosis between maker and user relies entirely on the effectiveness of the object in question. But here, the object is enacting its essence on the two separate forces equally: maker ← object → user. The object is a direct reflection of the viability of the maker only when the user has validated its quality. The arrows show that the object (the "middle-man") is actually the primary source of this validation, informing the quality of the maker and ensuring the satisfaction of the user. In the end, the level of effectiveness of the object returns back from the user to the maker himself. If the quality of the object is legitimately endorsed a number of times, the maker then can honestly "hang a shingle." (This cycle might be represented by a return arrow reaching all the way from the user, arching over the object, and pointing back to the maker.)

There has been a lot of interest in recent years about the influence of the object on individual agency. Philosophers of speculative realism, such as Ian Bogost and Graham Harman, have been using the term "object-oriented ontology" to indicate the equally important role of the object in an agent-object relationship. Simply put, object-oriented ontology (OOO) is another way of saying that agency is invoked not only by the acting

agent, but also, or primarily, by the object itself. Typically, the agency comes from someone enacting a particular action: one friend influencing another to see a specific film, a group of people resisting governmental mandates. With OOO, 'things' themselves have agency: just as I am deploying my agency on this laptop, the laptop is simultaneously acting on me, too. Leading theorists of OOO, like Bogost and Harman, have interpreted Heidegger's claims about the use and essence of tools, emphasizing, or even transferring, the power from the user to the tool instead. In other words, the tool itself acts upon its user *just as much* as the user acts upon the tool. In the following, Bogost defines OOO simply:

> Ontology is the philosophical study of existence. Object-oriented ontology ("OOO" for short) puts *things* at the center of this study. Its proponents contend that nothing has special status, but that everything exists equally—plumbers, cotton, bonobos, DVD players, and sandstone, for example. In contemporary thought, things are usually taken either as the aggregation of ever smaller bits (scientific naturalism) or as constructions of human behavior and society (social relativism). OOO steers a path between the two, drawing attention to things at all scales (from atoms to alpacas, bits to blinis), and pondering their nature and relations with one another as much with ourselves (Bogost).

What Bogost suggests is that we attend to the object as much as we do to their relations with outside agents (i.e., the ones who use these objects). With OOO, the hierarchy is reversed—the object becomes slightly more prominent in its relation with the user or the maker. At very least, the object rests on the same plane as these two entities.

Such a suggestion might sound familiar to those who study *techne*, and thus OOO is an interesting way of looking at *techne* for a few reasons. First, *techne* is object-oriented, it is not a value-laden or self-reflexive process, but the value lies in the use of the object that is created (Roochnik 111). Roochnik argues that object-orientation "implies [*techne*] is neutral on the question of use or value, for to understand use requires

reflection, not on the object conceived as distinct from the subject, but on the object as part of an expanded context including the object and the subject" (111). Roochnik and the proponents of OOO agree that the object should be given more attention, particularly since it is the point of validation for the user and the maker.

Next, it is essential to keep in mind that even though the object itself is value-neutral, such neutrality does not diminish the importance of the object. When Roochnik claims that the object is value-neutral, he is not saying that the object is not important to the creation of *techne*, but quite the opposite. Roochnik argues that, "'Use' is the critical term because it refers to the process of bringing possessions into the human sphere of action, that is, of applying them in a value-laden manner" (164). Here's where the line that separates OOO from Roochnik becomes a little clearer. For OOO, the object *has* its own value—that value is the object relating to or reacting against the agent. The object changes the relationship between itself and its user. On the contrary, Roochnik suggests that the user can only determine the object's value. Because the maker cannot determine the value of the object he created, the user must determine its efficacy instead. Essentially, the object acts as two different products—one for its creator (as an indicator that he can live up to his "shingle") and another for the end-user (who serves as the check-and-balance to verify that shingle).

Consequently, the maker and the user offer two different interpretations of the object that are not always compatible: the maker understands the craft of creating a product for its ultimate use, but the user is the judge of the product's viability. Just like the label maker, the engineers who created the product likely ignored the end-user, indicated by my lackluster experience with the product. How often have we used a

product and wondered if the designer actually used it himself? How often have we switched phones or computers and wished for days that the new product had certain features or shortcuts of the previous model (or, at least a convenient way to answer incoming calls)? In his book *User-Centered Technology*, Robert R. Johnson emphasizes the differences between making and doing, emphasizing their interrelationship in a way that is quite similar to my frustrations with the label-maker and my new cell phone. For Johnson, the user's satisfaction should always be the primary goal of the makers, although this is not always the case. To bring it back to the Greeks, Johnson reminds readers that the ancients "saw the practice *and* production characteristics of users as being important" (57). The production of the object, therefore, is bound to its practice—the producer cannot be validated outside of his object's practical viability. While OOO is an interesting balance for *techne* studies, in the end OOO does not emphasize the user's role in determining the fitness of the object in question.

So far, I have suggested that by looking at the object directly, we can reconstruct the *techne* hierarchy (maker → object → user) so that the object becomes the central force instead, acting on both outer agents equally (maker ← object → user). However, this relationship sidesteps the instrumentality of the object itself. With the current relationship, the object serves as the middle-man informing the characteristics of the maker and the user. As a result, some *techne* scholars such as J.E. Tiles emphasize "instrumentality"; by instrumentality, Tiles is referring to the intended use of a product in the future (55). Similar to Johnson, Tiles argues that the instrumentality of the object is so critical, that the maker must always keep in mind the end user: "*techne* thus affords a model of a person exercising critical judgment" (Tiles 55). Such critical judgment is a

reflection on the instrumentality of the object itself—both the maker and the user are implicitly reflecting on the quality of the object while at the same time explicitly analyzing each other. In other words, when I found it tricky to answer my phone, I misdirected my frustrations toward the phone itself when I should have been more aggravated with the designers (I could have equally been disgruntled with myself, but who wants to blame herself for being unable to answer her own phone!?). I was implicitly analyzing the inability of the makers to design a phone with easily usable features.

For Tiles, instrumentality is key in the larger discussion of *techne* because it implies a certain teleological characteristic in the object itself. While the creator supposes that his creation might succeed, he is not the appraiser of its efficacy. To illustrate, Tiles uses an armor maker to explain this idea—even though an armor maker fully grasps which materials seem to provide the most protection in battle, it will the one wearing the armor 'under fire' who will be the best judge of how well it actually performs. In the following quote, Tiles explores the maker-user relationship:

> This consumer's guide to body armour [sic] illustrates aptly the kind of practical thought which a man with a *techne* had to exercise. He had to keep a clear and precise idea before him of the requirements of the user (maximum protection with minimum hindrance and restriction of movement, for a man proportioned thus and so) and relate his procedure to that goal. He had constantly to consider whether this or that modification would make his product better or worse and not pay attention to the trappings and ornaments which would appeal to those who had not given much thought to the user of the product. In sum, a man with a *techne* grasps the principles which govern the goal of his activity and relates his procedure to those principles (Tiles 55).

Any consideration of *techne* is always a reevaluation of the relationship between the user and the necessary tools involved in that process. These tools – be they roofing nails and

shingles or external memory – will consistently involve a reciprocal association with the one setting it into action.

The relationship between the user and the tool is an important one for *techne*. Alone, the tool means nothing—it must be activated by the user for it to be effective in any way. In his seminal text on Aristotelian *techne*, *Back to the Rough Ground*, Joseph Dunne explains the significance of *techne* as a tool that aids the body:

> And since the soul […] cannot exist at all except through the body, is it not likewise the case, therefore, that a *techne* cannot exist except through its tools? We would not be able to even conceive, we might say, of *technai* such as surgery, sailing, or snaring if we did not know what scalpels, sails, and nets are; these *technai* have no other way of being exercised except through these tools, and so what constitutes a person as a *technites* in these areas is precisely a proficiency with these tools (349).

Just as the maker must produce something to validate his skills, the tool must be used to verify the skills of the craftsperson. What happens, however, in this technological age when we create tools that "do the work for us"? This question is pivotal when relating *techne* and memory, especially since, as seen in chapter one, there are many people from Socrates to the present day who discredit the benefits of externalized memory, fearing that externalization diminishes, or relinquishes control over, "real" memory in favor of the "fake" digital kind.

Losing control is an important distinction for *techne*, since users must always be in charge but can lose that control, however momentarily, via *tyche* (as explored earlier in this chapter). Complications arise when we make an object and it is utilized for alternative purposes. These alternative purposes could be silly (the basket hat) or more complicated (externalized memory). The distinction for *techne* arises in the notion of reproduction—a product of *techne* must be able to be repeatable and reproducible. An

individual who "hangs a shingle" does not deserve that honor if he only roofs one house. This skill must be repeatedly used. Repeatability and reproducibility, consequently, shift the emphasis of *techne* away from the object and back onto the maker.

Repeatability and Reproducibility

In order for a *techne* to be considered repeatable, it should be replicable without fail, although that is not always the case. As examined earlier, the differences between T1 (exact *techne*) and T2 (stochastic *techne*) can be recognized by how reliably they are performed. T2 is the only form of *techne* that is susceptible to and thrives on chance (*tyche*) and failure. T2's encounters with *tyche* do not diminish the quality of the maker, the skill, or the product; instead, *tyche* shows that T2 can stumble on the road to achieving an end goal, yet still succeed because it arrives at that end by a different route. T1, on the other hand, is so precise that any veering off the path immediately discredits the *techne*. In order to succeed with a T1, the *technites* must be able to provide a *logos* of *techne*—that is, provide a logical explanation as to why a certain process works and can be repeated. T1, unlike T2, always culminates with the same result (i.e., a math problem will yield the same outcome each time it is performed). Think back to those lab reports we were required to write-up in Biology and Chemistry 101 courses—we had to prove that our experiments could be verified through replication. If the experiment could not be repeated, its credibility could not be confirmed. For T1, like the math problem or the lab reports, there must be some tried-and-true verification process. This verification process is the *logos*—T1 must be so repeatable, that the *technites* and those who attempt to repeat or follow the process are able to do so because there is accountability. T1 must have a *logos* in order to "qualify" as a *techne*. Thus T1 is often used to describe both a situation

with specific teleological purpose determined in advance as well as the steps accompanying that process.

In the essay "*Techne* and Teleology in Plato's *Gorgias*," Lee Franklin reminds readers that in the *Gorigias*, Socrates does not "call anything a craft which is lacking an account" (230). Instead, Socrates rallies against any activity lacking an account calling them mere guesswork, proceeding by knack instead of true skills (*Gorgias* 462b1-c4). Here, Socrates will not grant anything the status of *techne* (T1) that cannot provide a "know-how." Now, this version of "know-how" is slightly different than when it was mentioned earlier. Here, "know-how" is the exact account of what is occurring, and it is different from "knowing-how" to arrive at an end through different means. There are no alternate paths with T1—there is one route (*logos*), and one route only.

In his essay "Plato's Theory of *Texnh* a Phenomenological Interpretation," John Wild highlights the significance of viewing *techne* teleologically while at the same time acknowledging the influence of both T1 and T2. Wild defines *techne* as "a pure knowledge of form or standard," or what he names "structural knowledge," a complete understanding of an action (257). Structural knowledge sutures the means and the ends of a process, providing a full view of an activity from inception to completion. Furthermore, Wild states that, "each art gives something (form) *to* something (matter)"; thus in order to produce something useful, one must have a detailed working knowledge of how to arrive at the end product. This working knowledge is what Wild calls "forness": the notion that actions are completed "*for the sake of* one another" (259). Even though each action is completed with "forness" in mind, Wild reminds us that no matter how we originally intend to apply a specific action, there are moments that we

cannot control: "Where events are within our power, *nothing* must be left to chance; where they are not, we must work out the various possibilities, and *take account of* them" (263). Without control, some argue that *techne* cannot be repeatable, hence the on going debates on whether rhetoric itself can be considered a *techne*.

Even though I will not discuss it in too much detail here, it is important to note that the lack of accountability is the problem most ancients and scholars have in attempting to label rhetoric a *techne*. For instance, Socrates insists that rhetoric is not a *techne* because "the activity, its procedures, must have or be amenable to, the underpinning of an explanatory framework to count as a genuine skill" (Woolf 120). Lee Franklin also emphasizes that for Socrates, the success of rhetoric occurs because the "orators proceed by routine and the 'memory of what usually happens'" (Franklin 231). Because the end result of rhetoric lies in the audience's reception, and because there is no comprehensive method for understanding or judging an audience in advance, rhetoric's effectiveness is thus entirely unpredictable. The lack of accountability is what differentiates T1 from T2, and so rhetoric is most often categorized as a T2 (if it is characterized as a *techne* at all).

To return back to the discussion of T1, "use" indicates its inherent stability in a process or a made object. In other words, I can use my skills to repeat a process of creation (the process that has granted me the title of an expert in the first place), and also someone can purchase and use that created product without hesitation because he or she knows its worthiness is reliable. The creator, though, is not responsible for the incorrect use of their product. The basket hat, for instance, worked well as a hat even if the hat was outside of its intended purposes. The ethical responsibility of maker stops if the tool

is used incorrectly—even if that unintended use is successful. For instance, we have probably all shooed a fly or squashed a bug with a rolled up newspaper. Even though the original intention of the newspaper is not a fly-swatter, it does work well as one. If I aim to squash a bug on the wall and fail because the quality of the paper is too thin, the newspaper printers are not responsible for the poor quality of the paper or the inability to squash the insect. The printers are, however, responsible for the quality of the printed page: the superiority of images' color ratio, ensuring that the text is not blurry, guaranteeing that all pages are intact and in the correct order. If these aspects of the newspaper fail consistently, the company will likely lose subscribers, but not because their paper fails at bug-squashing.

Repeatability and reliability are very important terms for linking *techne* with digital studies because information technologies provide users with a myriad of options to repeat and reproduce objects, texts, and images quickly and reliably. Repeatability signifies the likelihood of replicating an action or process that is nearly identical to the original, eliminating modifications in the final product. Repeatability, thus, implies the action of reproduction—for instance, by making a duplicate of a photograph of the Washington Monument that I snapped on a recent trip to Washington D.C., I am repeating the original action by making another photograph. I can produce that photo as many times as I wish, whether I e-mail it to different people, upload it to Flickr or Facebook, or print off a copy or two for framing. The end result, the photo, will retain its original features; on the contrary, the photo will never be the actual Washington Monument since it is only a representation of structure. Because the reproduced photos are not the originals, philosophers such as Jean Baudrillard would argue against the

constancy of the copies arguing that, "it is not a question of imitation, nor duplication, nor even parody. It is a question of substituting the signs of the real for the real" (*Simulacra* 2). For Baudrillard, the real is dismissed the instant I snapped the photo of the Washington Monument—the photographs mediate future experiences. Walter Benjamin, too, would suggest that technological reproducibility destroys the aura of the original and the reproductions allow individuals to create their own perceptions in their own space (*Reproduction* 256). For Benjamin, the photograph destroys the aesthetic value of the original, reducing the photo of the Washington Monument to utilitarian use or mere instrumentality.

However, compared with the easily degradable quality of analog reproductions, digital reproductions ensure perfect replications of the original. The digital file of my dissertation can be replicated as many times as I choose without losing any quality of the document itself. The difference is easily demonstrated with a throwback example: before iTunes or CDs, it was not uncommon to create mix-tapes for friends or flings by taping songs directly from the radio or recording a song from one tape onto another with a dual-tape deck system. The quality of the end product never sounded as good as the original, especially after multiple copies of the same song: "copying the copy of a copy of a really nice music tape yielded not another tape with great sound, but a mediocre one," a phenomenon that Viktor Mayer-Schonberger calls the "noise" of analog reproduction (53). With digital reproductions, the "noise" is fortunately eliminated since the copies are identical, resulting in the ability to repeat and reproduce quality *and* content.

Contemporary memory works in the same way by allowing users to make and create memories by storing them in various locations, or also by copying the memories

limitlessly. Just as someone who has the skill to build a table can reproduce that same table based his expert knowledge, or like my students who should have been able to re-create a Play-dough design by following another group's directions, information technology supports the ability to make any digitally stored product reproducible, and almost flawlessly so. Here, I emphasize that "repeatability" signifies the process of ensuring identical replication. Moreover, repeatability provides *techne*, or specifically T1, with a stable structure that attempts to eliminate random outcomes and overcome nature.

With repeatability, the connection between *techne* and technology becomes a bit more apparent, as suggested by digital philosopher R. L. Rutsky. In the book *High Techne*, Rutsky argues (like others before him) that reproduction takes the aesthetic quality out of an object, reducing the object to a mere instrument. Unlike others, however, Rutsky suggests that *techne* is the force behind this instrumentality noting that, "If the machine aesthetic's reproduction of technological style splits style from function, with the rise of technological reproducibility, the function of technology itself begins to become a matter of reproduction, of simulation" (Rutsky 12). In what Rutsky names the "technological turn," digital technologies combined with the (re)productive forces of *techne* represents "modernity's tendency to technologize or instrumentalize the world, to abstract and reduce it into ever more minimal, more controllable forms" (13). Thus, the technological turn points to the power of *techne* to take control of non-technological processes (here, digital memory's preeminence over biological memory). To provide just one more example, Rutsky maintains:

> Although computers offer various kinds of hardware for the storage of data, from chips to hard drives to CD-ROMs and DVDs, this storage space cannot be

> accurately described as a hardware space. It might, in fact, better be called a media-space, as suggested by the fact that these forms of storage are known as 'storage media.' The space of this data is, then, a multi-media space, constituted through simulation, though technological reproduction and reproducibility. The name generally given to this simulacra virtual space is, of course, *memory* (Rutsky 15).

These smaller multi-media spaces provide users greater control over their end functions. It is much easier, for instance, to open my Google Reader to access my favorite websites. Google Reader allows users to bookmark ("subscribe to") frequently visited websites and will alert the user when there is an update on that particular page. Rather than opening several dozen pages in my browser, Google Reader is a "one-stop-shop" for my information needs. If I had bookmarked each page separately, I would have to flip through each site to see if a new post had been added. With Google Reader, I have much more control over a smaller platform. Google Reader "remembers" all my favorite sites for me, and notifies me (reminds me, even) when new material is available for viewing. It is much easier to view one site instead of sifting through several dozen individual ones. By subscribing to all of my favorite sites in one location, I have much more control over my time as an information-consumer than I would if I merely flipped through each one hoping for new content. We can see here that *techne* is resurfacing under the purview of digital technologies and digital reproducible memory has become one opening through which *techne* and memory can both gain ground in this contemporary moment.

Conclusion: Beginning to Link *Techne* and Memory

One of the more interesting, and perhaps even the most significant, correlations between memory and *techne* is the suggestion that memory is no longer afflicted by time orientation. When we think of memory, we are most certainly conjuring up thoughts of the past—we "remember" what happened to us on various occasions, we "memorize"

facts in order to "recall" them to prove something in an argument or pass an exam. Memory is conceived as the storage of an event in the past—not the present and certainly not the future. The mere suggestion of memory invokes the idea that one is 'looking back at' an event, conjuring up an emotion which has passed, and even becoming nostalgic for a place or a time in one's life when all was different, better, or even worse. Thus, memory is rarely conceived as a structure that is outside of time; instead, memory is the representation of all that encompasses the past. However, as suggested in the previous chapter, new technological forms of storage are shifting memory outside of its time constraints and into a time-less cycle. In other words, the memories that are stored on externalized devices or placed for use on various web collectives (e.g., Wikipedia) now function outside the constraints of time and are actually being transformed into structures for use in the future.

As a result, the connection I am drawing between *techne* and memory must focus a significant amount of attention to the re-districting of time, specifically how the past is becoming, well, a thing of the past itself. Contemporary memory is not limited to or created for nostalgic remembrance or mere recall, but rather it is constructed specifically for use in the future. Furthermore, whereas biological memory can be severely limited by personal lapses (e.g., a few too many beers can impair one's memory of an entire evening's conversation), contemporary digital memory is focused on use in both personal situations and in collectives.

And while critics like Jaron Lanier whose recent manifesto, *You Are Not A Gadget*, is highly skeptical of "hive mind thinking" and the noosphere in general, the combination *techne* and memory speak to the benefits of such collectivities. Recent

upsurges in "cloud computing" indicate that individuals and corporations alike are shifting the control of their personal "memory" (or server space) into the larger cloud. During a presentation at the 2010 Digital Conference of Humanities, Arts, Science and Technology Advanced Collaboratory (HASTAC), four presenters representing the blog *HTC In the Cloud* explored new possibilities for cloud computing. As described by Steve Campbell, a simple way to think of cloud computing is a "pay-per-drink" system: you only pay for as much storage as you need. If you want to drink a pint, you only pay for a pint. Just like personal energy use, you only pay for what you need and use. If we are on vacation, our electric bill shrinks because we are not flipping on the lights or running our laptops well into the night. Cloud computing works the same way, but instead deals with storage and server power. Rather than companies constructing large servers for their personal use, cloud computing allows business to offload their server needs to "the cloud."

But what is "the cloud"? According to the presenters, clouds are a huge data storage centers that serve as the offsite computing power for corporations. For individual purposes, think of Google Docs. For instance, even though I have several copies of my dissertation stored on different flash drives, I have uploaded each revision to Google Docs just in case something damages the drives. I have stored my dissertation in the cloud—I have used Google's storage capacity for my personal use and reduced the possibility of losing access to my files. Similarly, companies can create mirror images of their servers or locate their entire network elsewhere by purchasing cloud space (think of the recent upsurge of "mirror sites" for the Wikileaks' cables); therefore, in the event of a

flood or other catastrophe, their server space will not be damaged (as it often was in the pre-cloud days).

Further still if, as Roochnik and others have suggested, *techne* overcomes the chance floods that could destroy all the server space, then perhaps we can read this as another representation of memory, too. On the one hand, the chance of "forgetting" any random fact stored in our biological memory is high. Very few of us have perfect autobiographical memories like "S," whose written account appears in A.R. Luria's *Mind of a Mnemonist*, or more recently Jill Price, the woman whose perfect memory, or hyperthymestic syndrome, has been both chronicled (*Woman Who Can't Forget*) and criticized ("Total Recall") for its rareness. On the other, displacing memory outside of the biological constructs reduces the chance of one forgetting anything, and thus we can regain control of our personal memory.

Chapter 3

Techne-monics and Digital Archives

One of the most important aspects of archives and memory is organization. Archivists will note that an archive without a clear-cut system in place is not worth calling anything (well, except a mess). Even as I began this chapter, I struggled with ways to organize my archival work—how do I archive the archives? What qualities am I looking for? Is it awkward to begin looking at archives, or to do any quantitative work, with a theory and boundaries already established? Many will say it is best to let the material speak for itself. Others insist you need a focus or the data collection will become too unwieldy. Regardless of the collection process, archives have taken many shapes over the years, ranging from specific library and museum collections to memorials and places of storage for shared cultural events. Not only is it paramount to note what is included in an archive, but it is equally important to recognize what is omitted and how someone (usually a curator) decides what does "not get remembered" by denying inclusion in the archive. In this chapter, I look at three specific digital archives: The Wayback Machine, The September 11 Digital Archive, and The Soweto '76 Archive. These archives are different from "traditional" brick-and-mortar museums or memorials because they encourage, in fact thrive on, user input. Rather than a static space, these digital memorials are constantly in flux—one visit will never be like the previous one. Furthermore, these three archives all have different end goals. The Wayback Machine is the only one of its kind and is attempting to collect the entire history of the Internet. In addition to the team of researchers who are responsible for the archive's content, The Wayback Machine "takes requests" from its users to determine which sites have not been

crawled yet, searches for them, and then reactivates and stores the Web sites. Both The September 11 Digital Archive and The Soweto '76 Archive seek to collect the stories and memories of events of national importance. The difference between the two, however, is that The Soweto '76 Archive is formulated like a real museum, allowing visitors to "walk" between buildings and visit spaces right on their screens. (I should note, too, that The Soweto '76 Archive is still in Beta testing and is yet to be completed. The project, which began in 2007, will take about five years to complete; however, the Beta site is an impressive example of the usability of the final site.) The September 11 Digital Archive is different because there is no place to return to, only the space of what used to be the World Trade Center Towers, the empty field in Pennsylvania, and the side of the FBI Headquarters, the J. Edgar Hoover Building (which was largely inaccessible before September 11). The aim of both event-based archives, however, is to collect stories, e-mails, sound files, and images from anyone, expanding the notion of inclusivity and encouraging contributions from people who would not normally have the opportunity to participate in and contribute to national memory. In this chapter, I look at these three digital archives in order to question what it means to have a memory in the digital age, and what these three spaces of memory say about the limits (or limit-less) means of memory space.

By encouraging participation from users, digital archives utilize the creative and productive aspects of *techne* as a mode of successful memory making. In relation to *techne*, it becomes important to reconceptualize how we perceive memory and how the boundaries of natural memory shift when we invite everyone to write memory together. If *techne* is about making and use, then these three archives encourage visitors to make

and use their memories quite differently by asking for deliberate participation and production rather than mere observation and consumption. The creative aspect of these archives is where I suggest memory and *techne* meet once again. By exploring these archives individually, I argue that their participatory nature exhibits how memory and *techne* are collective forces. To capture the combination of memory and *techne*, I introduce a new term: *technemonic*. This term is different than "mnemotechnics" which has been used elsewhere to designate memory *loci* and the process of recollecting those memories during a speech. In *The Art of Memory*, Frances Yates denounces the term "mnemotechnics" in favor of "art of memory"; for Yates, "mnemotechnics" reduces the high-sensory process of artificial memory and "makes this very mysterious subject seem simpler than it is" (4). Mnemotechnics is a term that also emphasizes the process of recollecting, not the actual creation of memory on which I am focused in this chapter. By recognizing the complexity of *techne* and memory devices, *technemonic* foregrounds *techne* in order to emphasize the creative nature of contemporary memory. Thus, the combination of "*techne*" and "mnemonic" suggests the devices, spaces, or tokens (digital or otherwise) that we make or collect to remember a particular event. Since the digital archives consist of individually crafted memories, *technemonic* will be used to signify memories that are available for use in each archive.

By also viewing archives as a point of productive memory, I reconsider what it means to consume and produce memory. As consumers of memory, we need to evaluate the product that is being consumed. When the event has passed, what qualifies as a consumable remnant of memory? What happens when the tide shifts away from consuming memory and "we" become the point of producing memory? Throughout this

chapter, I also consider whether these digital archives undo the ideological consumerist trends and capitalistic mechanisms of memory culture. When the consumer chooses how to use the product, what does this mean for the productive ends of *technemonics*? Or more specifically, is there an intended use for digital archives?

Clay Shirky has recently introduced a new term to recognize the shift towards online productivity: cognitive surplus. Rather than using our free time watching television, Shirky argues that we are now spending at least one percent of that time contributing to social networks such as Wikipedia. He states: "One thing that makes the current age remarkable is that we can now treat free time as a general social asset that can be harnessed for large, communally created projects, rather than a set of individual minutes whiled away one person at a time" (Shirky 10). "That doesn't mean we'll stop mindlessly watching TV" Shirky argues, "it just means that consumption will no longer be the only way we use media. And any shift, however minor, in the way we use a trillion hours of free time a year is likely to be a big deal" (23). If there was a question about the value or meaning of contributing to the digital archives, then cognitive surplus might just be the answer. Such a small percentage of our free time truly adds up to large social movements, whether this time is used towards contributions to The September 11 Digital Archive or making small edits to Wikipedia pages. The shift from consumer to producer might have always been in our nature, but the platforms were never as readily available as they are today. Shirky then questions, "What if we've always wanted to produce as well as consume, but no one offered us that opportunity? The pleasure in *You can play this game too* isn't just in the making, it's also in the sharing" (19). The shift from what Jay Rosen names "The People Formerly Known as the Audience" into the

producing agents of *technemonics* symbolizes the growing desire that individuals have to become active citizens in the writing of memory *and* history (Shirky 36). Because the spaces in which we can contribute and craft the memories of events are expanding, I reconsider "why" individuals are compelled to participate rather than merely observe.

The shift away from mere consumer or spectator and into the realm of producers of memory lies in the available means themselves, a move I suggest is a critical one for rhetoric to notice. Because individuals have new outlets for sharing and creating self-value, Shirky argues such social spaces create more intrinsic value than ever before: "Personal value is the kind of value we receive from being active instead of passive, creative instead of consumptive. […] Social motivations can drive far more participation than can personal motivations alone" (172-3). Shirky also points out that digital production is symmetrical: "When someone buys a TV, the number of consumers goes up by one, but the number of producers stays the same. On the other hand, when someone buys a computer or a mobile phone, the number of consumers and producers both increase by one" (55). An increase in the number of available means should prompt rhetoric to return to one of its own canons and reclaim this digital moment as its own.

Information technologies not only offer limitless means to store digital memories, but these same technologies must also be viewed as a route towards increased participation in rhetorical practices. Because information technologies, or as I prefer to call them "interactive" technologies, increase the possibilities for users to "write memory," participating in accessible memory forums, like digital archives, permits individuals to contribute to collective memory as never before. In terms of access, these archives enable the possibility for individuals to contribute to national memory in such a

way that is unlike many other sites of remembrance. Even though people leave tokens at permanent memorials like the Vietnam War Memorial in Washington D.C., and although those tokens are collected and stored, the actual space and shape of the monument never changes. The content of the digital archives I explore in this chapter relies on user input—they would be significantly bland without it. As a result, the type of memory that is applied in the digital archives must be differentiated. I will refer to memory of these digital archives as "open memory" while typical museums or other selective archives will be noted as "closed memory." To explain, any archive that allows, encourages, and thrives on user input via stories, audio or video files, or Web links will be noted as "open memory." The three archives I look at here are all "open" because users have the capability to add their own content as well as comment on existing elements. On the other hand, "closed memory" archives do not allow users to contribute to the batch of material that has been pre-selected for display. For example, displays at the Smithsonian's National Museum of American History do not ask visitors to leave mementos during their visit—the exhibits only invite spectatorship and reflection.

On the outset of such a quest, it is vital to establish how the digital archives construct "memory" versus "history." To help distinguish "memory" from its close relative "history," I will lean very briefly on Pierre Nora. Although such a slight nod to Nora might be an injustice to his voluminous study of French history, his distinction between "history" and "memory" is helpful at this juncture to re-characterize the ways we collect, and ultimately write, experiences. On the one hand, history for Nora is a representation of the past, calling for "analysis and critical discourse"; memory, on the other, "thrives on vague, telescoping reminiscences, on hazy generalizations" and is

vulnerable to all kinds of "projections" and "censoring" (3). Memory, as we know it, is always subjected to "forgetting"—our personal affective responses will limit, or censor, what we can recall. However, digital archiving does not speak to the limits of time—whether censored by time or fresh in our thoughts, a visitor to the archives can add memories to these sites at any point in the future. Because the archives are not limited to immediate responses, they also represent the possibility of shifting spaces of remembrance rather than being mere solidified historiographies of national importance.

In another example, in the introduction to *Save As…:Digital Memories*, Joanne Garde-Hansen, Andrew Hoskins, and Anna Reading note that "history" is a projection from "one to many" whereas "memory," and specifically "digital memory," is more localized and can be thought of as "peer-to-peer" (8). By invoking the term "peer-to-peer" (P2P), I touch on some of the essential aspects of the digital archive—file sharing, collectivity, and distribution. For example, in an open memory digital archive, memories are written by individuals to be shared with all visitors. P2P memory does not preference one memory over another—each memory receives equal weight. On the contrary, a closed memory brick-and-mortar museum works differently. Closed memory systems are hierarchical—a group of curators select what is archived, displayed, and remembered. P2P digital memory encourages memory-making from below, so that digital archives collect stories that may not be historically significant, but instead are personally meaningful (Garde-Hansen, et al 12). One of the aims of all three digital archives is to make memories of, or "write," events in different ways, through different means, and from different voices. The ability of users to upload their stories does not neglect the historical importance of the events, but rather personalizes and expands the traditional

boundaries of both "history" and "memory." By using digital terminology such as "peer-to-peer," it becomes easier to show how these three archives share memory among users instead of simply displaying memory for spectatorship.

Because the digital archives are, by definition, collaborative collectivities rather than displays, it is helpful to turn to sociologist Maurice Halbwachs to explore the distinction between individual memory and collective memory. In *The Collective Memory*, Halbwachs defines collective memory by drawing the distinction between the collective as a whole and the individual who contributes to the memory: "While the collective memory endures and draws strength from its base in a coherent body of people, it is individuals as group members who remember" (48). For the digital archive, Halbwachs' definition of "collective" is crucial. Because history tends to privilege only one account of an event, many important details are side swept in favor of the dominant version. The digital archive is not *one* individualized perspective persuading *many*. Rather, the collective P2P digital archive is the collaborative effort of individuals sharing *many* memories, who in turn offer a wide spectrum of interpretations, viewpoints, and recollections of *one* event.

Halbwachs takes it one step further and differentiates between two types of memory: "historical memory" and "autobiographical memory." Historical memory is, as Alison Landsberg terms it much later (and as I will discuss in detail shortly), a "prosthetic" memory, or one that we do not experience first hand but have experienced nonetheless. For instance, even though I was not alive in 1969 for Woodstock, stories from relatives who were there, special anniversary edition magazines, DVDs and CDs, and The History Channel specials allow me to form my own experience of this event.

For Halbwachs, I am essentially "remembering" an historical event even though I did not experience it first hand. My understanding of and reaction to Woodstock characterizes "historical memory"—these are memories I have of events that I have experienced from a distance.

Autobiographical memory is the counterpart of historical memory. With autobiographical memory, I recall events that happened to me, that I lived through, and that I am able to provide an "eye witness" account of. Autobiographical memories do not have to be of national importance, but they do need to be important to the individual. In my mind, I will always celebrate March 12, the day I was accepted to graduate school. I am able to share my excitement about that event with other graduate students, even if they were accepted in February or some other time because the event itself is similar. In the introduction to Halbwachs' *On Collective Memory*, Lewis A. Coser compares autobiographical memory to attending a college reunion: even though the attendees all hold degrees from the same university, the individual college experience will be dramatically different from one alumni to the next (24). In this sense, autobiographical memories are personal; they are moments in one's life that are important to the individual for some reason or another. On the surface, they may not be important to the construction of a nation's history, but digital archives are shifting the tide by favoring autobiographical memory over historical fact. In this chapter, I show how the aims of all three archives are angled towards autobiographical memory rather than mere history.

The productive nature of these archives is what shifts the focus away from consumerist memory, documented most notably by Marita Sturken in *Tourists of Memory*. Sturken contends that national events, like September 11 and the Oklahoma

City Bombings, prompted a response via consumerism. In order to deal with the overwhelming grief of these events, people bought kitschy items, such as World Trade Center snow globes and teddy bears for comfort. The new trend toward digital memory production points to an interesting shift in the types of memory storage the three digital archives represent. Although The Wayback Machine is not specifically a site to collect memories of one specific event, it does have different "channels" devoted to memorials of September 11 and other tragedies.

Others, too, have considered the ramifications of mass culture and memory, especially Alison Landsberg. Her work, *Prosthetic Memory*, is helpful in thinking through how remembrance, in general, is formulated via engines of mass consumption. Landsberg wonders how interactions with mass media influence and shape individuals' relationships to historical events, especially ones they did not live through. She defines prosthetic memory as, "the interface between a person and a historical narrative about the past, at an experiential site such as a movie theater or museum. […] The resulting prosthetic memory has the ability to shape that person's subjectivity and politics" (2). In the epilogue of her book, Landsberg recognizes that she has not considered the consequences of digital archives on memory, and the three sites I look at here benefit from and pose many new questions to Landsberg's theory. If Landsberg suggests that prosthetic memories enable people to have true experiences of events in which they did not actually participate, then I am particularly interested in defining what 'counts' as real experience. The difference I am interested in here is how new sites of memory ask users to write the memories themselves by combining mass media and memory in one location. Can we write prosthetic memories, even if we did not experience the actual event? Since

these digital archives are open to all contributions, should there be limitations or boundaries on what "counts" as true experience? More directly, even though I was not in New York City when the planes collided into the World Trade Center towers, did I "experience" the event on television? On a more localized scale, as a result of increased security measures because of 9/11, my trips to the airport are now more labor-intensive. Are these aftershocks of 9/11 actual moments of experience, signifying the only pure "experience" I have had of the events?

Landsberg's characterization of "prosthetic memory" follows Halbwachs' interest in memory from a distance. In considering what "counts" as actual experience, Halbwachs states that,

> During my life, my national society has been theater for a number of events that I say I 'remember,' events that I know about only from newspapers or the testimony of those directly involved. These events occupy a place in the memory of the nation, but I myself did not witness them. In recalling them, I must rely entirely upon the memory of others, a memory that comes, not as corroborator or completer of my own, but as the very source of what I wish to repeat. I often know such events no better nor in any other manner than I know historical events that occurred before I was born. I carry a baggage load of historical remembrances that I can increase through conversation and reading. But it remains a borrowed memory, not my own (*The Collective* 51).

The digital archives force us to reconsider the stretches of memory. Because the digital archives themselves mediate the actual experience of the events by allowing users to upload videos, pictures, and other forms of media to bring people closer to the actual event, the boundaries of "historical memory," "autobiographical memory," and "prosthetic memory" must be restructured. When speaking of historical memory, Halbwachs states that, "I can imagine them, but I cannot remember them" (52). However, the static photographs and historical accounts of his time vary differently from the digital archive with which we deal today. In particular, if prosthetic memory enables

us to bring the event "into our living room," or at least onto our screens, then I argue that we *are* experiencing the event as our own. Through the technology, we are persuaded to write our own memory even though we experienced the event from a distance. We can write both an autobiographical memory *and* a prosthetic memory within the extended arm of the digital archive.

However utopian I have made these archives sound, media obsolescence also becomes a critical idea to consider, especially since the archives are relying on the stability of code. Rather than housing memories and keepsakes in permanent locations under ideal conditions and the watchful eyes of museum curators, these digital archives rely on the continued interest of unknown archivists. Worse still, the archives risk being forgotten, as they are at the mercy of badly written code as N. Katherine Hayles recognizes in her essay "Traumas of Code": "Nothing is more difficult than to decipher code someone else has written and insufficiently documented" (137). Because the digital archives are code by nature, they will always be subjected to the torments of bad code sourcing, various Internet protocols, and server stability. These digital archives, too, are relying on backwards compatibility, the process that allows newer media devices to read or project older versions of software or other saved material. For instance, Blu-ray players are able to play most standard DVDs; even though the Blu-ray technology is more advanced than the average DVD, the device is able to read both types of discs and Blu-ray owners are not required to repurchase the movies they already own. Unfortunately, there is no guarantee that the storage and server space the archives currently occupy will be the type we use even five years in the future.

The issue of media obsolesce foregrounds another distinction—the type of content that is actually contained within the archives. The content of these digital archives is a bit different than what you would find in a closed memory museum or memorial. Each digital archive houses a great many types of sources, but they all have one common element—all of the source materials are digital files. What becomes tricky is when we consider the originality of the items themselves. For example, how might the content "appropriate" or, to use Jay Bolter and Richard Grusin's term, "remediate" a previous medium since it is reinventing, reinterpreting, and technologically updating older media for use in fresh contexts? Remediation, a term that was influenced by Marshall McLuhan's statement "one media's content is always another media's," absorbs previous media while at the same time being presented in a new form (*Understanding* 8, *Remediation* 53). As a result, digital content walks a fine line between "original" and "remediated."

To differentiate between the various types of digital content, G. Mahesh and Rekha Mittal define three terms that are useful here when exploring texts in the archives: born-digital, turned-digital, and gained-digital. Mahesh and Mittal's work contributes to the debates on copyright issues concerning digital work, and the three classifications of the types of texts encountered in digital archives. These terms will be used to analyze certain elements of each archive in order to determine if the point of creation affects the viability and aims of the individual archives.

Born-digital refers to "the content is created in digital form with the purpose and understanding that the content is primarily meant for storage and use in digital form" (Mahesh and Mittal 677). Born-digital texts originated in digital forms and are not

reproduced outside of their space on the Internet. The three open memory archives I look at are mainly composed of born-digital content, but this does not mean that they are immune from deterioration like other materials stored in closed memory archives. In fact, Walt Crawford contends in his article "Stick Around: Notes on Long-Term Digital Content Retention" that the digital archiving process itself is similar to closed memory archives, but the long-term storage of born-digital material is where issues arise (64). For instance, Crawford argues that copying born-digital material onto microfilms or printing out the archives for long-term storage actually negates the classification of born-digital. In terms of storage, born-digital material must stay digitized—it must not be printed or copied and stored in alternative locations. The problem then becomes ensuring that the material is properly migrated from one technology to the next, and guaranteeing that the digitally archived will be accessible in the future. With printed material, we do not have to worry about accessibility in the same ways—we can still read handwritten letters from the Civil War without worrying whether our current technology will support the "file" (Crawford 65). Moreover, Crawford recommends migrating digital archives every five years to ensure their accessibility and compatibility with current technologies (65). Continual migration is not a flawless option though, since it takes money, a full staff and continued interest—more resources than digital archives typically have.

The second type of material found in digital archives is called *turned-digital*, referring to all content that has been converted into a digital format, and retains its original shape and form. The Wayback Machine has a substantial amount of turned-digital material since they have partnered with digital book projects like Project Gutenberg. E-books are a classic example of turned-digital content because they were

originally printed texts but have been scanned and/or made available for digital consumption. The digital book itself functions and appears nearly identical to its printed counterpart. Other examples of turned-digital texts include academic journals, magazines, and newspapers that are available in both print and electronic forms without any changes in content.

The final term, *gained-digital*, is less a matter of how the content is created, and more an issue of how the material is distributed and made available through a lending institution, such as a university library. Mahesh and Mittal describe gained-digital content as that which: "might have been born-digital or turned-digital at some source but the library is not associated with the creation of content. The library only acts as a facilitator to access the already available content" (678). Here, claiming a text as "gained-digital material" are simply the means by which it is accessible and distributed, not the process by which it is created. All three archives provide gained-digital material. In fact, I suggest that one of the goals of the digital archives is to make accessible material and information that was not possible prior to their existence. The September 11 Digital Archive and The Soweto '76 Archive both strive to present the voices from a wide variety of experiences. Before the digital archives, expressing such memories in public forums was complicated, and thus the archives can be called gained-digital because they provide a space where people can distribute and access one-of-a-kind stories.

In what follows, I describe all three archives and explore their collections by viewing specific examples. By looking closely at the new forms of "making memory" I show that digital archiving is shifting memory away from consumerist tendencies and

into strong spaces of production. I also have the following specific questions for each archive I address as the chapter progresses. Because The Wayback Machine is essentially "hoarding" all the sites they can collect, how does this massive collection affect the meaning of "archive"? Anyone who has visited The Wayback Machine is immediately drawn into its bank of "oldies-but-goodies," outdated versions of familiar Web sites like Yahoo or eBay. Does this desire to look back align with what Svetlana Boym calls "nostalgia"? For The September 11 Archive, does collective memory alter the ways we write memory? Finally, because The Soweto '76 Archive will be used as a supplement to the actual museum in Soweto, will there be a disconnect between availability to the digital archive and memory production? How might visiting the two different memory spaces prompt different responses? Do the aims of the digital archive parallel the actions of the post-Apartheid Truth and Reconciliation Commission?

The Wayback Machine

The Wayback Machine is the Internet's own time-traveling device. The purpose of this archive is to collect and make accessible all of the pages that have existed on the Internet. Page updates or system upgrades often surprise us when we open our browsers and find our well-traveled pages changed, redesigned, or inaccessible. If we think about memory and digital archives as simply as possible, it can be related to the clichéd reminder to "back-up" our work. If our computer crashes, and we have not created a duplicate copy, our work is gone. Even though social bookmarking systems like delicious.com and Twitter are places to share sites of interest via links, they are not immune from the saved sites being deleted on the other end. This is the trouble with born-digital material: we do not have a guaranteed solution to keeping it around.

Fortunately, 'keeping it around' is the main goal of The Wayback Machine. They strive to archive all *versions* of every item that has ever appeared on the Web. Each version is sorted by date and when you search for a site, you are directed to a screen with a table listing all archived versions by date (figure 3.1).[1] To illustrate with a bit more detail, at archive.org, the layout is nothing fancy (figure 3.2). The website is categorized by type of materials it stores: Web, Moving Images, Live Music Archive, Software, Audio, and Texts. Each category indicates how many files it currently hosts (the Web is significantly higher than the others at over 150 billion pages) and users can follow the site via RSS feed, signified by the button on the upper right side of the screen. For each featured category there is a "Curator's Choice," a daily selection of interesting or topical archived material. Also on the homepage, there are places for recent comments and questions within the user forums of the site. Each category allows users to search within the specific file type, which is helpful considering the sheer vastness of collected material.

Just above the orange RSS feed button is a link that simply states "upload." When clicked, users are taken to a registration screen that must be completed in order to contribute any material to the archives. After agreeing to the legalese, users receive an "Internet Archive Virtual Library Card" which provides access to the archives and also allows users to post material and comments. As an indication of how many subscribers there are, when I signed up in June 2010, I received the 928,936th "library card."

Digital archiving takes into consideration two questions: what do we choose to store and what do we choose to leave out? With digital archives, we have a choice to

[1] All figures can be found in the appendix at the end of this dissertation

remember (by requesting our favorite sites be crawled) or to forget (some sites aren't worth the time to return to). There is one significant drawback, however. The restoration and "reactivation" of, say, my old blog does not guarantee that all the old posts will be available nor does it grant me my administrative duties to change its appearance, moderate comments, or add new posts. Each version of the website must be crawled and archived separately (thus, the table of dates and links). Our biological memory functions a bit differently—sometimes we repress ideas because we want to, and other times we cannot control the forgetting that is brought on by disease, injury, or age. If a memory is locked in our biological memory, it is significantly more difficult to recall an event or someone's name. Frequently, biological recollection occurs merely by chance. As we begin to think more critically about how memory will be transformed in the digital age, we must also remember to think about how quickly ideas can be "forgotten" and deleted. If The Wayback Machine promises users "universal access to human knowledge," what is included in this universality must be questioned, too.

Compared with traditional archeology, I can see how data retrieval from five years ago does not seem as delicate – or even as relevant – as, say, uncovering our evolutionary history via archeological digs. But this is the exciting aspect of The Wayback Machine—we are archiving events as they occur, not in retrospect. Even more interesting is that The Wayback Machine is a way to protect the past as it is happening. Since we do not know what will be important data to hold onto, and because The Wayback Machine is actively creating massive archives of *all* Web sites as they appear, this archive is expanding the possibility for future research in a way we might not even know yet.

Because The Wayback Machine desires to hold onto everything, this might be the first digitally diagnosed case of Obsessive Compulsive Disorder. While "hoarding" has recently become grossly intriguing because of reality television shows, digital hoarding is popular for a different reason. It is exciting to think that everything we have seen on the Internet can be viewed again, that we have a place to return to, and that our memory will be saved for us. There are, however, many skeptics of digital preservation. Digital doomsayers like Viktor Mayer-Schoenberger cringe at the idea of saving everything and suggest that we purge our hard drives on a regular basis. However, it is critical to rethink digital archives from the present moment precisely because we are producing at the same time that we are consuming its content. The Wayback Machine places researchers and archivists at a privileged standpoint because we are all able to contribute to, sort out, and organize the newly added material while simultaneously identifying and saving older sites. This collaborative form of open memory suggests new forms of researching and remembering because the archive will always be a new space for new voices.

The downside of such massive collections is organization and ease of locating the desire information. If we cannot locate material quickly and regularly, then it might as well be forgotten. One of the issues with open memory digital archives is not how much we can store, but the structures we must develop in order to process and use the information efficiently. In the first issue of the journal *Memory Studies*, Paul Connerton suggested "Seven Types of Forgetting" in his article of the same name. The seven types all describe forgetting as a purposeful action occurring as a result of the individual, as opposed to involuntary forgetting as a result of a disorder or brain injury. Connerton contends that while we usually view memory as a triumph, forgetting is most often a type

of failure: forgetting where we placed our keys, forgetting we have a committee meeting, forgetting to grab milk on multiple trips to the grocery store. He argues that no matter what kind of forgetting occurs, they all have one similar feature: "they imply an obligation on my part to remember something and my failure to discharge that obligation" (59). Subsequently, digital memory shifts the obligation away from the user into the system itself—the failure of forgetting is no longer *mine*, but is instead a lapse of technological memory. But aren't we the ones who actually place our memories in digital systems like The Wayback Machine? Who's to blame then? Characterized by its functionality, external memory's most striking property is not merely its ability to supplement biological memory, but that it "remembers" events exactly as they occurred and retains knowledge without the fear of our brain failing us, or forgetting.

But how do we characterize all those Web sites that are "oldies-but-goodies," like the first Yahoo page or early versions of Amazon? Viewing these sites reminds visitors of a time when they, too, were as new to the Internet as the Web sites themselves. When viewing early versions of popular Web sites, we are transported to a different time, a different place. Looking at Yahoo's homepage from 1996 and comparing it with recent versions, not only is the layout different, but so too are the advertisements, the images, and the option to personalize content (figures 3.3-3.8). When viewing the 1996 Yahoo, I think: "remember when this was *fantastic*?" Might The Wayback Machine be reinventing nostalgia alongside digital memory? In *The Future of Nostalgia*, Svetlana Boym states:

> At first glance, nostalgia is a longing for a place, but actually it is a yearning for a different time—the time of our childhood, the slower rhythms of our dreams. In a broader sense, nostalgia is rebellion against the modern idea of time, the time of history and progress. The nostalgic desires to obliterate history and turn it into

> private or collective mythology, to revisit time like space, refusing to surrender to the irreversibility of time that plagues the human condition (xv).

The allure of The Wayback Machine is to see the progress of technological development—that is why visitors are drawn to the 1996 Yahoo homepage. We understand that technology has progressed well beyond 1996, but we yearn to remember and see 'what it was like then.' We can visit 2010 Yahoo anytime, but we rebel against modern time by reminiscing within the constructs of the digital archive. The Wayback Machine also creates nostalgic desire by encouraging visitors to contribute to its collection. Your favorite site from 1998 is missing? Request it! Nostalgia, here, becomes individualized within the collective.

More specifically, Boym argues that nostalgic recollections do not reveal any signs of decay, and "it has to be freshly painted in its 'original image' and remain eternally young" (49). A visit to Yahoo today only provides access to the current site; The Wayback Machine invites visitors reminisce about the 'original image' of the older version. When Boym states, "the past for the restorative nostalgic is a value for the present; the past is not a duration but a perfect snapshot," she is saying that nostalgia captures the past perfectly as it was (49). We can view Yahoo anytime, but we must visit The Wayback Machine to see earlier snapshots of a time past.

While The Wayback Machine seeks to capture moments as they occur, in the next two sections, I examine the archives inspired by events of national importance. One the surface, these sites may seem "historical" by nature, but I argue that they are favoring autobiographical and prosthetic memory over any single version of history.

The September 11 Digital Archive

Like the other archives I look at in this chapter, The September 11 Digital Archive is designed to generate user content with the intent of "saving the histories of September 11, 2001" (*The September*). At the top of the home page there are six tabs from which visitors can choose: browse, research, contribute, special collections, 9/11 faqs, and 9/11 links (figure 3.9). Under the tabs a description of the site notes its purpose as "using electronic media to collect, preserve, and present the history of September 11, 2001 and its aftermath" (*The September*). The archive was established as a means to help historians collect information via contemporary technologies, allowing them to investigate events from new perspectives and from people who typically would not have an opportunity to contribute to shaping historical narratives. Although the archive "officially" stopped its collection efforts in 2004, visitors to the archive are still encouraged to add their memories to the database. Moreover, The September 11 Digital Archive "has partnered with the Library of Congress, which in September 2003 accepted the Archive into its permanent collections – an event that both ensured the Archive's long-term preservation and marked the Library's first major digital acquisition" (*The September*).

By clicking on the "browse" tab, users are taken to another screen that differentiates between the type of files, ranging from stories to e-mails, digital animations and audio. There is even a "forum" dedicated to Mark D. Phillips' famous "Satan in the Smoke" image, a photograph in which some claim an image of Satan can be seen in the dark plumes of smoke rising from the burning towers (figure 3.10). A quick look through the different files exposes a broad reaction to the events; some note their hatred towards the attackers, others replay what they were doing when the attacks occurred, while others

are still skeptical of the media's reporting of the events in general. Overall, the archives represent the gamut of feelings, reactions, and confusion inflicted on Americans after the attacks.

Many of the stories follow similar patterns: there are several poems describing what amateur poets called "Tuesday Mourning"; there are many high school and college students detailing how their daily routines on September 11 were altered and the bonds they formed with random passer-bys watching the news reports together; there are several parents noting the birth of their children, doomed with the national tragedy as their birthday; and hundreds of native New Yorkers describing their narrow escapes while their friends, family, and co-workers were not as fortunate. The images in the archive can also be categorized: many capture the World Trade Center Towers in the years before the attacks; there are dozens of pictures of the towers in smoke and the rescue efforts (figures 3.11-3.14); several photos showcase visitors to NYC playfully manipulating the vanishing point to show how much "taller" they are than the towers (figures 3.15-3.16); and others are tributes to loved ones who died in the attacks. There is, however, a noticeable lack of stories and images from either Pennsylvania or the Pentagon, suggesting there were many more people directly affected in New York City (figures 3.17-3.18). Reading through the stories in the archive, there is an overall feeling of distress—almost a decade later, and I, too, still feel the confusion and the unrest I felt just watching the destruction on television. Because events like September 11 were televised, the broadcast itself expands the notion of first-hand experience; even though the majority of the country was not directly affected by the plane crashes, as a nation we are still struggling through the aftermath of the event. The 24/7 media coverage of 9/11 along

with sites such as The September 11 Digital Archive bring the event much closer to everyone. In what follows, I use a couple examples of stories and images from the archive to illustrate that prosthetic memory and autobiographical memory are valid means of experience.

September 11 brought out patriotism, almost excessively so, in the months that followed the attacks, as this segment of one story illustrates:

> Our family business is wholesale novelty, carnival and party supplies. We could not believe the amount of phone calls we received for patriotic merchandise since September 11. We have always carried American Flags and other items, but the response to show patriotism was overwhelming, here in St. Louis. We supplied the Baseball Cardinals with 50,000 American Flags that were given out at an evening game. Subsequently, other teams called our store asking for flags as well. Unfortunately we were out of stock and frantically looking for vendors who had them in stock! (Dawson).

Even in St. Louis, quite a distance from the sites of any of the plane crashes, the demand for American flags increased drastically following 9/11. That people rallied in cities across the nation clearly suggests the experience of writing memory is not limited to the specific sites of impact. By extending the reach of "experience," the possibility to write memory also expands. The story above illustrates one specific memory of Sharyl Dawson; although she was not physically present at any of the sites, she transferred the prosthetic memory of the attacks from the media's portrayal into the autobiographical memory of distributing flags locally and around the country. As a result of "experiencing" 9/11 on television or through other media, Dawson utilized the prosthetic memory in order to write her own autobiographical memory. The event was no longer someone else's version of history—Dawson rewrote the event for herself, reacted by distributing American flags, and shared her memory of 9/11 in the archive. Dawson's memory should not be disregarded because she was in St. Louis. On the contrary, her

autobiographical memory of the flag distribution demonstrates that the experience of writing memory and *technemonics* extends beyond the spatial limitations of the attack sites.

Similar to Dawson's memory is an image of an installation in Texas, the photograph capturing only a fraction of a field on which hundreds of small flags are pointing out of the grass (figure 3.19). Jesus Velasquez describes the photograph as "A park in Lubbock, Texas on September 11 2004 to honor the Men and Women who gave their lives on September 11 2001." Velasquez does not detail what he means by "gave their lives"—we do not know if the flags represent people on the planes, the rescue efforts, and/or people inside the World Trade Center or Pentagon or if each flag represents a specific number of deaths (e.g., one flag equals ten deaths). Lubbock, Texas, like St. Louis, is quite a distance from the actual location of the attacks, but the physical space does not disqualify Velasquez from writing his own memory. In the image, the rows of American flags symbolize the transferring of the prosthetic memory into a tangible autobiographical one. I am assuming that Velasquez was not an eyewitness to the plane crashes, but he was present at this specific memorial dedicated to September 11 on the three-year anniversary. Velasquez's photograph represents his autobiographical memory of 9/11 drawn from the nationally publicized prosthetic memory.

The two previous examples exemplify the desire to contribute to a national moment by transforming distanced experience into personalized memory. In *Tourists of Memory*, Marita Sturken argues that by reconstructing the context of events, America's response to national tragedy is often a rhetorical act. By persuading outsiders of our strength even in moments of weakness, "the figure of the innocent victim is contradictory

in American culture because of its implication of weakness, and this often necessitates the rewriting of victims in contexts like 9/11 into narratives of heroism" (Sturken 8). Further, Sturken suggests that Americans have the desire to be "tourists of history: a form of tourism that has as its goal a cathartic 'experience' of history" (9). Neither Dawson nor Velasquez were present at the sites of the attacks, but they were present at their localized memorial celebrations. Dawson's story and Velasquez's photograph illustrate what Sturken calls authentic and inauthentic memories. She states that by visiting sites of trauma, visitors gain a "trace of authenticity by extension" (11). These "sites of trauma" for Dawson and Velasquez are extensions of the actual sites of trauma, but according to Sturken they are inauthentic because of the distance. "The complexity of contemporary media events calls into question the simple equation of physical proximity to a trauma precisely because the media disperses and circulates highly charged images" (Sturken 30). With the digital archives, one's physical proximity to an event no longer takes precedence over the ability to produce a valid memory. Instead, the production of memory becomes a matter of cultural proximity, or how individuals reclaim events for themselves among and within the louder voices of the media.

By writing memory and contributing to The September 11 Digital Archive, Dawson and Velasquez have "authenticated" their experiences by bringing the site of trauma out of the media and transplanting it much closer to their own homes. Whether their experiences are deemed authentic or not, what qualifies Dawson and Velasquez as tourists is, in fact, their distance. "Tourism is about travel that wants to imagine itself as innocent," Sturken notes (13). Tourists stand at a distance; they stand outside culture (Sturken 13). Dawson and Velasquez were certainly distanced from the actual events of

9/11 and were far from the clean-up, the dirt, and the congestion that followed. However, I contest Sturken's claim that viewing the trauma from a distance is a viewpoint "that demands no responsibility" (13). On the contrary, Dawson and Velasquez took responsibility for their own memory of the event by rewriting grief in their own localized way. Even though the grief of losing a family member in the attacks certainly outweighs the pride of distributing flags at a baseball game, they are both separate experiences of the same event. By contributing to the archives, both Dawson and Velasquez have produced memories responding to the call to understand events of national importance. Their contributions, among the thousands of others, are an attempt to "make sense of one's response" to 9/11 regardless of their actual distance (Sturken 30).

The Soweto '76 Archive

The final archive I examine is The Soweto '76 Archive created to supplement the "closed memory" Hector Pieterson Memorial and Museum in Soweto, South Africa (figure 3.20). The Maryland Institute for Technology in the Humanities (MITH) and the Hector Pieterson Memorial and Museum (HPMM) have created The Soweto '76 3D Immersive Archive, allowing visitors to experience what they have named a "digital cultural heritage trail." This Archive is a virtual re-creation of several significant locations during the student uprising in June 1976. Although the digital archive is still being developed, the live demo enables users to read and share their own memories or simply gain a better understanding of the South African Apartheid by "visiting" the sites. Better still, The Soweto '76 Archive gives people access to history in a new way—rather than reading about the important locations and events of the Apartheid, The Soweto '76 Archive brings the experience to the screen by linking related video, text, and memories

in one interactive interface. The interactive features make The Soweto ’76 Archive unique—visitors can add their own personal Apartheid experiences to this site, creating a truly multimodal museum. This archive is unlike the other two I have examined. Visitors actually “see” and “walk through” important locations, like Robben Island, while at the same time contributing to its very structure. The combination of spectatorship *and* contribution makes The Soweto ’76 Archive a new way of learning about history while simultaneously writing national memory.

A visit to The Soweto ’76 Archive is similar to visiting an expansive closed museum. Visitors can walk through and between buildings while reading descriptions of events related to each location. This archive has been designed in collaboration with the HPMM to collect a better understanding of the events of the Soweto student uprising. To briefly recap the uprising, the National Party government mandated that all classes be conducted in a mix of Afrikaans and English (Pohlandt-McCormick, Ch. 2). Since the schools were segregated at the time, Black students rejected the idea of being educated in the language of their oppressors (Pohlandt-McCormick, Ch. 2). The rejection of this language requirement grew and on June 16, 1976, the resistance culminated in a large student protest (Pohlandt-McCormick, Ch. 2). Even though the protest was designed to be peaceful, police opened fire on unarmed students. The death toll is still undetermined, although reports claim that any where from twenty-three to over 200 people were fatally wounded as a result of police violence (Hunter-Gault). The HPMM is dedicated to the students who resisted the government, and even the name of the museum itself signifies the horrific iconic image of the uprising—the dying teenager, Hector Pieterson, being carried in the arms of another student while Pieterson’s crying sister follows closely.

Although the events in Soweto note only one event during Apartheid, its developing digital archive suggests that any current representation of the uprising has not been presented completely. The combination of the brick-and-mortar museum with the digital archive provides people, particularly students who participated in the uprising, a space in which to share their recollections. These new perspectives expand the written experience of the Apartheid in a way that was not possible outside of the Truth and Reconciliation Commission.

The South African Apartheid separated groups of individuals based upon their race, an act that both related and separated the country's citizens. Although that segregation insinuates a 'shared meaning,' individuals were solely identified through their lack—my race is connecting me to a specific group, while at the same time separating me from another because I lack that color. If identity during Apartheid suggested lack, then a post-Apartheid South African identity encouraged citizens to identify through sameness rather than difference. Post-Apartheid, The Truth and Reconciliation Commission (TRC) was established to collect the wide range of experiences of the newly "healed" nation. The TRC hoped that the space would foster recognition and forgiveness; it was a space that was open to any South African wishing to speak about his or her Apartheid experience, however painful. If the TRC provided a space to express one's experience during Apartheid, then The Soweto '76 Archive functions similarly, although on a much smaller scale. However, issues of accessibility complicate the aims of the TRC and The Soweto '76 Archive. While the TRC was a massive undertaking with transcripts filling thousands of pages, there are people who did

not speak out because of pain or fear. Moreover, as large as the TRC was, its enormity also represents the eerie silence of the thousands who died during Apartheid.

Both the TRC and The Soweto ’76 Archive are founded on the basis that people have the desire to share their stories of suffering. The TRC was attempting to unify a nation through pain, although forcing all to verbalize such pain may not have provided much healing after the Apartheid. Consequently, when the pain of the Apartheid was reified through written or spoken language, it became the object for someone else’s perception. As a result, an individual’s subjective experience of the Apartheid was then joined with other Apartheid experiences. With this ‘nationwide’ collection of Apartheid experiences, the TRC attempted to reconcile a nation by moving from the simple telling of stories into an active forgiveness. However, the trouble with the TRC is not that it actually existed, but that it was relating everyone through the sameness of pain. By allowing individuals to tell their eyewitness Apartheid experiences, the TRC transformed these narratives into an act of public (and same) forgiveness. All those who participated in the TRC related to one another because they experienced some sort of similar pain, but in the end, this communal pain conquered individuality by recognizing everyone only through the sameness of pain. The TRC illustrates gathering the personal accounts of Apartheid experiences, all the while fusing them together as a collective South African experience.

That The Soweto ’76 Archive is being developed three decades after the events prompts a few questions. First, the time between the event itself and the official launch of the archive has been significant; the developers of the site cannot be certain that time has not hindered individual perception of the event. Secondly, like the TRC, if The

Soweto ’76 Archive is bringing people together under the auspices of pain, then does the archive become a space of “sameness” through segregation just like the uprising itself? Finally, it is not clear how MITH will make the archive easily accessible or how they will “advertise” the site to Soweto “survivors,” possibly compromising the project before it officially begins.

To help answer some of these questions, I turn to Margaret Anne Clarke’s essay “The Online Brazilian Museu da Pessoa” in which she examines the historical and memorial impact of Brazil’s national archive of personal stories. Even though Clarke’s example is different from The Soweto ’76 Archive and certainly its goals are much more social than the TRC, the Museu da Pessoa (which translates as Museum of the Person) has tackled some similar problems like those I raised above. According to Karen Worchman, the founder and director of Museu da Pessoa, the purpose of the archive is “to record, collect, organize and archive the life stories and personal histories of the nation’s citizens into a public databank and resource” (Clarke 151). The desire to make life stories and personal histories searchable marks a new level of Brazilian history, what Clarke calls a “history from below” (152). This bottoms-up approach to archiving endorses “peer-to-peer” memory sharing by handing over the reigns to everyone rather than a select few. By considering peer-to-peer memory, my reservation about the purity of memory might not be as detrimental, especially since there is no memory or history that is privileged over another. With digital archives, memory actually takes precedence over history. Events of personal significance are more valuable than one, factual account of historical importance. MITH and The Soweto ’76 Archive are attempting to trump history (as it is currently written) by favoring personal memory, even three decades out.

Like Brazil whose citizens were "once marginalized and fragmented by the teleological one-way narrative of 'modernity' and progress," new digital archives allow the voice-less to "open up through the interrelation of multiple memories, narrations and trajectories within space" (Clarke 164). Regardless of the time that has passed between the uprising, the end of Apartheid, and the creation of this digital archive, this new and important form of "cultural democratic practice" has been designed to capture the stories from those "who have been excluded from the channels of economic and political access" (Clarke 153).

Conclusion: *Technemonic* Networks

While it might be a gross oversimplification, if The Soweto '76 Archive follows the popular trend of the Museu da Pessoa and other Web based memes, then contribution to the archive will thrive. Clarke recognizes this trend when she notes: "The creation of networks of memory within social contexts of the present is ultimately to enable individuals and communities to pursue goals in the spheres of democratic participation, cultural affairs, civic activism, and community-based initiatives" (160). Elsewhere, too, the transformation into active citizenry has been noted. In *No Caption Needed*, Robert Hariman and John Louis Lucaites maintain that, "If citizenship is to be an actual mode of participation rather than a merely legal construct, then it has to be articulated in a manner that encourages emotional identification with other civic actors" (17). The emotional identification is the intrinsic desire to become part of a collective by producing and collaborating in memory making. By enabling new access routes to the way an event is remembered, especially to groups whose accounts have been neglected, the digital archive represents an important step towards altruistic computing and collectivities. The

practice of writing and sharing *technemonics* is a moment of transformation, one that is moving away from privileged accounts of history and towards experiential moments of memory.

Chapter 4

Memory Manipulation

On Monday, April 27, 2009, the President's plane, Air Force One, made a surprise visit to the airspace above downtown Manhattan. To many, this fly-by was startlingly similar to the images of 9/11. Even the President's plane (which President Obama was not on at the time) was a little too close for comfort. In an attempt to "get some fresh glamour shots of the plane," The White House secretly ordered Air Force One to fly near the Statue of Liberty (Sataline et al). What the White House did not consider were the ramifications of "reenacting" the plane crashes that preceded this photo-op by nearly eight years. There are several reports of New Yorkers running out of nearby buildings, believing that the fly-over was another terrorist attack—and this time they were going to be ready for whatever chaos lie ahead. Instead, it was a misjudged and poorly conceived plan to spruce up the current images of Air Force One. The most interesting part of this story, however, is not the fact that the plane's flight so closely resembled the 9/11 attacks, but rather the reactions from the public. Glancing through any of the reporting of the botched photo-op indicates outrage from the American public, but there is one constantly repeated comment in the online forums that sticks out among the others: "Haven't they heard of Photoshop?"

The demand for faked photography is intriguing—while photojournalists are responsible for supplying visual truth to the accompanying text, the public's desire for a manipulated photo points to an interesting shift in our acceptance of what's "real" and what's not. Rather than invoking a painful memory, the public's demand for a digitally composed photo also suggests that the integrity of the formation of memory on all levels

– prosthetic, historical, and autobiographical – is at stake. If the public willingly demands forged photographic proof because the pain of the memory is still too raw, then the ethics of visual representation might slip a little further into the sidelines. If manipulated photographs are designed to represent accurate, eye-witness accounts of events, then the possibility exists for the faked photos to become prosthetic memories for anyone who views the images. In this chapter, I question the moment of manipulation: if the photograph was manipulated with the intention to strengthen the evidentiary chain, then can the prosthetic memory be "real"? Is the memory, too, manipulated?

With the ubiquity of technological tools, I wish to probe even further by asking: with all the technology we have to assist our memory, is it even possible to remember anything correctly? Externalized memory devices, utilized for their stability, are certainly fantastic resources for storing all sorts of memories—documents, videos, pictures, and audio files. The flip side, however, is whether these devices can actually help us remember events in the way that they actually occurred. In other words, externalized memory is not a question of whether technologies are "ruining" our memory, but instead it becomes a question of how technologies are making us remember *differently*. In *The Invention of Memory*, Israel Rosenfield argues that memory is constantly prone to re-making (76); regardless of how stable external devices keep our memories, when we return to them we will often re-make the event because of new bias. This new bias might result from one of Daniel Schacter's seven sins of memory, which each suggests that memory is constantly fallible because of time and continual experiences (139). Typically, when we hear "manipulated memory," it brings to mind that there is an outside agent influencing the memory making process. For instance, a

manipulated photo created by a photo editor or a photographer might form our memory of an event incorrectly because it does not represent what actually happened. However, Schater and Rosenfield's arguments each prompt me to consider if memory manipulation might also be 'in the eye of the beholder' since our perception of the event shifts as time passes.

Following this idea, I examine two specific vectors of memory manipulation: external photo manipulation and internal cognitive manipulation. I have selected these two paths because they each highlight different tactics and possibilities for making memory. Moreover, *techne* also resurfaces in some interesting ways here. While photography is used to capture a real event, photo manipulation steps around what naturally occurred to present an unnatural depiction. As a result, photo manipulation and *techne* are an intriguing pair. Photography is problematic from the start simply because of its spatial limitations—no photographer can ever escape the limitations of framing. Although photos are snapped to savor the natural environment in which an event took place, the photo will always omit *something*. I suggest that this unavoidable framing harkens back to the *physis*/*techne* dichotomy: while trying to keep the scene as natural as possible to preserve its actuality (*physis*), a photo cannot escape the fact that it lies outside of the natural by its very existence. The photographed scene has the potential to become something other that what it actually is—the photographer is impeding on the natural environment by snapping one specific, albeit artificial, shot (*techne*). In relation to internal cognitive manipulation, I revisit *techne* in relation to expert knowledge. We believe we are in control of our own memories—I experienced the event, and so I remember it in the way 'I say it happened.' Unfortunately, there have been numerous

studies in psychology that prove that our memories are prone to manipulation on several levels. These studies, which I detail later in this chapter, are exciting for relating *techne* and memory because they prove that expert knowledge (the 'it happened the way I say so' attitude) is less reliable than we tend to believe. Not only do we remake the memories throughout time, but certain studies have also proved that others can actually *implant* memories by suggestive methods or by asking leading questions. Making memory, in this case, again reroutes the natural way we think about our personal memory—we cannot be as confident in our memories because they are constantly prone to recreation.

In order to explore the idea that external memory makes us remember differently, I look at several examples of cognitive research that question if purposely manipulated photographs influence the ways individuals remember events incorrectly, and whether individuals can manipulate personal memory by unconsciously allowing other events to reshape the original memory. Remembering differently and incorrectly is what Christopher Chabris and Daniel Simons name "the illusion of memory"—even though we are convinced that our memory has correctly stored an event or we are certain that we could correctly identify a perpetrator in a line-up, our memories are often influenced by the ways our brains "re-make" and manipulate the memories we believed to be correct (45). Therefore, I trace two paths paved by manipulated memory: external manipulation created by a photo editor and also internally distorted memories resulting from one of Schater's "sins" of memory (e.g., transience or misattribution). These two paths will help answer the following questions: What can photos do to memory? Can photographs become prosthetic memories? What is the tension between photography as a

representation of a real event and the symbolic allusion of memory as "photographs" or "snapshots" of event in our lives?

Memory, I argue, is a persuasive construct—it is not a concrete structure, as we tend to think it is, but rather it is extremely fluid and easily subjected to re-creation by the slightest suggestive details. Rhetorically, these suggestive details indicate that there are several alternative means to create memory, which might result in the ideal persuasive perspective (possibly even the 'wrong' or 'false' perspective) of a given event. If we want something to be remembered differently, several studies imply that manipulating and making new memories is easier than we believe. The double-edged sword lies in the technology itself—the technology that stabilizes and saves our memories (increased and easy storage) is developing as quickly as the programs that can be used to alter our memories (cheap and accessible manipulation software). At the same time that we store our photographs on sites like Flickr, other sites like Microsoft's Photo Tourist or PhotoSynth borrow user content from Flickr to create 3D renderings of places. The uploaded photos have the possibility to become one small part of a larger, collaborative perspective. The convenience of Photoshop and other editing tools make it easier to crop exes out of family portraits and even include new spouses in their place. On the NBC sit-com *The Office*, Michael Scott (played by actor Steve Carell) caused chaos and destroyed his relationship when he substituted his head in the place of his new girlfriend's ex-husband. Her husband and children had been on a ski trip, but Michael altered that photo (which he turned into his Christmas card) so he was on the "family vacation" instead ("A Benihana Christmas"). While this television episode humorously explores the ease with which new technologies can create new memories, it illustrates my point precisely. At

the same time that storage capacity increases and keeping thousands of photographs on our computers, iPods, and phones is the norm, new memories are quickly created with the same advanced technologies that enable personal memory storage. Put simply, the more storage we have, the more possibilities there are to control, alter, rearrange, and create memories with new tools. These new tools expand the role of rhetorical memory because most users have various capabilities to shape the persuasive intent of an image merely by cropping, adding text, or changing the color schemes. Small moves like these can significantly change the persuasiveness of the image, impacting personal memory along with it. In this first section, I examine visual rhetoric and the expertly crafted iconic photograph in order to introduce the idea that imagery is a means of stabilizing memory. The iconic photograph is designed to appeal to a large audience by becoming the single memory of an event. Later, I explore how these iconic photographs, and our memories along with it, can be altered to remember an historical event quite differently.

Visually Rhetorical: Persuasive Images and Controlled Remembrance

For rhetoricians, any visual element accompanying a persuasive argument is critical—photographs are often used to verify the statements of historical events and stand in as a witness for the many who were not there first-hand. We view pictures to supplement the stories, to prove that something actually occurred. When we view pictures of our parents when they were dating, or old images of our grandfathers dressed in military uniforms, these visuals suggest that the stories they have told us over the years are real, and we can place a bit more weight on their truth based on this pictorial evidence. In any case, visual representation is intended to persuade us of its reality—that something occurred in the way it has been told. Photographs are able to bolster reports of

worldwide events so well because they are inherently persuasive. The persuasive aspect of photographs appeals to the same *pathos* of spoken rhetoric. For Robert Hariman and John Louis Lucaites, the iconic photograph's hold on the public psyche is carefully designed to produce an orthodox reaction. "A rhetorical moment was indeed emotional but only because emotions are rhetorical," argue Hariman and Lucaites, "and the persuasive breakthrough achieved by the photo was an example of a polity being brought to its senses by its capacity for feeling" (163). The stable reception of iconic photographs is one thing; the likelihood of that memory becoming manipulated, however, is another beast altogether.

Visual rhetoric scholars Hariman and Lucaites' book *No Caption Needed* explores the rhetorical nature of iconic photographs, their capacity for widespread persuasiveness, and their ability to create stabilized memories and affective responses in mass audiences. *No Caption Needed* is a great place to begin looking at the rhetorical influences of photographs from the perspectives of both the photographer and individual memory, especially because iconic photographs maintain their place in mainstream consciousness by forming a singular, albeit universal, memory of a nationally important event. Unlike a political speech whose message can easily be misconstrued, the images Hariman and Lucaties discuss are iconic because they spark fixed, visceral responses in their audience. Hariman and Lucaties state that, "the iconic image's combination of mainstream recognition, wide circulation, and emotional impact is a proven formula for reproducing a society's social order" (9). I suggest that "social order" can alternatively be read as "controlled remembrance." By creating a single, visual representation to stand in for an event, the mass audience is instructed to remember the event in that one particular way.

Prosthetic memories created by iconic photographs reinforce a controlled rhetorical response. For Hariman and Lucaties, "Iconic photographs acquire rhetorical potential by representing events according to the conventions of those visual arts and persuasive practices familiar to a public audience" (30). Unlike shock artists such as Andres Serrano, whose photograph "Piss Christ" caused controversy in the art world and drew heavy criticism from government leaders, an iconic photograph does not challenge the limits of what we individually consider artistic (Hansen). On the contrary, "whether posing next to a scenic vista in the American West or staging a statue toppling in Iraq, the [iconic] image is composed to persuade" its audience to remember the event through the single image (Hariman and Lucaties 33).

Outside of its predominant reception as the stand-alone memory, there is no alternative purpose for the iconic photograph. The iconic photograph is not designed to challenge our experience of the event, but rather it is created *to become our prosthetic experience* of the occasion. For instance, very few witnessed the Challenger explosion first hand, but the majority of Americans experienced the event via mediated extensions like news photos or on television. Now, the iconic image of the twisted plumes of smoke represent the space shuttle disaster; thus each reproduction of that image is intended to reinforce the empathetic feelings perpetuated by the iconic photograph. These perpetuated feelings are what Hariman and Lucaties call "twice-behaved" behavior: an "absolute dependence on mechanical reproduction that provides photography with its deepest connection to live performance" (31-2).

Interestingly, however, the repetition of iconic photographs does not make them immune from memory distortion. We often think we create immovable "flash-bulb

memories" of significant events, but even these seemingly stable memories can be influenced by the "sins" of memory. As a term first used by psychologists Roger Brown and James Kulik in 1977, flash-bulb memories are "extremely vivid, long-lasting memories for unexpected, emotionally laden, and consequential events" (Talarico and Rubin 455). Moreover, cognitive psychologists John Neil Bohannon, Sami Gratz, and Victoria Symons Cross have found that these seemingly 'untouchable' mental images are just as prone to manipulation over time because we often discuss and seek out information about consequential events more actively, thus inadvertently re-shaping the original memory (1028). This type of individualized manipulation is very interesting, especially because it suggests that although an iconic image is created to become *the* memory of an event, our own brains create new memories of the event that we didn't even experience first hand. As a result, the prosthetic memory that we internalized from the original photograph – a memory that we *only* experienced from that photo – is not the only memory of the event we might have. Rather, our own biases and personal experiences will later cloud our perception of the photo, thus making new memories—a cognitive blend of prosthetic and autobiographical influences.

In what follows, I look at several examples of photo manipulation in order to explore digital technologies and memory. By examining the blend of photography and digital technologies, I argue that memory becomes much more fragile and prone to inaccuracies and misinformation. I look at several studies that explore the impact of photo manipulation on creating distorted memories (autobiographical and otherwise). I also argue that my interpretation of *techne* as a form of control, as a creative force, and as

expert knowledge all become more relevant and intricate with the introduction of digitally manipulated photographs and internally altered memories.

Photo Manipulation: Photojournalism

Techne and photo manipulation are in an interesting couple: while both use artistic means to overcome nature, there are limitations to both. Altering images presents an unnatural viewpoint—an event did not happen in the way it is presented in the photograph. A manipulated photo resists the natural presentation of an event, and favors an unnatural representation of what occurred. Since manipulation alters the natural qualities of an image, then the line between actuality and potentiality also becomes a bit finer and more difficult to straddle. In what follows, I explore memory and photo manipulation. Initially, I argue that photo manipulation is similar to the techniques of the Sophists who repeatedly tricked their audiences by making weak arguments appear stronger by carefully employing deceit. I then continue by exploring the role of "truth" among the Greeks while also turning to Heidegger for some insight. If, as Heidegger noted in *The Essence of Truth*, that truth for the Greeks meant "unhiddenness," then the manipulated images are certainly hiding elements of the truth via alterations. Finally, I turn to Plato's *Theaetetus* to examine the connection between knowledge and perception, and link this idea to the creation of false memories by viewing altered photographs.

With photo manipulation, there is a definitive point of departure between fact and fiction. Unfortunately, the only one who truly knows the difference is the producer or editor of the image, and not the intended audience. Manipulated photos are not easily spotted, and it often takes a careful eye and the magnification power of computer aided drawing tools, such as Photoshop, to pinpoint the infraction. The difficulty of sighting a

manipulated photo is why there have been so few well-documented cases of manipulated news photos. In April 2003, the *Los Angeles Times*' photojournalist Brian Walski digitally combined some of his photos from Iraq by selecting certain elements from two different photos to create a false composite (Kitalong 43). That photo, which ran in several papers across the country including the *LA Times* and the *Hartford Courant*, ended up becoming a disgrace to the profession, resulting in Walski's firing (Kitalong 43). Instances like the discovery of Walski's manipulation might have some correlation to the 2005 Consumer Reports WebWatch national poll revealing that "30% of Internet users said they have little or no trust in news sites to use pictures that *had not been* altered" (Ritchin 31, emphasis mine). And if general trends in Internet news readership have only increased from the time of that poll, then a similar study today might yield even less trust in images.

These numbers are startling for a few reasons. First, photojournalism offers "proof" to readers—the images should maintain a level of continuity between what is written and what is shown. Second, the trust in images is waning, causing a rift in effectiveness of journalistic proof, which is not entirely dissimilar to the discovery of plagiarism cases of reporters, including *The New York Times*' Jason Blair and Zachery Kouwe ("Times Reporter"; "Time Business Reporter"). Furthermore, objectivity and accuracy for both reporters and photojournalists is critical to the sanctity of the profession. As photography reporter Frank Van Riper noted, "*news photographs are the equivalent of direct quotations* and therefore sacrosanct" (qtd. in Kitalong 45, emphasis in original). The Associated Press, too, has warned its photojournalists about photo tampering: "The content of a photograph will NEVER be changed or manipulated in any

way" (qtd. in Brugioni 5). Although these professional boundaries have been set, many newsrooms still take liberties to edit out what is "journalistically irrelevant," removing a Diet Coke can, for instance, to "clean up" a shot (Brugioni 8). If photojournalism's task is capturing and reporting the reality of events, then these blurred ethical standards of reporting become trickier to ignore. If the audience displays a growing distrust in the visual *and* written proof of professional reporting, then certainly the ethical boundaries of the press are at stake. Even within the journalism community, doubts swarm about the promise of photojournalism's future: "The next great photographers—if there are to be any—will have to find a way to reclaim photography's special link to reality" (qtd. in Richtin 185). What's even more important is the rhetorical nature of these images—the photos are not doctored to "soften the blow" of disturbing images, but rather they are manipulated to increase affective appeal in the audience.

Let me briefly return to Brian Walski's case to illustrate. Walski combined two different photographs, borrowing essential elements from each to create a more widely appealing, and ultimately more persuasive, image. In the composite image, Walski grafted a British soldier onto the background of a separate photo of seated Iraqi civilians (Richtin 35). Even though some argue that Walski's alteration is quite similar to any photojournalist who snaps a series of staged photographs, what is at stake is the creation of a false event. If photographers alter the coloration and layout of images specifically for the manipulation of emotional appeals, then the intended use of the original photo is altered, too. The final photo represents an event that never occurred, or at least it did not occur in the way it is presented visually. By viewing the altered image, the audience is reacting to the manipulated event, and not the actual one. As a result, I am interested in

the intersection of the manipulated image and the (newly created) intentional use that the viewer receives from viewing the manipulated image. When dealing with manipulated images, where do the ethical boundaries of actuality end and potentiality start? Does creating memories out of altered images distort the intended use? Should the images, and those who alter them, live up to specific codes of ethics with particular attention to the formation of memory? Furthermore, if prosthetic memories can also become autobiographical memory (as discussed in the previous chapter), what happens when these false memories are internalized? Do these fake memories become organic even when they are based on false grounds?

Before I continue, let me take a moment to explain exactly what types of photographic manipulation I am interested in. For my purposes here, photo manipulation can be placed in two camps: aesthetic and photojournalism. The aesthetic type of photo manipulation involves using technologies to rearrange, add, subtract, and otherwise change the look of the piece to increase *pleasure* or even disrupt the *reception* of the image. I am not interested in aesthetic manipulation in this chapter. I am, however, very much intrigued by photojournalism's use of manipulation; in particular, the ways that photos are used to provide additional "proof" of an event. When news organizations use photos as evidence, they are entering into an ethical obligation with their audience: we (the news organization) are presenting these facts to you (the public) as a responsible and legal representation of the event. Visual media theorist W.J.T. Mitchell suggests that images of earlier historical events were more easily staged because viewers did not have access to a broad range of images against which to crosscheck their validity (43). Video clips of an Italian cement factory "passed" as images of Chernobyl because no one knew

what Chernobyl should have looked like (Mitchell 40). I argue that these slippages are no longer as easy, since more widely accessible means of taking pictures has led directly to the increase in available "proof." There are several Web sites that invite users to contribute personal photos of recent vacations to their large databases. Microsoft's project Photo Tourism asks users to upload personal photos of exotic or tourist locales. Photo Tourism then compiles the images to create a 3D rendering of the location. In other words, if an event like Chernobyl were to occur today, sites like Photo Tourism can provide visual details of a specific location compiled directly from amateurs' photos. Fake photos might be easier to create, but they are also becoming more difficult to pass off as the real deal.

When an event occurs and there is documentation (or provenance, in the art world) to "prove" its existence, we go along with the story. Unless it is proven otherwise, the event becomes a part of our personal or national histories. However, we usually do not realize that we have been duped until long after the fact. Stories like "The Balloon Boy Hoax" in 2009, for example, when a reality TV obsessed family used their children to rouse the media into believing their youngest son was whisked away in a homemade air balloon. Fortunately, the young Falcon Heene was not harmed—and it was later discovered that he never made it into the balloon after all. During one (of the many) television interviews, Falcon stated that his parents "did that for the show" causing the Heene's elaborate plan of Reality TV fame to come crashing down ("6-Year-Old").

But before Falcon 'spoiled the story,' anyone watching the news that day remembers images of the jiffy-pop shaped balloon causing the media frenzy. The difference between actuality (Falcon was never in the balloon) and intended perception

(the Heene's wanted the public to believe their son was 'carried away' by the airborne vehicle) is similar to the tension I wish to look at in this section. Now, while the balloon boy story was proven false rather quickly, this chapter interrogates the instances of manipulation that have greatly impacted the views of certain historical events, like Tiananmen Square, very prominently. On the grand scale, photographs of Stalin's armies or pictures of UFO sightings, or the company Abraham Lincoln kept have been doctored to heighten solidarity or strike fear in order to be remembered in a certain way. Because we rely on images – and often those taken by journalists we should trust – the notion of photo manipulation becomes a bit thornier with the ease of photoshopping and enhancement.[2]

More regularly, we use our cell phone or other digital cameras to snap a quick picture of someone famous, a humorous billboard, or a random passerby doing something oddly amusing. These images bolster the stories when we retell them later on. By viewing the pictures, our friends and family don't dismiss the story, but render it believable instead. Photographic proof has often been a source of evidence, strengthening our claims by providing a layer of visual truth. A widely publicized example has been the exposé of Sabrina "Thumbs-Up" Harman. Photographs SPC Harman took as evidence that the Army had lied about a death of an inmate at Abu Ghraib were alternatively used against her as "proof" of tampering with evidence. On the one hand, the Army stated that by unzipping the body bag and moving bags of ice to take

[2] Even though I will not spend time discussing the ethics of digital enhancement in terms of beauty magazines, it is worth acknowledging its effects on the public in general. The influence of such images creates a strong memory in the minds of young females (and more increasingly young males) that they must live up to a specific image in order to be taken seriously or even considered worthwhile. While I am not disregarding the importance of gender disparities of image formation because of technological tools, I will not be discussing that here and I save that conversation for others.

photographs of the dead body, Harman was tampering with the evidence of the inmate's death. On the other hand, Harman argued that she took the photos to prove that the inmate was actually murdered, but the Army was passing it off as an accidental death.

In a letter to her partner, Kelly, Harman stated, "Yes, they do beat the prisoners up and I've written this to you before. I just don't think it's right and never have. That's why I take the pictures – *to prove the story* I tell people. No one would ever believe the shit that goes on" (Morris, emphasis mine). Harman's photographs indicate that while she knows her memory of the event is correct, relating that to others might prove difficult, even impossible. The photographs of the dead body – her shareable, photographic proof – clearly eradicate any doubt of her claim that the inmate had not died of a heart attack as the Army had claimed, noted by the massive amount of blood in his nose and other physical signs of abuse (Morris). By taking the pictures, Harman was creating evidence of an event that she knew would be difficult, even impossible, to prove without photographs. Not only did Harman take the photos because she did not want to forget the horrific events, her allegations that she was falsely convicted rested in her photographic evidence.

The case of "Thumbs-Up" Harman illustrates two ideas: that photos are relied on to stand witness for absent audiences but they can also be misleading, misguided, and inaccurate. W.J.T. Mitchell argues that for many, photographic proof is nearly identical to scientific objectivity: "The photographic procedure, like these scientific procedures, seems to provide a guaranteed way of overcoming subjectivity and getting at the real truth" (28). The photograph *should* be the end-all, be-all object of supporting evidence; but with the availability of inexpensive and free manipulation software, photographs are

becoming less reliable because of the possibility of alterations. Digital photographs can be altered in order to bolster the claims of an argument; in Brian Walski's case, neither photograph was provocative enough on its own but the strong composite was widely published across the country.

Dino A. Brugioni, one of the founders of the Central Intelligence Agency's photographic interpretation center, names four different types of photo manipulation which he argues are equally unethical: removing details, inserting details, photomontage, and false captioning. *Removing details* purposefully crops parts of the image to draw attention to a specific focal point. The omitted details would have distracted the audience or are deemed irrelevant by the photo editor. The second type, *inserting details*, is exactly the opposite: the photo editor enhances the photograph by inserting images, multiplying audiences, or adding small but significant features that were absent in the original scene. When a photo editor merges two different photographs, it is called a *photomontage*. A photomontage might take the top of one photo and place it on the bottom of another, or the photo might be a composite of two or more photos with the intent to create a new scene, like the Walski case. Lastly, *false captioning* is the incorrect labeling of a photo, leading the audience to believe that what they are viewing is actually something else. For instance, one of the more well-known cases of false captioning is Robert Capa's "Death of a Loyalist Soldier," whose validity has been widely debated. Some argue that Capa's "Death" either did not take place at the location that he claims and others argue that the soldier was merely slipping as the photograph was being taken, then falsely labeled to incite empathy (Mitchell 40).

When news organizations take the liberty to distort the image through any of these four tactics, they are altering the persuasiveness of the text in such a way that brings the readers along on a journey that might not have been intended by the original picture. That is to say, the manipulated photo stands in for the actual event, creating a new memory – a false memory – of the occasion. I am not discrediting all forms of photojournalism—there are many more examples of untouched photos than manipulated ones. Photojournalism provides readers with a level of accuracy that text is not always able to accomplish. However, when altered images are used to be persuasive pieces in themselves or along with accompanying text, then their rhetorical boundaries become confused and even unethical. The images become unethical because they no longer represent the truth, and are encouraging their audience to remember a situation in a way that did not actually occur. These events are then documented and remembered incorrectly by the masses that trust the images, thus creating a moment of disconnect between the actual event, the manipulated representation, and the formation of prosthetic memories.

Sophistic Images

By employing one of the four types of photo manipulation, editors and photographers are increasing the rhetorical nature of the image itself. Essentially, they are making the weaker image much stronger by repositioning our gaze towards the most persuasive aspect of the image. Editors might crop the edges, enlarge the overall size, or change the coloring to emphasize specific affective appeals. Two well-documented cases of photo manipulation can help explain this idea. On the cover of its February 1982 issue, *National Geographic* presented an image of the Egyptian pyramids, but "abridged

the space between one pyramid and another" (Rosler 39). As a result of this image, many questioned if the abridgement duped the believing public into thinking that the pyramids were closer together (Rosler 39). For some this adjustment was simply bringing additional, necessary information into a smaller frame, but other readers became immediately distrustful of the magazine's photographers because of the artistic freedom they used to augment the image (Rosler 41). The cover was not large enough to contain both pyramids and appear visually enticing; to increase the cover's rhetorical appeals, the editors moved the pyramids closer to one another. The resulting image is more exciting because it situates the pyramids by emphasizing their enormity. In actuality, the pyramids are that large, but they are not in the close vicinity as the manipulated photo presents them. *National Geographic* strengthened the image by altering the weaker image into one more visually convincing.

Another example, also on a magazine cover, is the infamous mug shot of former football star O.J. Simpson. Two magazines – *Newsweek* and *Time* – featured Simpson's mug shot on the covers of their June 27, 1994 issues with one glaring difference: the tone of his skin color (Clayssen 74). On the *Newsweek* cover, Simpson's mug shot was printed without any manipulation, but a quick glance at the *Time* cover indicated that one of the photos was altered. On the *Time* cover, Simpson's skin tone was noticeably darker and many suggested that *Time* altered the image to make Simpson "look diabolical" and incite racial bias against him (Clayssen 74). By darkening his skin tone, the *Time* cover hoped to draw on some of their readership's possible prejudices and provoke a certain reaction (of fear, perhaps) in their audience.

The instances of manipulated cover photos points to an interesting connection to ancient rhetoric: the Sophists. Just as the Sophists made weaker arguments appear stronger, the cover photos accomplished the same task by altering the original, but rhetorically weak, image. Sometimes when I think of the Sophists, a clichéd phrase comes to mind: "by any means necessary." Many rhetoricians, myself included, often describe the Sophists as tricksters, people who utilized deceitful tactics in order to appeal to their paying customers. These tactics were not often kosher, since the Sophists would merely learn about their customer, and imitate or "flatter" them to gain trust. We can see a resurfacing of 'Sophists' in today's culture—Sophists are people who have moderately advanced knowledge about many topics because they know where and how to find and apply it. Unlike someone who has *techne*, a Sophist does not master one subject but rather dabbles in several. Rather than hanging a shingle and advertising one quality skill, Sophists can match the needs of their customers via flattery or "dinner party knowledge": just enough knowledge to appear well-informed, but actually only enough to make it through a superficial conversation. A Sophist is customer conscious—they ask, "How can I better serve my clients?" The paying educational customer was a new idea introduced by the Sophists, a notion that is not at all foreign to anyone swimming in thousands of dollars of financial aid debt today. While it is unfortunate to hear our students moan when they "feel that they deserved a better grade" simply because "they paid for the class" (or, more annoyingly, that "the customer is always right"), can we learn anything about customer care from the Sophists? I have often thought "sophistic rhetoric" to be a redundant term—if we are dazzling someone with our rhetoric, are we not 'tricking' him or her into something they did not previously believe?

The Sophists were skilled in the art of deceit, a skill quite different from rhetoric in general. The difference lies in the way someone is manipulated into believing one side or another. The Sophists would learn about their "clients" in order to provide the best service possible—the Sophists would imitate their clients by learning about their interests and motivations. In Plutarch's "How to Tell a Flatterer from a Friend," for example, we encounter the ideas of flattery, imitation, and responsibility. Plutarch notes that a flatterer is someone who acts like a friend, but with selfish, reciprocal intentions—a flatterer is a "counterfeit copy of ourselves" (4). If Sophists utilize flattering discourse to appeal to their customers, then the element of pure persuasion is tainted from the start. Like the magazine covers, the images were manipulated to present a more flattering, appealing, and persuasive final version that might rake in more customers. The Sophists only present what their audience wants to hear, not the messages that are necessary to evoke truth. The *National Geographic* cover would still have looked appealing with one pyramid, but bringing a second one closer only added excitement to the issue's theme. Whether emphasizing exciting and timely facts or manipulating a photo to increase its persuasiveness, all types of alteration are intended to shift the audience's original interpretation towards a new perspective.

At stake, then, are the larger consequences of rhetoric. In "Encomium of Helen," Gorgias argues that, "Speech is a powerful lord, which by means of the finest and most invisible body effects the divinest works: it can stop fear and banish grief and create joy and nurture pity" (52). Just as the flatterer can play up to anyone, discourse can do the same. Discourse, flattery, and the Sophists are tricksters one in the same: "The effect of speech upon the condition of the soul is comparable to the power of drugs over the nature

of bodies. For just as different drugs dispel different secretions from the body, and some bring an end to disease and others to life, others make the hearers bold, and some drug bewitch the soul with a kind of evil persuasion" ("Gorgias" 53).

So far, this logic still aligns Sophistry and rhetoric, but the two depart rather quickly from here. There is additional motivation for the Sophists—money. Most people find rapport with others who are similar in one way or another, and the Sophists made this natural relation their advantage. For Socrates, Sophistry was as uncouth as one could get; rather than exploring philosophical truths for the sake of pure understanding, the Sophists were driven by money and ensuring client satisfaction. Even though the Sophists claimed they were in the same business as the "true rhetoricians," and while Plato, Socrates, and Aristotle's hostility has been the main source of information about the Sophists, still many scholars of antiquity refuse to accept their teachings as valid forms of rhetorical instruction (Kerferd 4). Rather, Socrates and others dismissed their foray into for-profit education as a means of deceiving anyone by any means necessary. Socrates taught in order to share knowledge with others, and he would never imagine charging for philosophical inquiry because it was natural to question and understand the outside world. The Sophists, on the other hand, recognized that they could attract more customers simply by widening their reach—if they promised to know a little about everything, then their services would certainly become attractive to more customers. To accomplish this task, the Sophists transformed weaker arguments into much stronger ones by embellishing and manipulating their customers through pleasure. The pyramids looked more pleasurable because there were two large structures on the cover instead of one (or even two separated by their actual distance). Darkening Simpson's skin tone,

while not pleasurable, certainly was an attempt to strike a reaction in *Time*'s paying customers by communicating a strong, albeit racist, message. As the Visitor states in Plato's *Sophist*, "One part of the wage-earning type approaches people by being agreeable, uses only pleasure as its bait, and earns only its room and board. I think we'd all call it flattery, or expertise in pleasing people" (222e7-223a1). If pleasure is the goal of the Sophists, and there is not one specific route to achieve pleasure in all audiences, then Sophistry cannot be a *techne*. This logic, however, has prompted many before me to disqualify rhetoric as a *techne*, too. To explain, since rhetoric proceeds by persuading people via pleasure, then there cannot be one straightforward method of rhetorical persuasion. However, *techne* can be messy (T2) as long as it aims towards the end function. In other words, if rhetoric aims at persuasion through pleasure, then it can be considered a *techne*.

But what does all this mean for photo manipulation? I have suggested that altering photos is similar to the Sophists' technique of making weaker arguments appear stronger, but is this manipulation considered a *techne*? Photo manipulation is one form of *techne* simply because it reroutes the boundaries of the natural object in order to present an artificial construct. While photography cannot escape the limits of the frame, we can avoid the temptation to crop people out of a shot, enlarge or edit the image to create a more stimulating and persuasive end result. The *content* of the photograph is where we can see *techne* coming into play. When I snap a photo, the content of the photo cannot change itself into something more persuasive. In order to make a weaker image stronger (let's say my friend blinked in one of the photos), I can later retouch and manipulate that image to make it more persuasive (that we were all attentive and had our

eyes open). An outside agent must manipulate the content of the photograph—it cannot manipulate itself. Photo manipulation, in this sense, can be considered a *techne* because of the necessary outside agent altering the content.

Hiding in the Shadows: Photo Manipulation and Unhiddenness

When I perceive my favorite piece of art, I am drawn to it for several reasons. Even if my number one choice happens to be someone else's, too, the details we each find pleasure in will likely be different. I might attend to a certain color palate while another might notice the narrative of the scene itself. There will always be conflicting interpretations of the same work, and any attempt to verbalize the visual will likely cause confusion. But what causes these differences of interpretation are not in the artwork itself; rather, interpretation becomes a matter of individual experiences forming one's perception. In this next section, I suggest that photo manipulation leads to a "hidden" or untruthful presentation of a given event because it purposely disguises and deceives its audience. Even though the audience is often kept in the dark about the actual image, it does not negate the fact that the manipulated image is passed off as the real deal. In *The Essence of Truth*, Heidegger examines one of the most recognized philosophical dialogues, Plato's cave allegory. For Heidegger, the importance of the cave allegory lies in what it means to know truth and how one acquires knowledge of the truth itself. The shackled prisoners in Plato's cave know the shadows reflected on the wall not as shadows, but view them as reality since they have never seen anything else (*Republic* VII.514a-b4). Their perception of what is real is informed only by what they have seen projected on the wall in front of them. However, when one of the prisoners is unshackled and is able to roam away from the cave, he is in disbelief at the world around him. The

cave is the only "reality" he has known, and his new experiences outside the cave appear faulty and unbelievable (*Republic* VII.516a-b). After some adjustment, the freed prisoner realizes that what he has experienced as reality has always only been a false representation, a shadow, and that his new perception of the outside world is actually the truth. For Heidegger, this new way of perceiving is the major divide; while truth is revealed through unhiddenness (i.e., being unshackled and "seeing" for the first time), the un-true is hidden by the shadows.

For Heidegger, complete truth is more than what we know to be "true." Truth must be revealed through complete transparency. The cave dwellers thought the shadows were true, and they were proven wrong only after the unshackled man discovered otherwise. The shackled cave dwellers, for instance, believed the shadows as truth. Since they had nothing else with which to compare the shadows, there was no need to conceptualize that the projections were anything but reality itself. The actual truth was hidden—they could not access any other form of truth because they were physically unable to move. When the unshackled prisoner realized that people moving about outside of the cave created the shadows, he then linked their movements to the shadows. The correspondence between the outside world and the mere shadows in the cave is truth—an understanding of the reality beyond the cave (Heidegger 2).

When Heidegger argues that, "truth as correctness is grounded in truth as unhiddenness," this statement becomes a critical moment for understanding manipulation and memory (26). Because photo manipulation has the possibility to significantly alter memory, then the means of producing that manipulated photo lies in some sort of hiddenness. By taking the form of one of the four types of photo manipulation described

above, hiddenness leads to a misrepresented truth. Walski's case, for one, hid the fact that there were two images used to create the final montage, and the end result was a false representation passed along as truth. When an audience (unknowingly) views a manipulated image, the nature of photojournalism allows the photo to be perceived as truth. Memory, then, can become skewed merely by the implication that the photo represents truth.

The audience does not recognize, however, that the truth is actually hidden by manipulation, thus leading to false memory creation. In a series of experiments, researchers questioned whether manipulated photos of well-known events could alter existing memories. In the article "Changing History: Doctored Photographs Affect Memory for Past Public Events," Dario Sacchi et al purposely alter the iconic image of Tiananmen Square. In the actual photograph, one man is facing down four tanks in the middle of an empty street. To alter the image, the research team added large crowds on both sides of the tanks, creating a more populated atmosphere than the original event. The creation of the second image was intended to test the level of memory reconstruction—how do visual alterations affect the way we remember an event incorrectly? To characterize the photo alteration's possible affect on memory, the researchers coined the term "post-event misinformation": the process that "can lead people to recall events differently from the way they actually occurred, or even to recall wholly false events that never occurred" (Sacchi et al 1066). By showing the participants the altered image, the researchers hypothesized that it would result in a "source-monitoring error," a memory error that links actual events with an incorrect false representation (Sacchi et al 1066). In this situation the subjects remembered viewing

iconic images of Tiananmen Square, but wrongly identified the additional crowds as a part of the original photo.

These results point to the complexity of manipulated photographs on the creation of memory. By selecting an iconic photograph for their experiment, one that is extremely recognizable worldwide, the research team was purposely toying with the likelihood of memory manipulation. The photograph was edited only slightly, but the entire rhetorical appeal of the image changed by inserting large crowds witnessing the event. Even though the iconic image was mass-produced, the inserted crowds symbolized that the single-man protest had become a spectacle. As a result an altered photo "may have a stronger effect than merely influencing our opinion; by tampering with our malleable memory, they may ultimately change the way we recall history" (Sacchi et al 1021).

The suggestion that manipulated photos not only change our personal memory but also influence the ways we recall history is a significant shift in how we view prosthetic and autobiographical memory. Because we have the ability to create memories of events at which we were not present, we make that memory based on the experience at a distance. This memory then becomes part of our collection—the stockpile of memories we have saved over our lifetime. This collection, however, functions differently than we might imagine. Rather than a file cabinet full of neatly sorted and easily accessible memories, the collection serves as a repository that can be searched, compiled, and even made into new memories. There is no doubt that many people have viewed the Tiananmen Square photograph, but our attention is usually directed toward the 'main event'—the protester. By focusing on the protester rather than on the periphery details (e.g., whether or not there were crowds lining the streets), the subjects in the study could

reasonably endorse the altered photograph. The idea of a crowd watching an important event is not unusual at all—many important, and memorable, scenes occur in front of a large audience. Based on similar past experiences, our memories are prone to manipulation because they combine similar or repeated events with built-in expectations. By blending the expectation of a crowd with the actuality of the single-man protest, the brain concluded that the altered photograph was a likely possibility.

Returning back to the cave allegory, the known reality (the original Tiananmen Square photo) and the newly introduced one (the photo with additional crowds) highlight the tension between our memories, our knowledge, and the possibility of their manipulation. While some might say that the still-shackled prisoners were not "manipulated" in the way I am using the term, I argue that "manipulation" is indeed similar to the ways we are duped when looking at false images. If we view only the false image (like the *National Geographic* cover or Walski's photo), then we do not know otherwise. Like the cave dwellers, we cannot distinguish between what's real and what's simply a projected image or manipulated photograph. The Tiananmen Square experiment shows that viewing another image that closely resembles the original, but is manipulated ever so slightly, can cause changes in seemingly embedded memories.

Theaetetus: Perception into Knowledge

Until this point, I have argued that memory can be manipulated by viewing an altered image. Manipulation occurs because the brain finds the image possible—it connects related memories in order to verify the likelihood of the current photo. If, however, truth is discovered through knowledge and understanding, then photographs run the risk of distorting the truth, hiding it from the audience. As Heidegger argues,

unhiddenness – pure transparency – is truth. But how do we acquire the knowledge in order to understand truth? In *Theaetetus*, Socrates examines the relation between knowledge and perception by questioning if they complement or hinder each other. Since it is impossible to define anything through its own definition (e.g., "a man who does not know what knowledge is will not understand 'knowledge of shoes' either"), Socrates asks whether we can understand a thing if we do not know already what that object is (*Theaetetus* 147.b4-5). How, then, can we understand anything if we do not have some sort of previous knowledge? To begin, Socrates asserts that knowledge is perception and we only perceive what we actually know. Rather quickly, this logic becomes muddled when Socrates introduces memory: when we are trying to remember an object, do we not know what the object is at the time we are trying to recall it? Can we know and not-know simultaneously? For Socrates, the moment in question is the lag time between recognition and naming (Derrida would later call this "différance"): "If a man has once come to know a certain thing, and continues to preserve the memory of it, is it possible that, at the moment when he remembers it, he doesn't know this thing that he is remembering" (*Theaetetus* 163.d1-6)? In other words, in the moment we perceive an object, there is a small gap before we are able to identify it. The gap might mean that we truly do not know what it is, but that would mean that we know nothing because there is always a slight delay in perception and identification. This is troubling for Socrates because it hints towards the idea that all knowledge must be presupposed somewhere—how would we acquire the knowledge of something without actually knowing it? As a result, Socrates concludes that, "perception and knowledge could never be the same thing" (*Theaetetus* 186.e9-10).

Even though Socrates asserts that perception and knowledge are not the same, he notes the heightened possibility of false judgment: "in the case of things we do not know and have never perceived, there is no possibility of error or false judgment" (*Theaetetus* 194.b1-2). If we do not have knowledge of the object, how can we be certain that the thing we perceive is true?

Knowledge is agreed upon and shared perception—if I rename my computer a "typing machine," it will quickly become confused with other antiquated technologies. Instead, to be recognized as a computer, the name for the machine I am using has been determined by consensus, not by my own perception and naming process. False judgment, then, is something different than "a misapplication of thought to perception; because if this were so, we could never be in error so long as we remained within our thoughts themselves" (*Theaetetus* 196.c4-7). Even if I call decide to call this computer a typing machine, not many people would ever agree with me and start calling their PCs the same. However, false judgment is different from an imbalanced interpretation. Even if I decide, "So what, I like 'typing machine' so that's what I'll call it," my proclamation will be correct *to me only* because that is how I have perceived and named this device. 'Typing machine' is no different than 'PC' or 'MacBook' if and only if that is my personal perception. In this case, my personal perception cannot be a false judgment because that is *my* perception of the object. On the contrary, it is unlikely that 'typing machine' will bring to mind 'MacBook' for anyone else. Because it is neither recognized nor perceived by that name by the majority, calling my computer a 'typing machine' becomes a false judgment.

Manipulated photographs might be considered false judgments only if we can identify that they are incorrect. If we view a photo that we do not know is altered in any way, there is no verification process to show us that there is another reality (the true, untouched image) somewhere else. False judgment can only happen if we recognize another option; it cannot occur if we are introduced only to one route. In the next section, I look at some rather interesting studies that have been conducted on the premise of false judgment—personal memories. While we expect that our autobiographical memory is accurate, these studies indicate that it is far from perfect, and is actually rather susceptible to misinformation, alteration, and even implantation. What happens, then, if we lose control over our own "expert knowledge" of our personal experiences? How can we trust our own memories knowing that they can be so easily tricked? As a result, the notion of rhetorical memory becomes twisted, too—our autobiographical memories can even 'persuade' one another to be recalled differently.

Memory Manipulation: Cognitive Misattribution

Because memory is a highly persuasive and malleable construct, it can be distorted and skewed quite easily. Like rhetoric, memory is not always trusted; in fact, the studies that I explore in this section suggest that memory is much less reliable than we think. I argue that rhetorical memory – memory that we employ with the intent to persuade – needs to be reconsidered in light of its cognitive malleability. Over the years, rhetorical scholars have debated the meaning of "rhetoric"—is rhetoric merely the "available means of persuasion" as Aristotle argued, or is it more specific? Some might even label rhetoric as pure manipulation, as noted above by the distrust of Sophistry and more recently by the many evening news talking heads claiming any political movement

that garners some type of support is "mere rhetoric." Such "mere rhetoric" is often sloughed aside because popular pundits note that it is only a ploy of powerful politicians to sway us to their side. And while this might be true to a certain extent, those of us in rhetoric studies must understand how true rhetoric keeps its audience in the loop. Rather than persuasive activities being squandered away as mind-numbing 'mere' rhetoric, I argue that recent studies in psychology on memory offer some interesting commentary on how easily autobiographical memory can be persuaded.

Memory Re-creation

One of the most interesting and important studies of memory creation is one familiar to anyone who has taken an introductory psychology course, and it illustrates the malleability of memory and the heightened possibility that our brains unconsciously fill in missing links. The basic structure of the DRM Paradigm (named after the original creators of the test Deese/Roediger/McDermott and pronounced "dream") is a list of "semantically related words, such as *sour, candy, sugar, bitter, good, taste*" which each participant is required to learn and keep in her memory for a short time (Hicks and Marsh 375). A bit later, when the participants are asked to recall as many words from the list, most will respond by naming some of the items on the list, but many will also add a "missing link" word even though it did not appear in the original string of words (Hicks and Marsh 375). For the list of words above, Jason Hicks and Richard Marsh identified "sweet" as the critical lure—the non-presented, albeit related, word that most participants claimed to be one of the original words. This study, replicated dozens of times with various word combinations, highlights the likelihood that our memory changes and adds to our original perceptions over time. As proven by the DRM Paradigm, even though we

believe we are recalling the correct information, our memory incorporates related ideas or words, filling-in-the-blanks to round out the event. Even though "sweet" was not one of the words, most participants recall it due to its relation to the other words. The DRM Paradigm is critical to understanding that memory is constantly made within our own minds, and that stable memories are almost impossible. Although information technologies promote stability, viewing or hearing other accounts of the event can manipulate our memory long afterwards. Studies like the DRM Paradigm indicate that we are constantly prone to the creation of false memory—even when we think we remember an event one way, our unconscious is likely to link it to other seemingly related events and it becomes remembered differently.

False memory creation is a result of content borrowing from other events, as noted in the article "Compelling Untruths: Content Borrowing and Vivid False Memories." Content borrowing, or phantom recollection, is defined as a process "in which details from presented items are errantly borrowed to corroborate the occurrence of the false memory item" (Lampinen et al 954). The incorrect insertion of the word "sweet" when trying to recall the original list occurs because there has been some previous relation between "sweet" and the other words on the list, such as "candy" or "sour." The connection between "sweet" and "sour" or "sweet" and "candy" is based on conceptual familiarity, "a biased search for episodic memory for details that would corroborate the feeling of familiarity" (Lampinen et al 955). To further illustrate exactly how content borrowing works, Lampinen et al provide another example:

> Imagine a participant is listening to the DRM list for the critical lure *doctor.* The list includes the word *physician.* Imagine that upon hearing the word *physician,* the participant is reminded that he or she has an appointment in the coming week. On a later recognition memory test [a test where participants indicate if the word

> was on the 'old' list or is a 'new' one], the participant is presented with the word *doctor*. Because the word is semantically related to a large number of presented items (i.e., the entire DRM list for *doctor*), the word will likely seem highly familiar to the participant. The participant may then search his memory for content that is consistent with having previously encountered the word *doctor*. This memory search may lead the participant to retrieve a memory for having thought of the upcoming appointment. The participant may then conclude, 'Yes, I remember hearing the word *doctor* because I remember thinking that I have a doctor's appointment coming up.'(955).

The relation between "physician" and the critical lure "doctor" was created because the participant thought about her upcoming doctor's appointment. The two words were related via a familiar connection—the appointment and the semantic similarity between physician and doctor.

To look at another example, the Microsoft search engine Bing has created an entire ad campaign based on the failure of conceptual familiarity. The television ads for Bing humorously portray people searching the Internet with broad key words that yield scattered, and oftentimes unrelated, results. In one commercial, for instance, a wife asks her husband if he has booked their tickets to Hawaii yet, to which his response is a series of related, but off-topic, words: "Hawaii. Hawaii 5-0. Book 'em Dano" ("Bing Search Overload"). Microsoft names the problem with other search engines "search overload" and I suggest this is similar to the process of "content borrowing" demonstrated by the DRM Paradigm. Bing promotes clear and simplified searching that abandons the unnecessary items we usually encounter when using search words like "Hawaii + plane tickets." The commercial illustrates that searching for certain combinations on search engines other than Bing will result in a collection of links that may be somewhat related, but were not related to your original intentions. Just like the DRM Paradigm's "content borrowing," the Bing commercial's "search overload" skews the original search by

adding excess material. Lampinen et al argue that a similar "overload" occurs during content borrowing: "this search process sometimes yields details that were associated with actual studied items, but the participant may incorrectly attribute these details to the critical lure, resulting in an errant binding of the features" (955). Just as "sweet" was unconsciously related to "sour" in the DRM Paradigm study, "Hawaii + plane tickets" was incorrectly linked to the television show "Hawaii 5-0" in the Bing ad.

The results from the DRM Paradigm studies indicate that we create our own false memories. False memories are a troubling idea, especially since we believe we are in control of our own minds. Moreover, false memories are particularly prevalent in eyewitness testimony, causing many juries to wrongly convict someone based on incorrect evidence. Several studies have shown that eyewitness testimony is often tainted by interactions with others, reading about the event, or content borrowing from previous experiences. These previous experiences are not limited to the eyewitness' own past, but can be borrowed from television shows or movies in which a similar crime occurred. Content borrowing from prosthetic memory (i.e., memories created from mass media representations) are highly problematic. For example, let's say that I am in a bank while it is being robbed. I have provided a statement for the police, and later I am called back to identify the perpetrator. However, since the robbery I have viewed an episode of *Law & Order* that involves a bank robbery, and I have also watched a local news report of the crime. The time lapse, however small, between my own experience during the bank robbery and a televised portrayal of the crime might cause me to misidentify the actual robber because I have unintentionally picked up details from others and added to or substituted them for my own.

Unintentional identification, or unconscious transference, is what Daniel Schacter names the "sin of misattribution." One of the more famous instances of misattribution occurred in 1995 during the FBI's search for the Oklahoma City Bomber. In the original search, the agents were looking for two suspects (John Doe 1 and John Doe 2) based on information that the two suspects had rented a van from Elliott's Body Shop (Schacter 91). The description of John Doe 1 matched Timothy McVeigh, who was later sentenced to death for the bombing. The description of John Doe 2, however, was not related to the bombings at all. In fact, the mechanic who described the two suspects to the FBI misattributed another pair who rented a van similar to the one McVeigh rented, but visited the shop on the following day (Schater 91). The two men were identified as Army Sergeant Michael Hertig, whose description was similar to McVeigh's, and Private Todd Bunting, who was characterized as John Doe 2 (Schater 91). Although they had no connection to the bombings whatsoever, the mechanic "had correctly recalled Bunting's features, depicted in the infamous picture of John Doe 2 circulated nationwide, but had misattributed them to the wrong episode a day earlier" (Schacter 91-2). Two vans, two different days, one confused memory. The mechanic unconsciously transferred information from one event into his memory of the other.

Misattribution is a common problem with false memory, and it occurs so frequently that police interrogators and attorneys must be instructed about how to handle witnesses. More specifically, Christopher Chabris and Daniel Simons identify one of "the illusions of confidence" as the unknowing morale boost professionals give to an eyewitness that directly leads to their persuasiveness on the witness stand (110). The illusion of confidence is bolstered, for instance, when a detective offers positive feedback after

identifying a criminal in a line-up. The more positive feedback the witness receives, the more persuasive his testimony will appear in court, and it is more likely that a jury will believe a confident witness over one that is insecure. Unfortunately, several studies have shown that such positive reinforcement often leads the witness into remembering the event differently, causing an innocent person to be wrongly convicted. The moment of eyewitness identification and positive feedback is what James Lampinen and Jennifer Scott et al name "the post-identification feedback effect": "a kind of memory distortion in which the feedback alters participants' memory reports for their prior confidence, witnessing conditions and decision-making strategies" ("Good You Identified" 1039). In 1999, former Attorney General Janet Reno created a task force of law enforcement professionals with the intention to prevent the feedback effect and ensure fair and unbiased testimony. In their findings, *Eyewitness Evidence: A Guide for Law Enforcement*, one of the most important goals is to "improve the criminal justice system's ability to evaluate the strength and accuracy of eyewitness testimony" (Reno 4). The guide provides law enforcement officials practical tips about how to handle witnesses from the first 911 phone call, to their first interview at the scene, and even during line-ups. Because positive feedback has been proven to interfere with the witnesses' ability to remember the event correctly, the guide also discourages law enforcement from using any form of feedback.

To illustrate the illusion of confidence more clearly, I turn to an example from the recent text, *The Invisible Gorilla*. In July 1984, twenty-two year old Jennifer Thompson was raped near her college campus (Chabris and Simons 109). During the sexual assault, Thompson made sure to memorize details of her attacker—clothing, race, height, and

facial hair (Chabris and Simons 110). Thompson was so certain that her memory was correct and the detectives continually reinforced her testimony with praise (Chabris and Simons 110). The more praise she received, the more confident and persuasive her account of the attack became. Since the attack occurred before DNA testing was available, the jury returned a guilty verdict based primarily on Thompson's confident testimony (Chabris and Simons 110). Ten years after the original trial, DNA testing actually exonerated the accused man, Ronald Cotton (Chabris and Simons 111). Even though Thompson was absolutely certain that her memory of her attacker was correct, it was later discovered that the repeated positive reinforcement she received during the follow-up interviews and line-up identification actually created a false memory from which she gained excessive confidence. Thompson's memory had failed her, but her confidence was persuasive enough to convince the jury to convict the wrong man.

Not only does positive reinforcement shore up confidence in false memories, but other studies have also proved that false memories can actually be implanted in our own minds with the aid of tools such as Photoshop. In the article "A Picture is Worth a Thousand Lies," Kimberley Wade et al exposed twenty subjects to manipulated photos in which the subjects themselves were placed. Wade and the other researchers asked the subjects to provide several childhood photos from "moderately significant events" (e.g., birthday parties or family holidays) (598). The research team then scanned, cropped, and digitally inserted one of the photos into another image, creating a composite image of the subject on a hot air balloon ride as a child (Wade et al 598). After creating the composite photographs, the research team interviewed the subjects three times over a span of several weeks (Wade et al 597). During each interview, "subjects thought about a photograph

showing them on a hot air balloon ride and tried to recall the event by using guided-imagery exercises" (Wade et al 597). In contrast with narrative induced false memory (i.e., making up a story in which the subject was a participant in the action), the manipulated photograph proved to increase the subjects' memory of the event because it was 'hard evidence' that they experienced the hot air balloon ride. Moreover, the results strongly indicate that, "photographs may require less constructive processing than do narratives to cultivate a false memory" (Wade et al 602). These results suggest that photographic evidence, even manipulated photographs, tend to be more reliable and increase the possibilities of false memory creation via suggestibility. Interestingly, even though the photo was doctored and the subject never participated in a hot air balloon ride, "the subjects often said something like, 'Well, it's a photograph, so it must have happened' when looking at the hot air balloon photo" (Wade et al 602). As a result, the research team identified three possibilities for memory creation. First, the photo was largely accepted as "authoritative evidence," noted in common "it's a photo, so it must be true" responses. Second, "it is also possible that the seeming authenticity of the photograph prompted the subjects to search their memory for event-consistent information" (Wade et al 602). The doctored photograph "planted the seed" of a false memory, and over the course of the three interviews, each subject searched their memories in order to create a false memory of the event they realized they had 'forgotten' (Wade et al 602). Finally, the researchers argue that "photographs do not require less constructive processing, so much as subjects are less likely to resist the accuracy of the photograph" (Wade et al 602). This study has shown that a doctored

photo will greatly increase the likelihood that anyone can be persuaded to create false memories about themselves.

Furthermore, because the photograph was significantly more persuasive than the narrative alone, I argue that the combination of digital technologies (e.g., Photoshop), memory, and *techne* collide in an interesting way. The photograph took the place of the individual's authority over their own memory—even though the subjects did not experience the hot air balloon ride, the photograph indicated that they had. Rather than trusting their expert knowledge of their own pasts, the photograph superseded most subjects' doubts by creating a false memory of the event. With this experiment, *techne* and memory intersect because we tend to believe that we have control over our memory—how could we forget a hot air balloon ride? Typically "people tend to think of photographs as frozen moments in time, place faith in them, and see them as reliable representations of the past" (Wade et al 598). What is most fascinating about these results is since neither the photograph nor the false memory was reliable, the subjects' memories were manipulated by their own doing. The memory manipulation occurred in the individual—with some slight prompting from the photograph, they created their own memory of the event that never occurred. Although photographs are snapped to capture memorable events, the manipulated photos in this experiment indicate that memorable events can be mentally created through cognitively associated events. Similar to memory misattribution, these individually created manipulated memories were the result of the subjects' attempts to remember an event that did not occur. Led to believe that they participated in a hot air balloon ride, the subjects searched their memories for any similarly attributable events. If they remembered spotting a hot air balloon in the air once

or if they have heard stories of others adventures, then these false indicators sparked the relation between pictorial evidence and personal memory creation.

Other studies, too, have shown that memory distortion is a result of personalized re-constructions of events. In one analogy, remembering is likened to "the activity of a paleontologist, who reconstructs the skeleton of a dinosaur 'out of a few bone chips'" (Mazzoni 21). By looking at the doctored hot air balloon photograph, the subjects believed that they actually participated in the event. Although they did not recall the event before viewing the photograph, the image was one 'bone chip' that aided in the reconstruction of the full skeleton. The one piece was enough to visually construct the whole, even on false premises. Through relation and misattribution, the subjects created the memory based on previous experiences and the (false) fact that they were photographed in the balloon. In a process that Giuliana Mazzoni calls "imagination inflation," the human brain combines and reconstructs "experiences from pieces of retained information combined with knowledge, beliefs, suggestions, and the information provided by situational cues" (25-27). The result of imagination inflation is an increase in created memory—the brain actually "remembers" more that it stores because it is constantly making new memories according to situational necessity (Mazzoni 25). With the hot air balloon experiment, the subjects created the memory of being in the balloon because the photograph was "evidence" that they had been there and had merely "forgotten" the experience. Over the three interviews, the subjects likely created connections from other related memories to the main 'bone chip' in order to excavate a recollection of the fake event. Even in the presence of a photograph, "a memory is never the faithful reproduction of the original event, because in addition to the fragments of the

original event, it includes also parts of the individual's pre-existing knowledge. […] From this perspective, memory errors are the rule, rather than the exception" (Mazzoni 21).

Another effect of memory re-creation is noticed when flashbulb memories are tested. Flashbulb memories (FBMs) have a "'live' quality that is almost perceptual. Indeed, it is very much like a photograph that takes immediate mental 'pictures' during extraordinary or emotional situations" (Greenberg 365). FBMs are mental images of national events experienced prosthetically (such as 9/11 or the Challenger disaster) or even personal events like the birth of a child or the death of a parent. Typically, the events that cause FBMs are rare and emotional—we remember these situations because they are entirely out of the ordinary and occur very few times in one's lifetime. In "The Effects of Affect and Input Source on Flashbulb Memories," John Neil Bohannon III, Sami Gratz, and Victoria Symons Cross identify two ways FBMs are constructed and the related effects these gathering mechanisms have on the retention and formation of later memory. In the first situation, people who hear the news from *another person* "usually hear the bare bones of the fact itself (e.g. 'Princess Diana is dead!'), and thus remember the typical, self-related flashbulb features relating to their personal discoveries" (Bohannon et al 1023). When hearing information from others, it is likely that people will remember other sensory events, such as what they were eating or watching, in connection with receiving the news. In the second case, people who gather their information primarily from *media outlets* "are quickly informed of the facts about the event itself. (e.g. 'At 11:58 this morning the shuttle, Challenger carrying five men and two women, exploded 70 seconds after lift-off from Cape Kennedy')" (Bohannon et al

1023). Those who are informed by the media are less likely to remember sensory details, but are more likely to recall information about the event itself. Whether the individual remembers personal details or factual information, the likelihood of the FBM undergoing some change is high because "people who were shocked by horrendous news should be both more likely to repeat their 'stories' and seek out more information about the events" (Bohannon et al 1028). Like other types of memory, FBMs are reconstructed; however, even though FBMs are "snapshots" of rare moments, some argue that FBMs (particularly ones of national events) are *more likely* to change as a result of constant media attention. As a result of people seeking out information and re-telling their experiences, FBMs are very malleable and are at risk of becoming misattributed to other details we pick up from others.

We believe that our memories of FBMs will remain concrete; no matter how much time passes, we say to ourselves, "I will always remember exactly what I was doing when X happened." Consistent with other forms of memory, however, FBMs are equally as prone to reconstruction. To test this idea, several studies have been conducted immediately following extreme events. Creating an experiment to judge FBM accuracy is difficult: researchers cannot plan extreme events in advance, nor can the studies be conducted retroactively. To study FBM, memory researchers find volunteers (usually from undergraduate psychology courses) immediately following the event. These volunteers are asked to describe situational moments such as how they learned of the event, what else had they done that day, etc. To determine if the volunteers' recollections have changed, researchers question them at various intervals (e.g., one week, twenty days, two months) after the initial interview. For instance, former President Bush came

under heavy criticism when he incorrectly recalled seeing the first plane hit the World Trade Center tower. One of memorable images from that day was President Bush learning about the news from one of his aid's whispering in his ear. President Bush, like most others that day, did not see footage of the first plane until much later in the day. Moreover, President Bush was not informed about the attacks until *after* the second plane hit, which made his recollection of the first plane's collision fodder for the 9/11 skeptics. In later interviews and press conferences, several journalists noticed inconsistencies in his memory of the event: in one account he noted that his chief of staff, Andy Card, informed him of the attacks, but in another he stated that senior advisor Karl Rove had delivered the news (Greenberg 363-4). The events of September 11 are a good representation of an event that causes FBMs, and many were surprised that the President could not accurately or consistently recall what happened. After heavy scrutiny from the press, memory experts declared that President Bush's slip-ups were typical human error. As exhibited across the DRM Paradigm, misattribution, and false memory creation, this instance of a rehashed FBM is not uncanny. As Greenberg notes, "we might expect that [President Bush] would be better off than the average university undergraduate—however, like so many others, he appears to be suffering from a near-textbook case of false recall" (368).

Remaking Memory: Conclusion

With all the studies pointing to the possibilities of remaking memory, I wonder what effects these have on new interpretations of the canon of memory itself. If the canon of memory was designed to be the mechanism ready for debate and argumentation, then how reliable is it if recent studies have indicated that biological memory is actually

very flexible? Memory, I argue, might be the point of invention rather than the point of storage that we have believed it to be for millennia. Digital archives and photo manipulation are just two examples of the creative instincts of contemporary memory. Memory is no longer just a trope of storage capacity, but rather it is aligning itself with *techne* more powerfully by questioning the limits of expert knowledge while becoming a productive structure capable of influencing and creating other memories. Contemporary memory is drastically different than is has been defined in the past, and we will benefit from examining the new forms of this canon on rhetoric studies today.

Chapter 5

Reply All: Networks, Memory, Forgetting

When I began preparing to write my dissertation, I received some sage advice from a committee member about the dual blessing and curse of writing on digital technologies: while a certain example might be 'cutting edge' and exciting at the time of writing, by the time the publication hits the press, that fashionable gadget will be out of style. That concern has resonated throughout these pages, especially when I had to find new examples for the now defunct Google Wave, update terms from PDA to Blackberry to Smartphones, and even consider new(er) forms of computing—Apple's tablet, iPad. In the short span of two years, technology that seemed fresh and exciting is now antiquated and laughable. These changes, however, bring me to the point in this dissertation where I must forecast the future of memory studies. My goal throughout this dissertation has been to answer two questions: Does the tension between interactive technologies and rhetoric re-shape the nature and relevance of the canon of memory? Do interactive technologies affect the ways we remember and persuade? Here, I introduce one final question: what can we *do* with digital memory that changes the ways we practice rhetoric?

In this final chapter, I look at the shift from systems of rhetorical memory in antiquity to those of contemporary memory networks. Ancient memory networks were personalized—*one* orator would create *one* effective memory system to store, locate, and recall details. Today there is *one* memory network (which I will explain shortly), and it must be accessible and searchable by *many*. There is one critical distinction between the two systems that will drive this chapter: the type of system that is created to maintain

memory and promote what information architect Peter Morville calls "findability." Morville defines findability in three ways: "a. the quality of being locatable or navigable; b. the degree to which a particular object is easy to discover or locate; c. the degree to which a system or environment supports navigation and retrieval" (4). In what follows, I suggest that contemporary memory networks both benefit and falter from a wide user base. On the one hand, the growing number of users allows people to create their own memory spaces within the larger system. On the other hand, the downfall is that at the same time users input material to be stored or shared, the network itself also creates and outputs new information about the recently uploaded data. By participating in what communication theorist Mark Andrejevic calls the digital enclosure, "the creation of an interactive realm wherein every action and transaction generates information about itself," uploaded digital memories both retain information about personally relevant events while at the same time adding to the existing body of knowledge by creating new information in which others will participate (2).

The critical issue with contemporary memory is quickly becoming how our memories are recollected. If we do not "tag" our pictures on Flickr, others will be unable to find them through search words alone. With digital memory, we must be *as* aware of the programs we create to organize and access our stored material as we are with the content we place in external systems. Therefore, control of the networks (even small, personalized networks like bookmarking systems) becomes critical to our understanding of how memory functions. More and more, digital memory is replacing natural, biological memory. As a result, by relinquishing control of our biological systems to the techno-neurological swarm, we must introduce some form of control apparatus or system

in order to retain access to our own memories. Even if our biological memory can at times seem inaccessible, with thoughts buried so deeply in our unconscious that we do not know they exist, we have the capability to overcome the limits of biological mechanisms through digital organizational systems and control units. This sense of control over nature (we can store and remember much more with digital tools) suggests that *techne* becomes a means to controlling what is natural and biological by shifting control away from internal, personally controlled systems into external, poly-*techne* memory networks. This chapter focuses on specific questions of digital protocol and network theory to conceptualize how *techne* can be the future of digital memory. More specifically, I hone in on one of my definitions of *techne* – as a force that renegotiates sources of power – and how the shift from biological to digital memory is rapidly becoming a means of participating in a controlled memory environment.

I divide this final chapter into three sections: optimization, responsibility, and digital collaborative pedagogy. Each section looks at the stakes and possibilities for the future of memory studies from a different perspective. First, optimization examines the creation of and participation in a network—how can we participate effectively in order to better capitalize on the memory system? I look at Search Engine Optimization as a model of what I call "digitally preferred memory," the process by which popular memories receive the most attention while smaller events and alternative perspectives become stifled. Next, I question what it means to be a responsible memory maker. In the article "Essjay's Ethos," James Brown, Jr. questions "originality" and the blurred boundaries of "mine" and "yours" on the Web. I will use this discussion to interrogate responsible memory in the sense that shared memories, once uploaded, are no longer

individual memories, but can contribute to the formation of prosthetic memories for an unknown audience. Finally, I take a look at what collaborative pedagogy might look like by employing the ideas of memory collectivities, hive mind thinking, and classroom participation in a growing knowledge-base. I update Kenneth Bruffee's classic definitions of "collaborative pedagogy" by inserting some new approaches via memory making activities.

Optimus Prime: Search Engine Optimization and Digitally Preferred Memory

The shift from internalized, mnemonic devices into externalized, collaborative memory collectives prompts me to question the change in how we use and construct memory networks. Whether internal or external, memory is useless if it cannot be recollected. Internalized, mnemonic devices were designed for one person to remember some specifics in preparation for an upcoming speech. Aside from that one person, no one else was privy to the intricate details of the individualized 'storehouse.' Each storehouse was a unique method of visual and spatial clues to aid recollection. Internal memory allows for tricks that don't make sense to anyone else. Such tricks are why mnemonic devices are so effective—mnemonic devices are like little 'inside jokes' that trigger memories. On the contrary, externalized, collaborative memory collectives must be accessible by an infinite number of people. Each person can contribute to the memory collective, but there are 'digital social rules,' or what I am calling e-tiquette, which must be followed. Examples of e-tiquette include proper and relevant tagging (e.g., dissertation, writing, grad_school) or using hashmarks to indicate topics (e.g., #dissertation). The effectiveness and importance of e-tiquette rests in "findability." If no one can find the saved material, then the memory is prone to digital erasure. Because

digital collectives are bound by e-tiquette, external memory cannot be personalized like internal memory. Rather than mnemonic devices that succeed in light of difference, memory collectives thrive on findability and similarity.

One of the most interesting ways I see *techne* lending a hand with contemporary memory is by looking into the connections between search engine optimization and memory preference. Search engine optimization (SEO) is the process by which the probability of keyword searches is analyzed to detect and promote the probability of certain search results receiving the higher percentage of popularity (Morville 112). Marketing and advertising strategists use SEO as a tool to increase product placement and drive consumers toward their goods. However, using SEO not as a marketing strategy, but rather as a memory strategy might become problematic for rhetoric studies writ large. In particular, SEO will favor privileged or preferred perspectives on certain events—some memories will receive the majority of hits, while other memories will be buried among the unpopular and unrelated search results. Among those that suffer from the buried results will be the rhetoricians. If access to a wide variety of persuasive resources, means, and pathways is one of the upsides of digitally networked memory, then the downfall rests in the same system. While SEO is necessary to sort through the sheer quantity of information, it comes with a steep cost for rhetorical practices.

The unpleasant side-effect of SEO is what I call "digitally preferred memory." Digitally preferred memory is the process whereby popular search results receive the most attention and the least interesting (or least funded) will be forgotten about. The process of digitally preferred memory is actually a self-fulfilling prophecy: the higher the search ranking, the greater likelihood of hits. Personally speaking, rarely do I search

beyond the sixth or seventh (or tenth, on a *really* good day) page of Google results. I recognize this as a fault of my own—I know there are thousands, perhaps millions, of additional results that I skip in order to save some time, but the truth is, the results that are ignored might be beneficial. I tend to stick to the top results—not only on Google, but also on journal and library databases. I refine my search terms to lower the number of results, both trying to limit the number of items I have to sift through but also with the hopes of finding one, perfect gem. These gems, if I ever find them, are no accident—they are carefully calculated to appear via specially crafted (even suggested) search terms. If I do not see the article or book I think is right, I can choose pre-selected Boolean search term groupings (e.g., dissertation AND procrastination). The control over the results that I believe I have is a mirage—my magical grouping of search terms is not unique. SEO is based on the combination of selected search terms and the probability of their relation to a specific text. Stochastic *techne* (T2), then, helps steer researchers around the limitations of search terms—different terms can lead to the same ends. For example, let's say I search for "dissertation AND procrastination" or "writing AND grad school." The same article, while located with different terms, could likely be among the results. If, however, I changed the search terms even slightly to "writing AND effective techniques," I will broaden the search because I am not limiting the type of writing, but I am also running the risk of not locating the one 'gem' I hope to find. Although there may be millions of results from a simple key word search, the vast majorities of those hits are never attended to and become digitally forgotten.

What does digital forgetting look like? Becoming digitally forgotten is not a result of anti-participatory, Luddite behavior; instead, being digitally forgotten is the

result of being left behind on what *Wired* magazine editor-in-chief Chris Anderson characterizes with the term "the long tail." Anderson uses the long tail as an optimistic business model—it is beneficial to offer more products to fewer people than it is to have fewer products available to everyone. Statistically speaking, the long tail represents the probability of a select few popular "hits" receiving the most attention while the remainder are forgotten about. The long tail is derived from the image of these results: the most popular and frequent hits have very high points on the y-axis of a graph and the numerous other results trail out in a thin line across the x-axis. The results along the x-axis look like "a long tail"—think of a rat's skinny, long tail. Digital forgetting occurs because the majority of information is lost among the long tail results, thus a select few popular ideas remain at the helm of digital memory. The higher the search ranking, the more preferential treatment the result will receive. Unfortunately, the opposite holds true, too—because there are so many results tucked away in the long tail, there are only a selected handful of results that receive regular attention for any given search term combination.

Being forgotten in the long tail arouses some interesting concerns with digital rhetorical memory, in particular the availability and accessibility of the means of persuasion. SEO not only increases the likelihood of certain links appearing more prominently in a search, but because these favored results have been paid for, less important (and arguably less funded) hits will never receive as much attention as their optimized counterparts. For memory, SEO has the capability to force certain memories into the long tail. Smaller events, or even alternative perspectives, could be suffocated by popular search terms or corporate sponsorship of a single track of memory. Take, for

example, online shopping trend suggestions like Amazon or iTunes recommendations. These recommendation-bots are some of the most popular examples (and sometimes the most off-putting because of their precision) of SEO and the digital enclosure. The more popular an item becomes, the more likely it is to appear in one of the first pages of suggested search results, leaving the least popular links to be lost and forgotten among the results. Our participation in the digital enclosure happens automatically whenever we send an e-mail, purchase an item on Amazon, or place money in our mutual funds. The information we are providing is collected in order to "serve us better"—or, at least, to increase our desire to purchase a tailor-made (optimized) suggestion based on the trail of digital information we leave behind. All of our digital communication is tracked, sorted, and compiled to automatically offer 'premium' choices based on our preferences. The digital enclosure works by the user providing information in order to receive (without asking) more information about herself. There is one catch—as Andrejevic points out, the digital enclosure is asymmetrical. As users, we provide the content but we do not have access to exactly what content is being collected or, for that matter, how the information is being put to use (41).

But another, more symmetrical, way to consider digital enclosures and memory collectives is via folksonomies. A folksonomy is a digital system that allows users to sort, identify, and group similar items in order to facilitate findability. There are several well-known examples and many collaborative websites, such as Delicious or Flickr, that use a well-known folksonomy—tagging. On the social bookmarking site Delicious, users have the option of adding a "tag," a short (often one word) description of the article's topic. Delicious often provides "suggested tags"—frequently used words in the article

itself or other popular tags used by members who have saved the same article. Delicious users can also embed "tag clouds" in their blogs or personal web pages. Tag clouds are a collection of word tags that represent frequency and popularity of a topic by the size of the word itself—the larger the font, the more popular the topic. Contributing to a tag cloud or other tagging system is not an isolated process, and participants must select popular, even generalized, reference tags in order for the saved links to be connected to those similarly tagged. In the article "'Folksonomy' and the Restructuring of Writing Space," Jodie Nicotra notes that in order to locate related tags, as well as have our saved links recognized by others, we must use the popular tags rather than ones personally meaningful to us. For instance, Nicotra states that Delicious might suggest the tag "marathon" for an article about training for a race (W272). Using the tag "marathon" will automatically link it to others searching for articles about marathons or running (W272). If, however, I tag it with "26.2 mile run," then the likelihood of someone using that obscure tag decreases, and the memory is not as accessible as it could be with a popular tag like "marathon" (W272). How might memory studies falter because of standardized participation, like using popular, recommended tags? Our memories must be stored in a very specific fashion in order to be recalled, linked to, or recommended later. If I use "26.2 mile run" rather than "marathon," then the memory runs the risk of being forgotten and left in the long tail. However, abiding e-tiquette by selecting popular tags over less useful ones increases the possibility of retrieval while also fortifying the continued recollection of properly classified digital memories.

As a result, folksonomies are significant to memory studies for a few reasons. First, Nicotra indicates that a folksonomy, "moves away from traditional hierarchies and

classification systems" (W260). Rather than relying on SEO or corporatized sponsored results, a folksonomy is a collectively organized system that has been compiled entirely by the users' identification tags. By "disrupting the idea of single authorship," a folksonomy shows "how multiple, collective subjectivities 'write,' enabling possibilities for configurations and systems to emerge as a result of activity of the so-called hive mind that could not have been anticipated or conceived of by an individual author working alone" (Nicotra W260). Next, because a folksonomy can only occur by purposeful, collaborative effort (think of the "marathon" v. "26.2 mile run" example), these collections reshape the ways we think about writing, too: "'writing" […] certainly has an expansive, performative aspect—not only is it 'shared,' as in produced by multiple users, but it is conceived of as the building of a space rather than the production of a text (Nicotra W263). Finally, all objects must contain properties or characteristics that promote findability. Nicotra rightly argues that, "if your ideas of what the site is about don't match up to others' ideas, it is essentially useless, *a rhetorical failure* (W266, emphasis mine). A rhetorical *memory* failure is nearly identical—if a site never receives attention and is lost in the long tail, it is a rhetorical memory failure because of the doubtful probability of being recollected.

Rhetoricians have long questioned the responsibility of their profession, and it is critical consider how these new digital means of persuasion inform and shape the future of rhetorical memory studies. In the next section, I question what happens with our voluntary and involuntary contributions to the digital enclosure. If optimization suggests that a selected group of memories will receive all the attention, then should the memory makers themselves uphold certain forms of responsibility?

Yours, Mine, Ours: Responsible Memory

In his 2009 Society for Literature, Science and the Arts talk, multi-media artist Casey Alt described all writing composed and shared on social media sites, like Twitter, as "responses answering to no one" (1). We post updates and thoughts to social media platforms because we want people to listen or, more likely, because we want to tell people something. No matter how mundane our Facebook status update is, the point is to share some information to an audience from our personalized, privileged perspective. Our profiles indicate that we have hundreds of "friends," but are these virtual connections actually reading what we have to say? Have they blocked our posts? Does everyone check Facebook or their Google Readers as much as I do? I don't wish to start this section sounding like I have a digital fetish, but these are important questions to ask regardless if we check for updates once a week or once a minute. For anyone who participates in these mediums, Alt's suggestion is a frightening realization. In fact, the assumed audience we think we have might not actually be listening or, worse still, might not be there at all. What is the purpose of a status update if no one is reading it? For rhetoricians, the suggestion of an assumed or non-existent audience stirs up some additional concerns about responsible persuasion. With an assumed audience, the entire rhetorical situation becomes confused—what kinds of rhetoricians are we if we don't even know if we have an audience to persuade? If a rhetorician speaks and no audience hears the talk, is it still persuasion? In order to be responsible contemporary rhetoricians, must we take into account the possibility of a non-existent audience?

Alt proceeded by taking his suggestion one step further: what if Tweets are not simply answering to no one, but those status updates could actually increase the

"possibility for response without *responsibility*" (1, emphasis mine). Here I find some interesting connections between a non-existent audience, the responsibility of response, and contemporary memory. Even though we cannot be certain if anyone is listening, social media is kindled by a compulsion to write, to update, or to post just in case someone is wondering. With digital memory, we upload, share, post, or mail any number of items, fully intending to return to these stored memories later. But really, how often do we revisit our saved memories? (Or, if you're like me, how many forgotten passwords lock you out from your memory storage locations?) With digital memory, the more we save, the more infrequently we will return to them if only because the sheer quantity deters us from spending quality time with the past. To recall digital memories, we usually have to consciously search it out via search terms or by looking in a specific folder. If our search terms are spelled incorrectly or are ineffective, then we cannot locate specific information. In order for digital memory to function effectively, an organizational system must become equally important as the memories themselves. Whereas biological memory is prone to happenstance (like Proust's madeleine arousing thoughts of a past long forgotten), if we do not participate in a digital memory network, then the possibility of recall is dramatically reduced. Or to say it another way, if we cannot organize and systematize our digital memories, it becomes unlikely that anyone will recall the memories.

But alongside the anxiety about whether our memories will be remembered or whether an audience exists, interactive technologies and social media have yet to witness a slump in participation. Even in the face of recent publications forecasting the demise of our intellect, much less our ability to *do* anything, books like *The Shallows*, *Distracted*,

and *The Dumbest Generation* all preach technophobia against increased participation in social and interactive media. Between April 2009 and August 2010, for instance, Facebook more than doubled its active accounts—from 200 million to over 500 million and counting ("Facebook | Statistics"). Twitter accounts have not only become the space for personal updates and links to interesting articles, but *Bloomberg Businessweek* magazine has noted the rise in "social media managers," individuals who are hired by a company to design and maintain a digital presence with frequent Tweets or Facebook updates about "secret sales" for their followers or notices about when seasonal items are ending (e.g., "Only 1 week left of Sam Adams Summer Ale—buy now!") (Gillette). Increased participation across all social media indicates a few important points. For one, this increased participation highlights a shift in our personal communication—from face to face (f2f) into digital. Of course we still interact with people f2f on a regular basis, but this shift towards digital interpersonal communication had been forecasted long ago and is becoming more commonly acceptable and preferred, among corporations and consumers alike. And while digital interpersonal communication still does not sit well with everyone, companies are actually encouraging their customers with incentives for using less expensive services, like automated machines and e-bills. For example, in order to scoot around some of the new federal banking regulations, Bank of America has announced that they will begin charging $8.95 per month for certain in-person transactions that cannot be accomplished through an ATM ("B of A to Roll"). Bank of America's favoring digital over f2f transactions is one small factor indicating the switch to active participation in a larger, networked consumer base. Additionally, it is becoming more likely for someone to participate in *some* form of social media (i.e., someone might

have a Facebook page but does not use Twitter), thus any social participation equals an interaction with, contribution to, and consumption of the collaborative digital network. Oftentimes, this participation is involuntary, and we end up generating more information than we consume (a by-product of Andrejevic's "digital enclosure"). If we take a good look at the productive possibilities from all these digital outlets, it is becoming more unlikely that we are responding to no one, as Alt suggested, but we might instead be responding to *everyone*—without even knowing to whom we are replying or what our responses actually say. This unknown message coupled with an unknown audience only increases Alt's concern about responsible response. How does this massive "reply-all" affect the ways we persuade, remember, and create memories for not only ourselves, but everyone else, too? As a result of the increasing utilization of cloud storage, collective knowledge bases, and social media spaces, the responsibility of memory is no longer individual responsibility.

Take, for instance, the rise in "amateur journalism"—individuals who are not employed by any professional news organization but still report on breaking news stories. The cable news channel CNN frequently promotes its user-centered news gathering feature called "iReport," described on the website as, "the way people like you report the news" (CNN iReport). iReport is not the only outlet of its kind, and most local news stations, news papers, and magazines are increasing the call for first-hand videos and accounts of major events. On the iReport homepage, there is a section named "Assignment Desk." By clicking on any of the popular, pre-selected news topics, users can contribute their videos, stories, and opinions to the collection of user-generated content. iReport might sound similar to the archives I discussed in chapter three, but

there is a difference—iReport is not dealing with memory (at least not immediately) but instead asks for perspectives as the events are occuring. iReport, then, is something of a present-history collective—historical perspectives being cultivated from typically non-privleged viewpoints and collected with little time passing between event and reporting. Outlets like iReport not only invite 'amateurs' to contribute to popular news stories, but they also provide varied perspectives often unavailable from the newsroom alone. For example, if I wish to learn more about Hurricane Earl, I might be click on the approprate iReport link where I can find users' images, stories, and comments. As opposed to sending one journalist to cover the story, CNN has hundreds of reporters—contributing for free.

Even though the concept of iReport is along the same lines of other user-generated content sites like Wikipedia, there is one major set-back, indicated by the following "warning" that pops-up on each page: "The stories in this section are not edited, fact-checked or screened before they post" (CNN iReport). Unlike Wikipedia who employs staffers to sweep false material, iReport has a considerable gap between "vetted" stories, and ones yet to be verified. A quick look indicates that there have been 481,408 iReports submitted as of today (September 4, 2010), but only 31,037 of those have been verified. Interestingly, iReports does not "pull down" or "discontinue" the non-vetted reports, but only alerts users that it might not be entirely trustworthy. If iReports does not 'take responsibility' for users' posts and yet still makes these available to everyone, then at what point does user contribution lead to irresponsiblity?

The future of memory studies must consider the growing likelihood that everyone will experience more events prosthetically. Sites like iReport encourage varied

perspectives while at the same time providing a space for people to share their eyewitness accounts. As someone who does not live on the Eastern Coast, I visited iReport to see some snap shots of Hurricane Earl. There are hundreds of photos—large waves, sunsets, views of the storm approaching. Simply by flipping through the iReport photos, I experienced the hurricane prosthetically. In fact, I even (gasp!) viewed and (double gasp!) found the 'non-vetted' images more interesting. Even though the unfiltered photos were more interesting, because iReport invites stories from everyone, there are bound to be unclear, misguided, and untruthful representations of events. Moreover, CNN does not remove the stories after the event has passed, transforming the present-history making site into a digital archive of sorts. The possibility of unsound user contributions making their way into small versions of digital archives makes me wonder about the future of responsible memory. Although I do not have any solutions at this point – after all, this entire chapter is one large speculation for the prospects of memory studies – but in this section I pose some questions: Who's responsible for the memory? Do we even need to be concerned with responsibility? How can the ethics of digital memories be considered if their use is determined afterwards?

In the essay "Essjay's Ethos: Rethinking Textual Origins and Intellectual Property," James J. Brown Jr. investigates the limits of an "originary" text through the lens of Wikipedia. Like iReport, Wikipedia thrives on user-contributed content. Unlike iReport, Wikipedia maintains its 'credibility' because it requires that updates are based on outside sources (which are linked to at the bottom of each page) and not professional or personal expert knowledge. Like *techne*, just because I say I have a skill does not mean that is useable—I cannot talk a big game without being able to prove my skill set

repeatedly. Wikipedia ensures that so-called "expert knowledge" does not trump tried-and-true material. For iReport, "expert" knowledge is the main force behind the quantity of content and the success of the site. The difference between the two sites is that iReport relies on personal perspective while Wikipedia strives to be a composite of "pre-vetted" information. Brown argues that the Web in general, and Wikipedia in particular, "exposes the difficulties of intellectual property by making it difficult to determine where 'my' text ends and where 'your' text begins" (W239). For memory studies, determining what's "yours" and what's "mine" should be easy—after all, *my* memories will certainly be different from *yours*. This is not the case anymore, and sites like iReport point to an interesting shift in how we construct "my" memory from the collection "your" memories.

The result of participating in one collective memory network lies in the responsibility of contributions as well as responsible organizational methods for information. Once participants fully understand the consequences of their passive and active contributions to the memory network, then we might gain a better understanding of how contemporary memory creation functions. The contribution of knowledge is not the main problem here; instead I am concerned with what happens afterward—are these contributions relied on as the digitally preferred memory of the event, or are they forgotten within the long tail? Responsible memory is not only content, but it is also ensuring accessibility, whether that means describing a site with predictable search terms or using favorable word tags.

Perhaps an alternative perspective on digital memory could be a blend of memory and invention. As research in the humanities as well as social and neurological science has suggested, if memories are heavily prone to re-creation, then memories actually

become the productive site of invention. When we begin to question the originality – much less the origin – of a memory, that quest becomes quickly tangled. Instead of thinking of memory as either "mine" or "yours," digital spaces encourage the production of collective spaces: "we" shape and invent "our" spaces together.

Digital Collaborative Pedagogy

In this final section, I suggest that collective practices are beneficial for classroom productivity, and offer some thoughts about digital collaborative pedagogy. The networked classroom expands well beyond the course Wiki page, beyond the Facebook friend requests from students, even beyond the (failed) attempts of using Twitter during lectures. The digital classroom uses memory to make writing spaces available not only in a variety of settings (think: cloud computing), but more towards the consumption and production of texts, both for classroom use and as contributions to future knowledge collectivities. One of the interesting ways to think about this shift occurs right inside our classrooms—our students use social media and there is a distinct desire from the students to incorporate these technologies into our pedagogical practices. Rather than relying on rigid platforms like Blackboard, the classroom has become a flexible, multimodal space in which all participants can produce and consume knowledge. As it has been named elsewhere, our students are becoming "prosumers," a fusion of producer and consumer, and this combination can translate into some exciting upgrades for college writing curriculum.

Here, I offer some ideas about the possibilities of updating Kenneth Bruffee's notion of collaborative pedagogy based primarily on his text *Collaborative Learning: Higher Education, Interdependence, and the Authority of Knowledge*. Bruffee's

pedagogy is designed around one basic idea, knowledgeable peers, and he uses these formations as the basis for the construction of knowledge *for* the students, *from* the students. Bruffee defines collaborative learning as "a consensus among the members of a community of knowledgeable peers—something people construct by talking together and reaching agreement" (3). As the instructor, it becomes critical to learn the language of the peers—how can we become knowledgeable peers with our students of different educational backgrounds, levels, and interests than our own? As a writing teacher, I prefer to rely on the students' ability to create knowledge among themselves. For instance, before any in-class peer-review activity begins, I encourage my students to reflect on the most difficult part of the writing assignment: Did the introduction cause you pain? Were the transitions especially tricky? What about researching—could you locate sources? When they read one of their peer's papers, the students use these reflections in order to respond effectively *as experts*—even though they are only reviewing drafts, they have all experienced the assignment individually and now together. By initially examining the difficulties of the assignment, each student recognizes himself or herself as a writer. Although some problems are indeed more significant than others, the collective experience of writing separately plays into Bruffee's concept of collaboration. Bruffee states that, "when [teachers] have successfully organized students to learn with one another instead of isolating themselves or competing against one another," the importance of support groups function not only as knowledgeable peer groups, but also as a path to forming knowledge collectively (7). The instructor must not isolate the individual in the classroom, but transform the classroom into a hybrid space of teaching and learning, consumption and production, authority and decentralization.

As another example, I have created a "database" or "cloud" system assignment for my advanced Technical Writing course. The database/cloud assignment requires students to utilize a flexible, sharable platform, like a Wiki or a Google Doc, and input their developing research each week. At the end of the semester, each team will have a large database of research questions, contact information, and other important materials. This system becomes the main source of information for their final project proposal and also serves as the "knowledge reference center" for the entire group. Returning briefly to Jodie Nicotra, she suggests that, "In terms of the Web, prosumption has less to do with economic consumption than with acts of creative and rhetorical production" (W273). By contributing to a space of collective knowledge, the students are participating in collaborative activity, leading towards informed writing based primarily upon knowledge deemed credible by their peers.

In the end, this shift towards a prosumer classroom is the first step for a new model of digital collaborative pedagogy. Contemporary memory benefits from these collective spaces not only because the students are contributing to a knowledge base, but at the same time they are also learning what it means to be responsible memory makers. As the old cliché goes, you only get out of something what you are willing put to put into it. For collaborative memory systems, the quality of information students contribute to their databases is tied directly to the quality of their final product—if they use shoddy sources just to complete the assignment and get it off their backs, then it shows in the end. As responsible memory makers, learning to control how much and what kind of information is accessible becomes equally important to the quantity of digitally available means.

Future, Present, Past: Where Do We Go from Here?

Neurologist and author Oliver Sacks notes that neurology's favorite word is "deficit," largely because neurological research always involves the loss of something – loss of memory, loss of speech, loss of identity (3). The field of rhetoric has been dealing memory deficiency—as a discipline, rhetoric seems to have forgotten about memory. But mourning the loss of memory is not productive, nor is it representative of what I have suggested throughout my dissertation. My focus in this dissertation has not been on the loss of memory on the individual level, but the evolution of memory as a participatory system. Alongside digital adaptation, our memory has undergone a transition from a biological storehouse to a technological network. However, this shift ignores one of the most interesting factors of contemporary memory research—do these new tools of remembrance help or hinder the long-term status of the memories we make? I have argued that two specific memory situations – digital archives and memory manipulation – indicate a significant increase in the production of memory making activities. In relation to digital memory, the memories we upload are not bound to some ethical or moral standard. In relation to *techne*, the digital memory is value-neutral—its use is not determined completely in advance, but only afterwards by future (and often unknown) users. Because digital memory is value-neutral, it only reinforces the suggestion that the future of memory studies become more concerned with responsible contributions to the networked swarm. If we ignore the call for ethical memory making, it is not far-fetched to suggest that the effectiveness of rhetorical memory could become clouded with uncertainty, tainted by unethical contributions, and forgotten again. As a rhetorician, I am keenly aware of the importance of memory for various rhetorical practices. In order

to maintain a superior quality of memory studies, the field of rhetoric all must contribute to the *techne* influenced, memory-task at hand—actively participating in the creation of digital memories, gaining control over those memory contributions by taking responsibility for their content, and ensuring the proper use of others' memories.

Appendix

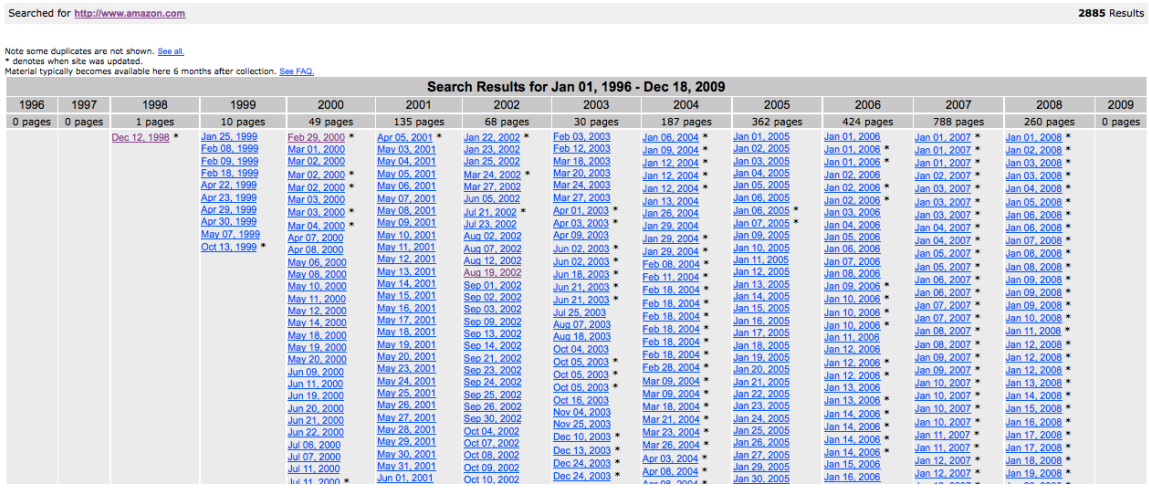

Figure 3.1: The Wayback Machine, Search Results, amazon.com

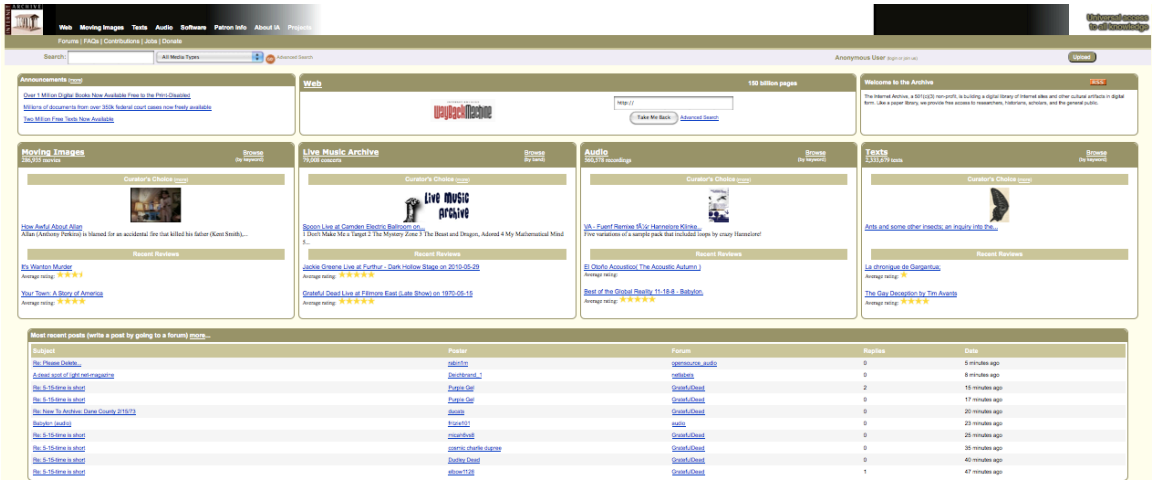

Figure 3.2: archive.org homepage

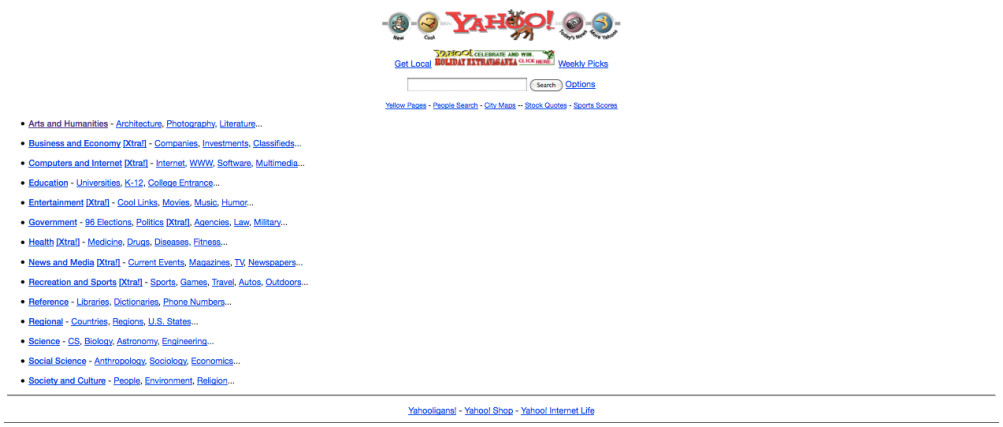

Figure 3.3: Yahoo! on December 20, 1996

Figure 3.4: Yahoo! on June 15, 2010

Figure 3.5: eBay on October 22, 2002

Figure 3.6: eBay on June 16, 2010

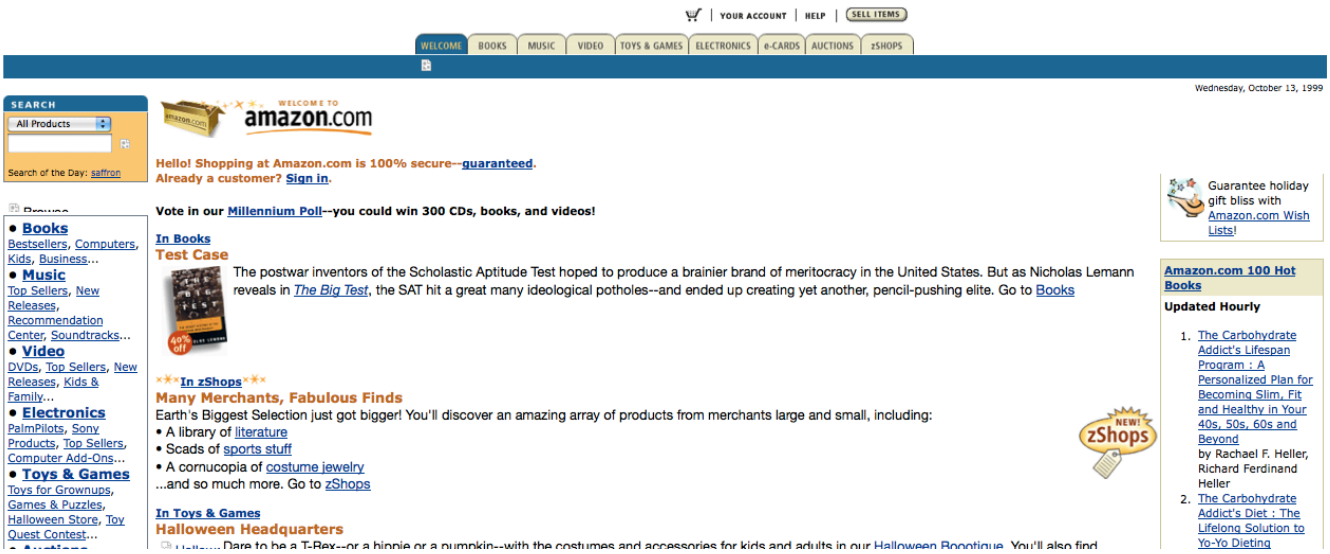

Figure 3.7: Amazon on October 13, 1999

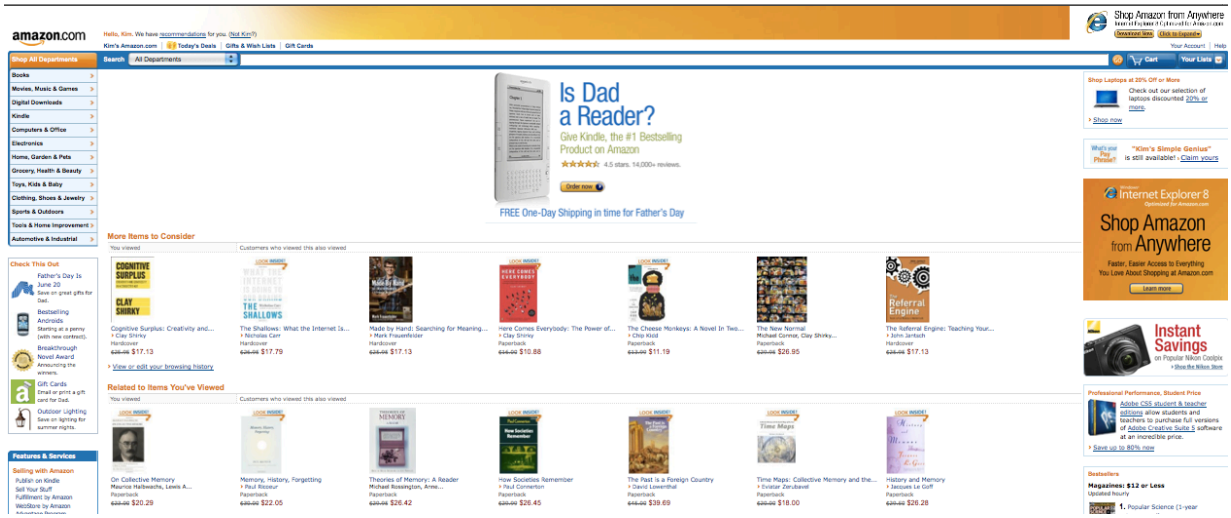

Figure 3.8: Amazon on June 16, 2010

Figure 3.9: The September 11 Digital Archive Homepage

Figure 3.10: *Satan in the Smoke* (Phillips)

Figure 3.11: “In seat 3B on American Airlines 313 at LaGuardia Airport, NY” (Jacobson)

Figure 3.12: “Riegel Apt.” (Edwards)

Figure 3.13: “just prior to the plane impact with the South tower” (Cremin)

Figure 3.14: “From the terrace of my highrise apartment in Union City, NJ” (Brown)

Figure 3.15: “April 2001 i misse u 2 girls u stil in my heart” (Calvário Florindo)

Figure 3.16: “Bee_Towers” (Tran)

Figure 3.17: “Flight 93 Crash Site” (Pacelli)

Figure 3.18: “Pentagon 2” (Graney)

Figure 3.19: “Lubbock, Texas” (Velasquez)

Figure 3.20: The Soweto ’76 Live Demo Homepage

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ABSTRACT

MAKING MEMORY: *TECHNE*, TECHNOLOGY, AND THE REFASHIONING OF CONTEMPORARY MEMORY

by

KIMBERLY LACEY

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Advisor: Richard Marback

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My dissertation answers two questions: Does the tension between interactive technologies and rhetoric re-shape the nature and relevance of the canon of memory? Do interactive technologies affect the ways we remember and persuade? I argue that my interpretation of *techne* suggests possibilities for the creation and production of new types of memory in combination with digital media. To interrogate this connection, I suggest three interpretations of the Greek concept, *techne*: as a process that is inherently productive; as a force that renegotiates contemporary sources of social power; and as a skill that balances expert knowledge with instrumentality. I explore the creative possibilities of "making memory" in several examples such as digital archives, photo manipulation, and digital collaborative pedagogy.

In Chapter One, I begin by reviewing how memory has been employed since its characterization as one of the five canons. Starting with Plato's "Phaedrus" and ending with Merlin Donald's *Origins of the Modern Mind* and Collin Gifford Brooke's *Lingua Fracta*, my thorough treatment of memory illustrates that even though memory has

persisted through the centuries, it has not been properly adapted as a foundation of rhetoric for use in connection with information technologies.

Chapter Two is a critical exploration of *techne* as well as an argument that states how *techne* and memory should be thought of as complimentary forces. New technologies afford users the possibilities to create and replicate memories, thus understanding *techne* as a characteristic of digital memory is critical for contemporary rhetorical practices.

Chapter Three is an exploration of three digital archives: The Wayback Machine, The 9/11 Digital Archive, and The Soweto '76 Archive. By looking at digital archives, I argue that visitors are encouraged to participate in memory making, indicating a shift from consumerist trends of memory towards productive memorial spaces. I use the term "*technemonic"* to suggest the devices, spaces, or tokens (digital or otherwise) that we make or collect to remember a particular event.

In chapter four, I argue that memory is a persuasive construct—it is not a concrete structure, as we tend to think it is, but rather it is extremely fluid and easily subjected to recreation by the slightest suggestive details. I examine two specific vectors of memory manipulation: external photo manipulation and internal cognitive manipulation.

Chapter Five questions the implications of technologies used through the process of *techne* to change the canon of memory. This final chapter will discuss how technologies have always affected memory and why those influences are critical to contemporary rhetoric studies. In particular, Chapter Five will deal with the new sources and boundaries of control individuals have (or do not have) over their digital memories.

AUTOBIOGRAPHICAL STATEMENT

I received my B. A. in English with a minor in French from Oakland University's Honors College in Rochester, Michigan in 2003. The focus of my undergraduate work was on modern and contemporary theater, and I completed an Honors College thesis titled "A Taste of Anger: Shelagh Delaney and John Osborne's Utilization of the Pregnant Female Body" under the supervision of Dr. Brian Murphy. In 2005, I entered the Ph. D. program in English at Wayne State University in Detroit, Michigan. I had originally began studying critical theory and the contemporary novel, but switched my focus to Rhetoric and Composition in my second year. My interested in the study of time and the study of memory influenced my research and I have written and presented extensively about the conjunction of these topics with interactive technologies. My teaching interests are rhetoric, new media, and technical writing. I plan on revising my dissertation into a book, and am excited about beginning research on another project looking at the biological influences on rhetoric and interactive technologies.