The Future of American Memory: Media Preservation, Photography, and Digital Archives

DISSERTATION

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By

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Abstract

The Future of American Memory focuses on media preservation in the United States since the 1930s. It works at the intersection of American studies, media studies, and visual culture, to trace the historical emergence of the desire to preserve media permanently across three key moments in American history. Part I addresses the 1930s, when scientists carried out the first systematic studies on the causes of deterioration in paper and microfilm records. By the end of the decade, American corporations used knowledge from these studies to build the first two time capsules that aimed to preserve a permanent record of civilization's achievements. Part II addresses the 1950s, when Cold War paranoia about nuclear attacks led government agencies, banks, insurance companies, and other corporations to invest in secure, bombproof, underground storage for their records. Part III addresses the contemporary moment, from the mid-1990s to the present. My case study is the Bettmann Archive of historical photographs, preserved at the Corbis Film Preservation Facility in a securitized, refrigerated vault located 220 feet underground. Corbis, an image licensing company owned solely by Microsoft founder Bill Gates, refrigerates and digitizes the photographs in the Bettmann Archive in order to preserve them for 10,000 to 15,000 years. In my Epilogue, I discuss geographer/artist Trevor Paglen's project, "The Last Pictures." Paglen micro-etched 100 images onto a silicon disc, then launched it into outer space on the communications satellite Echostar

XVI, where it will orbit the earth, he claims, for several billion years. I argue that these long-term preservation projects reflect a reverse trend in media preservation, where old technologies like refrigeration and etching produce "backups" for new media, even as corporate advertising and public discourse continues to frame digital media as the most secure, durable, long-term preservation solution. I conclude that a "preservation complex" has emerged in American culture since the 1930s. This complex is both institutional--a proliferating network of securitized, temperature-controlled spaces for preserving media--and psychic--the anxieties of corporate and state scientists, librarians, and archivists have to some degree become the anxieties of everyday American citizen-subjects, as we now preserve more information, both institutionally and individually, than any civilization in history. The preservation complex names the scientific knowledge, institutions, infrastructures, technologies, practices, and structures of feeling that reflect the intensification of investments in media preservation on the part of the state, corporations, and everyday citizen-subjects in the 20th and 21st centuries.

Dedication

To Nadia.

Acknowledgments

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Fields of Study

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Table of Contents

List of Figures

Introduction: The Preservation Complex

An April 14, 2005 article in *Forbes Magazine*, called "How to Preserve Photos for 500 Years," describes how the original negatives of photographer Jacques Lowe's 40,000 photographs of John F. Kennedy were destroyed in the terrorist attacks of September 11, 2001. While "some of the images still existed as prints and contact sheets," "the original negatives were lost forever."[1] Lowe, who died six months before 9/11, had been so attached to the negatives that when he returned to Europe after the assassinations of Martin Luther King Jr. and Robert F. Kennedy, he bought an extra plane ticket for the negatives to ride in the seat beside him. The *Forbes* reporter interprets the loss of Lowe's negatives as "a clear illustration of the benefit of preserving historical photographs on more than one type of media, and in more than one location."[2]

Why does the loss of Lowe's negatives necessarily illustrate that he should have made more copies of them, in multiple media formats, in multiple locations? While such an assertion is now commonplace and apparently obvious, it nonetheless reflects a historically and culturally specific way of thinking and feeling about media preservation and loss, an increasingly intense preoccupation of American institutions and citizen-subjects with preserving media permanently against all manner of threats. *The Future of*

[1] Arik Hesseldahl, "How to Preserve Photos For 500 Years." *Forbes*, April 14, 2005, accessed November 4, 2013, http://www.forbes.com/2005/04/14/cx_ah_0414photo.html.
[2] Hesseldahl, "Preserve."

American Memory traces the emergence and intensifications of the desire to preserve media permanently in the United States by charting the development of what I call "the preservation complex." In *The Right to Look: A Counterhistory of Visuality*, Nicholas Mirzoeff conceptualizes a "complex" as "both the production of a set of social organizations and processes that form a given complex, such as the plantation complex" and "the state of an individual's psychic economy, such as the Oedipus complex."[3] The preservation complex refers to the knowledge, preservation practices, architectures, and infrastructures produced to preserve media—Lowe's negatives were preserved in a safe that was inside of a temperature-controlled, securitized, underground, intensely surveilled vault, precisely the kind of "space of preservation" that has proliferated in the United States since the 1930s.

The preservation complex also refers to psychic dynamics related to our attachments to media, specifically our desire to preserve media against any and all threats, our belief that we can create invulnerable spaces for media, and the pervasive sense that media are increasingly under threat. *Forbes* could have interpreted the loss of Lowe's negatives as proof of the irredeemable fragility of photographs and the perviousness of safes and vaults we use to protect them; the insecurity of all media, as it is subject to both foreseeable and unforeseeable disasters; the ultimate futility of all our attempts to preserve media permanently and fully securitize it against flood, fire, (cyber)terrorism, hacking, sabotage, and the threat of its own chemical makeup. Even if the negatives hadn't been destroyed on 9/11, they would have naturally decayed within a

[3] Nicholas Mirzoeff, *The Right to Look: A Counterhistory of Visuality* (Durham and London: Duke University Press, 2011), 5.

century or so. But the preservation complex exerts powerful influence on how we see photographs and other media objects as objects that need preservation, that crystallize and index unique moments from the national past that, if lost, are lost forever, as irreplaceable as extinct species. Within the preservation complex, the logical response, then, to the haunting of past losses and the specter of future losses is to reproduce media in multiple formats, in case any one of them turns out to be less permanent than we thought, and to preserve these duplicates in multiple, securitized, and, ideally, remote locations, where we imagine that tragedies like 9/11 cannot, or are at least far less likely, to occur.

The Future of American Memory works at the intersection of American studies, media studies, critical race studies, and visual culture to trace the historical emergence of the desire to preserve media permanently across three key moments in American history: the Great Depression of the 1930s, the early Cold War years of the 1950s and 1960s, and the contemporary moment, which I refer to as the "late digital age." Part I addresses the 1930s, when scientists carried out the first systematic studies on the causes of deterioration in paper and microfilm records. By the end of the decade, American corporations used knowledge from these studies to build the first two time capsules that aimed to preserve a permanent record of civilization's achievements: The Crypt of Civilization in Atlanta, Georgia, and the Westinghouse Time Capsule of Cupaloy, deposited at the New York World's Fair of 1939. These projects preserved books, microfilm, moving images, sound recordings, and other material culture such as clothing and synthetic textiles. I argue that in the 1930s, permanent media preservation became a

way to maintain an idealized vision of the corporate capitalist social order against the threats of increased immigration, socialism, racial miscegenation, and a lack of public faith in the ability of corporate science to lead society to a better future. I read the diaries, technical articles, speeches, and fiction written by time capsule creators to shed light on this broader set of anxieties motivating permanent media preservation projects at this time.

Film theorist André Bazin's theory of the mummy complex is helpful, but ultimately limited, for understanding why the desire to preserve records intensifies in the United States in the 1930s and becomes more central to historical, scientific, state, and corporate interests. In Bazin's view, humans create representations of the world in order to preserve images of ourselves, in an attempt to overcome time and death. The mummy complex is the universal, transhistorical psychic structure that finds expression in the ancient Egyptians' mummification of the dead, and in the uses of photography and cinema.[4] What Bazin's theory could not account for was why intensifications in preservation practice occur when and where they do; it explained the psychic motivations for the creation of photographic or cinematic images, but not the preservation of those media, once thought to immortalize their subject, now themselves perceived as subject to decay and death.[5] The expansion of media preservation infrastructure in the United States

[4] André Bazin, "The Ontology of the Photographic Image" in *What is Cinema? Vol 1*, trans. Hugh Gray (Berkeley and Los Angeles: University of California Press, 1967).

[5] While Bazin's theory is useful in helping us understand the historical significance of photography and cinema as expressions of human consciousness and broad anxieties, it is limited in helping us understand why certain preservation practices emerge and intensify when and where they do. For a discussion of the value of Bazin's theory, as well as its limitations, Philip Rosen, *Change Mummified: Cinema, Historicity, Theory* (University of Minnesota Press, 2001).

responded to historically specific crises during the Depression, the early Cold War, and the late digital age.

The psychic contradictions of the preservation complex are also more particular than the mummy complex would suggest. The mummy complex names the general human tendency to attempt to overcome time and death by preserving images of ourselves and of the world; in contrast, the preservation complex names the specifically historical intensification of this tendency into a field of knowledge (preservation science) and a powerful ideological imperative (the preservation imperative) backed by state and corporate institutions in the name of national memory. Preservation science and the preservation imperative shaped the policy and practices of powerful institutions--corporations, state agencies, libraries, banks--and eventually helped forge broad cultural assumptions held by the public. The theory of the preservation complex facilitates an analysis of power as it conditions not only preservation practices but the very psychic structures through which the desire to preserve animates subjects. Powerful institutions, such as those that funded and carried out the BOS studies (i.e. the Carnegie Foundation, the National Research Council), not to mention corporations like the Westinghouse Company, shape the desire to preserve and the practices through which that desire materializes. They shape whether subjects feel compelled to preserve bodies, photographs, books, moving images, whether they seek to preserve them for a few years or decades, or permanently, and whether they *can* believe such permanence is possible, whether they attempt to suspend their temporality (Bazin calls this "stowing away"

objects "from the flow of time") by sealing them inside nitrogen-filled receptacles, or by burying them underground, or by launching them into outer space.

The desire and capacity to preserve media permanently emerged out of specific historical conditions and powerful institutions. I illuminate these conditions in order to challenge both the knowledge produced by preservation science and the preservation imperative itself. Where the preservation imperative frames preservation as a perennial human activity--a librarian's burden, an obvious public duty, and a way of meeting our obligations to future generations--I show how this particular framing arises in response to anxieties about threats to corporate capitalism, national memory, white racial purity, and the legitimacy of science. These anxieties belonged to American scientists, businessmen, statesmen, historians, all of whom belonged to a white male corporate, government, and/or intellectual elite. The desire to preserve media permanently arises not only from the individual subject taking a defensive stance against time within the mummy complex, but from collective, social, racial anxieties concerned with the preservation of societal institutions like the corporation and imaginary structures like the nation, national memory, the race, or civilization.

In Chapter 1, "The New Permanent Memory: The U.S. Bureau of Standards Studies on the Preservation of Records, 1929-1938," I trace the emergence of preservation science as a field of authoritative knowledge produced by powerful corporate and state institutions. The National Bureau of Standards (BOS) studies sought to be the first to systematically and scientifically identify the causes of the deterioration of paper and film records, and, based on this new knowledge, recommend effective

means of preserving them, for librarians, archivists, and custodians of records of all kinds.

In Chapter 2, "The Degeneration of the Average American: Eugenic Anxieties and The Crypt of Civilization" I analyze the first attempt to preserve a permanent, comprehensive record of civilization. In interviews and articles in the U.S. media, Thornwell Jacobs explained that his primary motivation in creating this permanent time capsule was the fulfillment of his "archeological duty" to future generations.[6] He wanted to leave behind a complete record of American culture in a way that ancient civilizations had failed to do for us. However, throughout Jacobs' speeches, other writings, and voice recordings, he exhibits intense eugenic fears about the increasing racial intermixture occurring in the United States, challenges to Anglo-Saxon social dominance, and the "degeneration of the average American citizen."

One preservation project that informed the Crypt, though the project was never completed, was "The Pyramid," conceived by William Hope Harvey in the late 1920s. The "pyramid" was actually an obelisk that would be erected atop an underground vault. Harvey was unable to raise sufficient funds for the project after the Stock Market Crash of 1929, and by the time of his death in 1936, only a part of the obelisk's foundation had been laid. Similar to Jacobs' intentions with the Crypt, Harvey hoped that his tract *The Book*, three copies of which would be placed in the Pyramid's "vault of reinforced concrete," would "be found by a future civilization rising from the ashes of this

[6] For a full explanation of this concept see Paul Stephen Hudson. "The 'Archaeological Duty' of Thornwell Jacobs: The Oglethorpe Atlanta Crypt of Civilization Time Capsule." The Georgia Historical Quarterly, 75.1 (Spring 1991): 121-138.

civilization; if this one is to go down in a sea of prejudice and human savagery." [7] Like Jacobs, he also located the root cause of civilization's impending doom as "some evil trait in human character, resulting in an economic poison in the construction of government and society," though Harvey's rhetoric lacks the eugenic anxieties that Jacobs exhibits.

However, in a strategy quite different from that of Jacobs, Harvey also tied his project to an anti-corporate, antiwar political platform through which he hoped to establish a new national party and a new constitution which would abolish usury, as well as corporations, entirely. It is not surprising, then, that Jacobs found widespread corporate support for his project, even during a Depression, while Harvey failed to fund his. The failure of Harvey's project less than a decade before the success of the Crypt underscores the seminal nature of the BOS studies in both systematizing the knowledge of preservation science and providing a common, authoritative language and set of practices through which historical, corporate, state, and archival interests converged.

In Chapter 3, "Preserving the Typical American Family: Race, Public Health, and the Westinghouse Time Capsule of Cupaloy (WTCC)," I analyze two Westinghouse exhibits at the 1939/1940 World's Fair in New York--the WTCC and the Sterilamp. I argue that these Westinghouse exhibits highlight the ways in which intensified concerns about threats to media, and public health concerns about threats to the white national body not only emerge at the same time, but together reflect the constellation of cultural anxieties that characterize the emergence of the preservation complex. The WTCC and

[7] See William Hope Harvey, *The Pyramid Booklet* (Monte Ne: The Pyramid Association, 1928) and *The Book* (Rogers: The Mundus Publishing Company, 1930).

Sterilamp, I argue, are artifacts that index this complex of anxieties about threats to paper and microfilm records, to the corporate capitalist social order, which rested on the racial integrity and stability of the typical (white) American family, and to "public health." I decrypt "public" as a racially coded term, and argue that the "public" is a white body, constituted against an array of dehumanized racial others and racialized natural others (i.e. insects, germs, disease). The preservation of history in the WTCC, then, does not simply preserve a record of an existing social formation but actually produces a powerful idealized image of typical Americans and American culture that sought to influence the way Americans saw themselves in the 1930s, not just how the people of 6939 A.D. would see them.

Chapters 2 and 3 theorize the relationship between the desire to define the essence of American culture, to preserve that essence permanently, and to protect its purity against the threats of racial, national, and cultural contamination or degeneration. The anthropologist Clark Wissler, a leading member of the American Eugenics Society, gave a speech at the dedication to the WTCC, and poured the pitch that sealed the capsule into its 50-foot deep "immortal well." Wissler also wrote the "Foreword" to the definitive study of the "typical" American city, *Middletown*: *A Study in Modern American Culture* by Robert S. Lynd and Helen Merrell Lynd.[8] Wissler is one of several figures of the period who were deeply concerned with both the preservation of the historical record and the protection of the imagined white symbolic center of the American nation. The fact that not all of these figures were eugenicists *per se* highlights the broad influence of

[8] Robert S. Lynd and Helen Merrell Lynd, *Middletown: A Study in American Culture* (New York: Harcourt, Brace and Company, 1929).

eugenics in the 1930s as a discourse of racial preservation. The preservation projects I analyze show how media preservation discourse frequently converged with racial preservation discourses during a period of social crisis.

Part II addresses the 1950s, when Cold War paranoia about nuclear attacks led government agencies, banks, insurance companies, and other corporations to invest in secure, bombproof, underground storage for their records. In Chapter 4, my case studies are the Iron Mountain Atomic Storage Corporation, a facility constructed in a former iron ore mine in the Hudson River Valley in 1951, and the Bunker at Greenbrier, a nuclear fallout shelter for Congress, built over four years from 1958 to 1962. The Iron Mountain Atomic Storage Company (IMASC) provided offsite, bombproof records storage services; it also included living facilities for corporate executives of large companies, like Standard Oil, to be used in the case of a nuclear attack. The Bunker at Greenbrier, completed in 1962, was a newly constructed under the Greenbrier Resort in White Sulphur Springs, WV. I argue that during the Cold War the preservation infrastructure of the United States both expanded and securitized dramatically. It expanded through the construction of facilities like IMASC, which repurposed remnants of previous modes of production and preservation infrastructure. It also expanded through the construction of new bombproof underground facilities like the Bunker at Greenbrier. Both IMASC and the Bunker constituted new spaces of preservation that made securitization a normalized component of media preservation. Both facilities had reinforced concrete, steel, and stone construction, constant surveillance by armed guards, backup power supplies and air filtration and conditioning systems that would work to preserve media at constant

temperature and humidity levels as well as remove any fallout from the air inside the facility. These spaces were designed to preserve both media and the lives of corporate and state leaders, thus ensuring the continuity of operations for both corporate businesses and government institutions. The preservation of continuity in American business and government was a crucial aspect of national defense and security during the Cold War, as manufacturers dispersed their factories and warehouses to prevent a single bombing attack from destroying their equipment and records and thus incapacitating them.

I argue that these underground structures that proliferated during the Cold War, and the way they added intense security to the practice of preservation, continue to shape the way that we preserve media today. The Bunker at Greenbrier, for instance, is now a secure data center used by Fortune 500 companies to store and preserve their records. The Bunker at Greenbrier is thus emblematic not only of the expansion of preservation infrastructure during the Cold War, but also of transformations in preservation infrastructure in the digital age. Many other decommissioned, underground, Cold War bunkers have been recently re-purposed by state agencies, such as Mount Pony, an underground facility that once stored $3 billion in currency meant to replenish supplies in the wake of a nuclear attack, now the central location of the Library of Congress's media preservation and digitization activities. The national nitrate film collection is stored in vaults where the massive, shrink-wrapped stacks of bills once rested on pallets, suggesting that Jacques Lowe's storage of photographs in a safe was not just an instance of an artist being obsessively attached to his work, but expressed a psychic formation

symptomatic of broader institutional formations and practices within the preservation complex.

Part III addresses the contemporary moment, from the mid-1990s to the present. My case study is the Bettmann Archive of historical photographs, preserved at the Corbis Film Preservation Facility in a securitized, refrigerated vault located 220 feet underground. Corbis, an image licensing company owned solely by Microsoft founder Bill Gates, refrigerates and digitizes the photographs in the Bettmann Archive in order to preserve them for 10,000 to 15,000 years. I seek to analyze the effects of digitization on the photography archive it preserves and argue that digitization both opens new critical reading possibilities and redacts the archive by only digitizing a fraction of its contents, thus producing limited representations of specific historical events and processes. I analyze images of lynching and racial violence to argue against two tendencies in visual culture scholarship: an overly narrow definition of lynching and a resultant over-limitation of what images comprise the lynching archive. My focus on images of intraracial violence troubles the mainstream definition of lynching as interracial, extra-legal violence, and suggests that lynching images circulated historically in ways that upheld white supremacy by functioning as threats to both whites and blacks.

In *American Pietás: Visions of Race, Death, and the Maternal*, Ruby C. Tapia develops a methodological framework that deeply informs my approach to preservation as a concept that is deployed in a wide range of discourses, and treated by a wide range of disciplines. Tapia seeks to re-work Bazin's formulation of the mummy complex in order to offer a "nationally specific and historicized theory of the production and circulation of

images of death in U.S. visual culture."[9] Similarly, *The Future of American Memory* traces a historically specific preservation complex, informed by the knowledge and research practices of an emergent preservation science, supported materially by the expansion of a preservation infrastructure in the United States, and reflected in and shaped by the actions of subjects whose identities are increasingly "backed-up" by media locked inside dispersed, often underground, spaces of preservation.

Tapia analyzes a wide range of materials in a wide range of media--including photojournalism, a novel and its film adaptation, archival photographs, and memorial websites--to engage with not just the content (what is within the frame) and historical contexts of images, but also with the "transhistorical, intermedial site where maternal imaginaries harness race and death to picture the nation in both critical and reverential lights."[10] American subjects "see and know death" through a racialized visuality that emerges from within and across a wide range of images, texts, genres, and discourses. Because death emerges in this way, death must also "therefore appear in our analyses of visual culture, between and beyond the material frames of single image-texts or the historical frames of bounded image practices."[11] Likewise, my analysis of preservation must attend to the way that subjects understand acts of preservation--whether the preservation of media, the nation, or the white race--as defenses against the threats of death, loss, and change. This requires both contextualizing preservation projects within a given moment of U.S. history, and attending to broader shifts within the preservation

[9] Ruby C. Tapia, *American Pietas: Visions of Race, Death, and the Maternal* (Minneapolis and London: University of Minnesota Press, 2011), 163n51.
[10] Tapia, 12.
[11] Tapia, 13.

complex, for in each moment powerful institutions frame the threat matrix assailing media and American subjects, from tyranny and immigration during the Depression, to nuclear attack during the early Cold War, to the ephemerality of digital information and cyberterrorism in the digital age.

Just as Jacques Lowe's safe of negatives reflected broader institutional formations that developed during the Cold War, institutional practices during the digital age are filtering into the everyday practices of American. Not only do media repositories like the Corbis and the Library of Congress increasingly store their holdings in securitized, underground facilities, but the online backup and cloud services that so many everyday people use to store their family photographs and vital records actually preserve that information on servers in remote, securitized locations, many of them underground, some of them secret, all of them designed to protect media against fire, insects, nuclear attack, cyberterrorism, and all the other threats that have accumulated into a multi-layered matrix within the preservation complex. The preservation complex and its subjects more intensively preserve media over the course of the twentieth and into the twenty-first century, creating a massive backlog of media in a variety of formats, as well as a massive infrastructure that consumes vast quantities of energy. This new infrastructure and network of facilities underscores the productiveness of preservation, the way in which the anxieties of an era materialize into spaces and practices, and the way those spaces and practices again trigger new anxieties.

Because each moment within the preservation complex has produced new media preservation technologies, infrastructures and objects, American subjects now face a

formidable constellation of preservation facilities that promise to protect media against threats, and thus simultaneously evoke those threats. Subjects of the preservation complex also face an accumulation of materials, such as time capsules, records storage facilities and data centers in former bombproof bunkers, and the avalanche of texts and images that constitute American cultural heritage, a heritage that the preservation imperative says is our responsibility to preserve and pass on to the next generation. Digital media, like the once-new medium of microfilm that preceded it, promised to succeed in permanently preserving media against all threats. But the subject of the preservation complex now knows too much; digital media are also ephemeral, and so we preserve many copies, in many formats, in many places, just as *Forbes* and many other mass media outlets and advertisements suggest, and the proliferation of media objects and the facilities to house them mirrors the proliferation of our anxieties, the same anxieties that these pervasive acts of preservation are meant to assuage, but usually can only do so temporarily, before a new threat is perceived on the horizon, or the new medium that serves to preserve an old medium proves to be less permanent then we knew it to be.

Chapter 1: The New Permanent Memory: The U.S. Bureau of Standards Studies on the Preservation of Records, 1929-1938

Introduction--Gassing Bookworms

"After reading [an] account of the astonishing possibilities of only one small branch of the 170,000 known families of insects, I began to wonder if there might not be some truth in the statement recently made by an eminent British scientist, in effect that 'it is not the rising tide of color or the interdestruction of the various races that threatens civilization, but rather the steady attack of the lowly insect.'"

-Thomas Marion Iiams[12]

In the photograph below, the Huntington Library's Thomas Marion Iiams uses a vacuum fumigation chamber to kill bookworms and their larvae with a poison gas called "carboxide." He eventually would go on to treat all of the rare books in the Huntington's collection, all "foreign" books to enter its collections, as well as some of the Pope's books in the Vatican.[13] Far from being an isolated instance of a bibliophile using a chemical weapon against a threat to a media object, the gassing of books became an institutionalized state practice, by the end of the 1930s. By 1938, every object that

[12] Thomas M. Iiams, "The Preservation of Rare Books and Manuscripts in the Huntington Library," Library Quarterly 2.4 (October 1932): 379.
[13] "Literary Treasures Saved by Book-worm Exterminator," January 6, 1933. Bettmann/CORBIS (U210551-10ACME).

Figures 1.1. “Literary Treasures Saved by Book-worm Exterminator.” Jan 6, 1933. Image Credit: Bettmann/CORBIS

entered the National Archives was first fumigated in a chamber like this one, using Thomas Iiams’ “carboxide.”[14] Iiams wrote his article on vacuum fumigation after learning from the National Bureau of Standards that, while they had carried out a variety

[14] Arthur E. Kimberly, “Repair and Preservation of Manuscripts in the National Archives,” The American Archivist 1.3 (July 1938): 111. Also see R.D.W. Connor, “The National Archives: Objectives and Practices,” *Bulletin of the American Library Association* 30.8 (August 1936): 592-593. Connor was the first Archivist of the United States, and Kimberly the Chief of the Division of Repair and Preservation at the National Archives.

of experiments on the causes of deterioration in paper records, they had not carried out experiments on preserving books against bookworms. Thomas Iiams' vacuum fumigation chamber experiments contributed to an emerging field of knowledge being established through the BOS studies, a field I call "preservation science." This field of knowledge emerged largely from the investigations carried out by the National Bureau of Standards (BOS), in collaboration with the National Research Council and the Carnegie Corporation, from 1929 to 1938.

Concerns about the preservation of historical records and national memory were particularly acute during the historical period of the BOS studies. A number of scholarly works on early 20th century American culture examine state practices, public health policy, military intervention and imperial campaigns, and racial and immigration law designed to protect or preserve the American "national body," "national stock," or "body politic" against contamination, disease, genetic inferiority, and other agents of societal decay.[15] What has not been thoroughly explored are concurrent efforts to protect national memory from contamination and disease by gassing and otherwise sterilizing media, such as books, manuscripts, and other paper records. Thomas Iiams called his vacuum fumigation method the application of "an old method" to a "new problem," as vacuum fumigation had originally been developed by the U.S. Dept. of Agriculture to fumigate plants arriving from foreign nations, and the U.S. Public Health service had used the same poison gasses to fumigate the bodies of foreign workers at the U.S.-Mexico Border.

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[15] See Mae Ngai, *Impossible Subjects: Illegal Aliens and the Making of Modern America* (Princeton: Princeton University Press, 2005); Natalie Molina, *Fit to Be Citizens?: Public Health and Race in Los Angeles, 1879-1979* (Berkeley and Los Angeles: University of California Press, 2005); Alexandra Minna Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America* (Berkeley and Los Angeles: University of California Press, 2005); Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* (Berkeley and Los Angeles: University of California Press, 2001).

State officials protected the national body by gassing the bodies of immigrants; Iiams preserved national memory by gassing rare books and manuscripts.

The BOS studies sought to be the first to systematically and scientifically identify the causes of the deterioration of paper and film records, and, based on this new knowledge, recommend effective means of preserving them, for librarians, archivists, and custodians of records of all kinds. In this chapter I trace the influence of the BOS studies in a range of professional fields concerned with the preservation of memory through preservation of records. In the emerging field of business history and the establishment of systematic corporate archives, the BOS studies established definitive guidelines for what kinds of records could be considered permanent. The BOS studies guided records preservation practices at the National Archives at a moment when the enlarged state bureaucracy under the New Deal required the maintenance of a durable mass of records for its operation. BOS scientists published their findings and recommendations in a range of professional journals--including the *Journal of the Society of Motion Picture Engineers*, *Refrigerating Engineering*, *The American Archivist*, *Library Quarterly*, and *Vital Statistics*--thus contributing to ongoing conversations about how best to preserve all manner of records--corporate, public, state, and historical. Finally, the influence of the BOS studies culminates with the entrance of preservation science into the realm of popular culture, as media coverage of two groundbreaking time capsule projects disseminated and legitimated new kinds of claims about the ability of modern science to preserve media permanently.

The production of authoritative scientific facts by the BOS relied upon accelerated aging methods, whereby researchers established the durability and longevity

of various types of paper and microfilm records, and conceived the notion that certain media materials, such as rag paper and cellulose acetate film, could be preserved permanently. I argue that the BOS studies, their dissemination, and influence reflect a broad intensification of concerns about preserving historical records and national memory during the Depression. I contextualize the BOS studies historically to show that this intensification occurs in response to anxieties about threats to liberal democracy and corporate capitalism, not simply as the manifestation of some universal human impulse to preserve the past. By the end of the 1930s, the preservation of historical, state, and corporate records--the material that constitutes national memory--became a powerful practice for envisioning a coherent vision of American culture at a time when rapid social change seemed to undermine any notion of a common set of American values. The permanent preservation of media, a concept made possible by the BOS studies, provided a means of imagining the survival of American culture in the deep future, beyond all the threats that assailed the American way of life and its largest institutions during the Depression. The BOS studies allowed state and corporate institutions, as well as the broader American public, to confidently know that these media would be permanent, ensuring the preservation of national memory, even if the American nation-state itself disintegrated through war, rampant immigration, the rise of labor unions and Socialism, racial violence and tension, or any of the other myriad forces threatening to unravel it.[16]

The protection of state, corporate, and historical memory in the Depression required the protection and preservation of the records that constituted them. As Pierre

[16] For a detailed summation of the various threats to both liberal democracy and capitalism, even the sustainability of the nation-form in general and the U.S. nation-state in particular during the 1930s, see Ira Katznelson, *Fear Itself: The New Deal and the Origins of Our Time* (New York and London: Liveright, 2013).

Nora explains, "modern memory is, above all, archival." No longer located simply in the minds, communal stories, "gestures and habits," and "skills passed down by unspoken traditions," modern memory is

> "the gigantic and breathtaking storehouse of a material stock of what it would be impossible for us to remember, an unlimited repertoire of what might need to be recalled. Leibnitz's 'paper memory' has become an autonomous institution of museums, libraries, depositories, centers of documentation, and data banks."[17]

Paper records were the "material stock" of institutional memory. The BOS studies provided guidelines for the establishment of preservation policies in new repositories that emerged during this period, such as the National Archives, as well as the hundreds of libraries across the United States, created with funding from the Carnegie Foundation, and archives of corporate records.[18]

Historical Context of the BOS Studies

In the wake of the Stock Market Crash of 1929, state and corporate elites thought American democracy and capitalism specifically, and civilization broadly, faced a number of serious threats. Ira Katznelson lists Depression-era "pressures on liberal democracy" as the instability of public faith in capitalism, as "millions faced dire circumstances even after economic recovery," an "environmental crisis" that "ravaged agriculture," racial violence, Anti-Semitism, labor unrest, and totalitarian and Socialist

[17] Pierre Nora, "Between Memory and History: Les Lieux de Mémoire," *Representations* 26 (Spring, 1989): 13-14.
[18] For more on the libraries funded by Carnegie and the professionalization of librarians in at this time, see Steve Norman, "'The Library Quarterly' in the 1930s: A Journal of Discussion's Early Years," *Library Quarterly* 58.4 (October, 1988): 327-329.

regimes abroad.[19] Amidst all this turmoil, American exceptionalist ideology framed the U.S. as the forefront of modern civilization, a non-aggressive world power, an empire different from their imperial European predecessors, one that exported "democracy and morality."[20] Thus, preservationists concerned with preserving the national memory of America considered themselves to be preserving the memory of civilization, broadly, at the same time.

In the introduction to their "Summary Report of Bureau of Standards Research on the Preservation of Records" (1934), BOS scientists Arthur Kimberly and B.W. Scribner outlined the preservation imperative that motivated their work.

> "The librarian is the custodian of records upon which the progress of the future must be founded. If some future generation finds that important records reverted to dust, the loss to civilization may be irreparable. The proper discharge of this duty requires that he assume responsibility for the physical quality of the documents which he takes into custody, and that he store them under such conditions as to promote maximum longevity. It is the plain duty of the public to see that librarians are given adequate support and permitted sufficient freedom of action to accomplish their task."[21]

This quote demonstrates an understanding of records preservation as an obligation to future generations, one that both custodians of records and the general public must fulfill. The BOS studies attempted to scientifically establish the best techniques for caring for

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[19] Katznelson, *Fear Itself*, 39.
[20] Jackson Lears, *Rebirth of a Nation: The Making of Modern America, 1877*-1920 (New York: HarperCollins, 2009), 278-279.
[21] Arthur E. Kimberly and B.W. Scribner. "Summary Report of National Bureau of Standards Research on Preservation of Records," in *Bureau of Standards Miscellaneous Publication* 144 (May 9, 1934): 2.

"the physical quality" of documents and the storage conditions that "promote maximum longevity." Thus, the studies performed a crucial task in the establishment of both *preservation science*--the production of definitive scientific knowledge about how to best preserve media--and *the preservation imperative*--the ideological commitment on the part of custodians of records, state and corporate institutions that store records, and the public called to "support" the preservation of masses of crumbling paper records.

The preservation imperative emerges not only out of the BOS studies and their dissemination, but out of several conditions of possibility specific to American culture in the early 1930s. According to the BOS, the 1930s were an exceptional period in the history of records preservation. First, the advent of modern wood-pulp paper, which replaced the mostly hand-made, relatively acid-free, rag paper that preceded it, resulted in masses of paper records that were highly perishable.[22] Cheaper paper allowed for rapid dissemination of information, but also "introduced, largely through the improper selection of papers, the problems of preservation of important records on impermanent papers, and the suitable choice of papers for permanent records."[23] While librarians and archivists made efforts to preserve highly perishable wood pulp papers throughout the 19th century, all of these efforts ended "without very definite accomplishments."[24]

By the 1930s, the daily function of state, corporate, and historical institutions increasingly relied on masses of paper records[25] whose durability and longevity was

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[22] B.W. Scribner, "Report of Bureau of Standards Research on Preservation of Paper Records." *Library Quarterly* 1.4 (October 1931): 409.
[23] Scribner, "Report of Bureau," 409-410.
[24] Scribner, "Report of Bureau," 410.
[25] R.D.W. Connor wrote that "the orderly procedure of the current business of government" depends upon the preservation of "letters, orders, reports, accounts, land grants, judicial records, laws, treaties and other documents of vital importance." See "Our National Archives," *Minnesota History* 17.2 (March 1936): 1-19. Also see Solon J. Buck, "The National Archives and the Advancement of Science," *Science* 83.2156 (April

unknown. While cheap paper had become "an absolute necessity in our present scheme of existence," it was "not a quality product," and while the market for it constantly expanded, "this market [did] not include the printing of records designed for the use of future generations."[26] Indeed, the rapid urbanization of the United States in the late 19th century and imperial expansion into the West involved a reorganization of American business. Since 1870, the expansion of railway and telegraph networks allowed for larger "business units," as managers could travel long distances to far-flung sites of a business operation. This "new speed" of business "removed management from its old intimate acquaintance with details and increased the reliance upon records."[27] Also, the prolonged economic depression of the 1870s, with its decreased demand for industrial products, led some factory owners to turn their focus from technology to organization, kickstarting the beginnings of the scientific management movement in American industry.[28] These new management methods, which would come to characterize corporate management within a few decades, required increased amounts of paper records. These records provided the benefit of leaving "a permanent trail" of orders, costs of materials, time, and wages, in order to combat the "wasteful delay" in manufacturing caused by records being "too often kept by memory."[29]

24, 1936). Buck was then Director of Publications for the National Archives, and was also the first President of the Joint Committee for Materials Research, formed by the American Library Association and the Social Science Research Council. For more on the joint committee, see Kenneth Carpenter, "Toward a New Cultural Design: The American Council of Learned Societies, the Social Science Research Council, and Libraries in the 1930s," in *Institutions of Reading: The Social Life of Libraries in the United States*, ed., Thomas Augst and Kenneth Carpenter (Amherst: University of Massachusetts Press, 2007): 283-309.

[26] Kimberly and Scribner, "Summary Report," 2.

[27] Oliver Wendell Holmes, "The Evaluation and Preservation of Business Archives," The American Archivist 1.4 (October 1938), 176.

[28] Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge and London: Harvard University Press, 1977), 272.

[29] Metcalfe, "Shop Order System of Accounts," 440-441, quoted in Chandler, Jr., *The Visible Hand*, 273.

The operation of the U.S. government also required exponentially more records as the nation-state expanded, a situation both ameliorated and intensified by the advent of information processing machines like Herman Hollerith's punched-card systems, first used for the Census of 1890, and later adopted by banks, department stores, and many other corporations for accounting purposes. As Kimberly and Scribner note, the market for cheap, mass-produced paper products was "tremendous and vitally important" by the early 1930s, foundational to the very operation of American society, specifically state and corporate institutions. Lars Heide describes the period between 1880 and 1945 as an "early information explosion," challenging the notion that the massive increase in both information and the importance of that information for the function of society occurred only recently in the "digital age." The expansion of state bureaucracy through programs like the Social Security Act, under the New Deal, created even more state records, while new regulatory policies imposed on business required corporations to preserve certain records permanently, even before there the BOS studies effectively established an authoritative meaning of "permanent."[30]

With this expansion of U.S. industry and its attendant urbanization, the burning of fossils fuels for manufacturing, transportation, lighting and heating in densely populated

[30] Oliver Wendell Holmes (no relation to the 19th century physician and poet) quotes the tax code of 1936 in his article on "The Evaluation and Preservation of Business Archives": "Again taxes, particularly the income tax, require the keeping of records upon which the returns are based. According to the Bureau of Internal Revenue {Regulations 94 Relating to the Income Tax Under the Revenue Act of 1936, p. 175), 'every person subject to tax carrying on the business of producing, manufacturing, purchasing, or selling any commodities or merchandise, except the business of growing and selling products of the soil, shall for the purpose of deter- mining the amount of income which may be subject to the tax keep such permanent books of account or records, including inventories, as are necessary to establish the amount of his gross income and the deductions, credits, and other information required to be shown in an income tax return.' Very complete valuation records must be kept if deductions are to be allowed for depreciation and depletion. Again, whether or not the statute of limitations has expired, the government can, if it suspects fraud, require a company to produce records to dis- prove the suspicions, and, if such records have not been kept, it is the company's misfortune. The new Social Security Act will require more permanent labor records," 182.

urban areas created unprecedented amounts of air pollution that hastened the deterioration of paper records. Kimberly and Scribner insist that this was a "new problem for librarians to face," and that "the preceding generation did not consider these things," evident in the fact that they printed "important records" on "impermanent paper."[31] BOS scientists carried out several studies related to air pollution, which was one of several "external agents of paper deterioration," the others being "daylight," "variation of temperature and humidity, and pests."[32] The "organic constituents of books," such as "paper, cloth, thread, adhesives, and leather," are "susceptible to decay from chemical changes brought about by deteriorative components of the books themselves," or by "exterior influences" such as sulfur dioxide, light, humidity, and heat.[33] The BOS studies sought to establish "definite data" about each factor that caused the deterioration of records and about how to best preserve records against all threats. In the process, the studies established a field of preservation science that made possible new claims about the permanence of media in American culture, and thus the permanence of national memory.

The combination of the aforementioned historical developments led to an acute level of concern about the preservation of paper records in the early 1930s. In a 1931 report, B.W. Scribner listed a variety of institutional efforts to counter the deterioration of paper records and asserted that these efforts pointed to "a crystallized realization of the importance of the subject, and of the need of systematic, scientific, and technologic

[31] Kimberly and Scribner, "Summary Report," 2.
[32] Arthur E. Kimberly and J.F.G. Hicks, Jr., "A Survey of the Storage Conditions in Libraries Relative to the Preservation of Records," in *Bureau of Standards Miscellaneous Publication* 128 (1931): 7.
[33] Kimberly and Scribner, "Summary Report," 16.

research to solve the complicated problems involved."[34] The institutional efforts included committees formed by the League of Nations, the Technical Association of the Pulp and Paper Industry, the extensive treatment of the topic at the First World Library and Bibliographic Congress in Rome in 1929, the standardization of various types of papers used for records by the Library Association in England, and various research projects carried out by the Rag Content Paper Manufacturers, as well as "national government laboratories, and, separately, by a number of paper concerns." The American Library Association had also taken an "active interest" in the topic,[35] and several newspaper publishers had begun printing "permanent" editions for storage in libraries.[36]

The Pollution of National Memory and Accelerated Aging Tests

The wide range of institutions and organization anxious about the preservation of historical, state, and corporate memory needed effective means of combatting the effects of "agents of deterioration" on paper records. However, this required testing the durability and permanence of new kinds of mass-produced paper manufactured to last longer than other types of modern, wood-pulp paper. The BOS needed to test the future effects of pollution and other "agents of deterioration," not just measure the damage already done. The BOS used methods that simulated the passage of time and the exposure

[34] Scribner, "Report of Bureau," 410.
[35] The BOS carried out a study at the request of the American Library Association and the National Association of Book Publishers, to assist in "the establishment of standards for such papers, from the viewpoint of their use as records." See Kimberly and Scribner, "Summary Report," 20; and John O. Burton, "Permanence Studies of Current Commercial Book Papers," *Bureau of Standards Journal of Research* 7.3 (1931): 429. Thomas Iiams' Library Quarterly article on gassing bookworms originated in a talk he delivered to the Large College and Reference Librarians Section of the American Library Association in April 1932. See Iiams, "The Preservation of Rare Books," 375.
[36] Scribner, "Report of Bureau," 410. Also see the 1934 "Summary Report," 20. The *New York Times* seems to have been the first American newspaper to publish a permanent edition.

of records to pollution, humidity, light, and other destructive threats. As sulfur dioxide pollution was the gravest threat to paper records, the BOS carried out a series of studies specifically related to air pollution and the control of environmental conditions in libraries.

First, the studies sought to determine how much the air conditions in libraries contributed to the deterioration of records, and found that "No library of those inspected had taken all" necessary precautions "against polluted air and variation in temperature and humidity."[37] Second, they compared the deterioration of identical books submitted by "city and country or suburban libraries" and found that the urban volumes had decayed more than those from outside the city. Further, book papers made of "chemically refined rag and wood fibers" fared better than book papers containing wood pulp, which emphasized "the importance of the chemical purity of the fibers themselves as a factor in paper permanence."[38] Third, they tested the specific deteriorative effects of urban pollution upon paper by placing 14 samples of various commercial book and writing papers in a gas chamber filled with sulfur dioxide for a duration of 240 hours.[39] This study showed that some low-quality papers "suffered less from exposure to this gas than did high-grade papers," so an improvement in paper quality alone, while important, would not be sufficient to prevent the future deterioration of paper records. They

[37] Kimberly and Hicks, "A Survey," 8

[38] A.E. Kimberly and A.L. Emley. "A Study of the Deterioration of Book Papers in Libraries," in *Bureau of Standards Miscellaneous Publication* 140 (1933): 1.

[39] A.E. Kimberly, "Deteriorative effect of sulphur dioxide upon paper in an atmosphere of constant humidity and temperature," *Bureau of Standards Journal of Research* 8.158 (1932). The U.S. Department of Agriculture later carried out a similar study. See T.D. Jarrell, et al., "Deterioration of Paper as Indicated by Gas Chamber Tests." in *Technical Bulletin* 605 (Washington, D.C.: U.S. Dept. of Agriculture, 1938): 1. They cite Kimberly's study but remark that it did not specify whether whole pages or sections of pages were used as samples. The purpose of the Department of Agriculture study was to determine to what degree pollution penetrated books, and so they compared deterioration at the margins of books to deterioration at the center of pages. See pp. 2-3.

concluded that eliminating acid pollution in libraries through "the modification of library ventilating systems" was necessary to properly care for paper records. Finally, they studied the most effective means of removing the sulfur dioxide from air at the Folger Library, and recommended that the existing air conditioning system would need to be replaced with one that washed the air in an alkaline bath to remove its acidity.[40]

BOS scientists not only carried out extensive research, but worked to disseminate their findings and recommendations and, in doing so, also reinforced the preservation imperative for institutions of national memory, such as state archives, corporate depositories of records, and libraries. In April 1937, after the studies of the deteriorative effects of pollution concluded, B.W. Scribner published an article called "Air Treatment for Preservation in Libraries" in a professional journal for air conditioning engineers. Scribner urged all libraries, if they were to properly and dutifully preserve their collections, to follow the recommendations of the BOS, as the National Archives and many other "important" libraries and repositories had already done.[41] These recommendations required the installation of air conditioning units that purified library air by removing the sulfur dioxide pollution that could combine with moisture on book pages (especially in highly humid environments) to become sulfuric acid, literally burning the paper. Air conditioning would control humidity and thereby prevent paper, leather, and cotton from serving as sites for mildew to grow, as "they will not contain enough moisture," though "glue and starch will. These latter materials can be protected in

[40] B.W. Scribner, "Air Treatment for Preservation of Records in Libraries." *Refrigerating Engineering* 33 (April 4 1937): 233-235.
[41] Scribner, "Air Treatment," 235.

the bookbinding process against mildew by incorporating in them a bactericide such as betanaphthol."[42]

That same year, Arthur Kimberly wrote an article for *Vital Statistics--Special Reports,* published by the Bureau of the Census, and expanded the scope of the preservation imperative to apply not only to librarians, as it did in he and Scribner's "Summary Report" of 1934, but to all custodians of vital statistics. He even prioritized preservation over access: "while it is true that such statistics must be easily available for use, the primary duty of the custodian is the preservation of them."[43] He applies precisely the same language from the "Summary Report" to describe the duty of the "custodian of vital statistics" who, in his view, "occupies much the same position with respect to the records in his charge as does the librarian of a large institution."[44] The custodian must also "assume responsibility for the physical quality of the documents which he takes into his custody" and store them under such conditions as "to promote maximum longevity." He should be familiar with "the relative permanence of record components, such as paper, ink, and binding materials," "optimum conditions of storage," and of "rehabilitation methods."[45] In short, he should apply the recommendations of the BOS studies.

Kimberly reports that the custodian of records should refer to BOS classifications of paper based on their level of "strength and purity," the qualities which would allow paper to have a "long life." Kimberly intensified Scribner's point about glue to say that

[42] Scribner, "Air Treatment," 233.
[43] Arthur E. Kimberly, "The Preservation of Records in Vital Statistics," *Vital Statistics—Special Reports* 3.33 (August 5 1937): 153, 158.
[44] Kimberly, "Vital Statistics," 153.
[45] Kimberly, "Vital Statistics," 153.

"only the highest quality adhesives should be used in permanent record work. All glue and paste used should contain small quantities of phenol, thymol, or some other fungicide to discourage mold growth."[46] Dust must be removed constantly, as the "angular particles siliceous materials" are so small they embed themselves between fibers in the paper, and when the paper is flexed, they "cut the fibers," as well as act as nuclei for the condensation of acidic moisture."[47] The recommendations made by Kimberly, like Scribner's, reflect an obsession with protecting media from contamination, pollution, and pests, an obsession consistent with national anxieties of the period related to racialized populations of immigrants.

Kimberly's discussion of insects brings the discourse of media preservation into a full intersection with ongoing discourses of national and racial preservation, and the extermination of pests and national enemies. Kimberly writes about insects in the library that "Constant warfare must be waged against them." He recommends the fumigation of library stacks and open air; vacuum fumigation is the best method for treating "a large volume of materials" though it is not needed for smaller amounts, as items "can be spread out so that the fumigant has ready access to them."[48] With World War I and the rise of chemical warfare, frequent slippages emerge between discourses of war and discourses of chemical extermination. These slippages mapped the pestilential destroyers of national memory—worms, roaches, bacteria, etc.—onto the human enemies of American empire, and vice versa. Iiams' bookworm exterminations, and those of the National Archives, overlap with this more pervasive mapping of largely invisible, destructive, natural forces

[46] Kimberly, "Vital Statistics," 154.
[47] Kimberly, "Vital Statistics," 155.
[48] Kimberly, "Vital Statistics," 156.

onto the enemies of American empire, though Iiams calls them enemies of "civilization."[49]

The gasses Kimberly recommends include Iiams' carboxide, as well as hydrocyanic acid, which was commonly used to fumigate ships and trains importing foreign organic materials, as well as the bodies and clothes of Mexican immigrants at the U.S. Mexico border through the first half of the 20th century.[50] As Alexandra Stern notes, the era had a "fixation on boundary maintenance," and she cites the powerful, if well-known, examples of the eugenics movement, "purity campaigns against alcohol, venereal disease, and prostitution," as well as the formation of the Border Patrol.[51] I would add to this list an item about the preservation of national memory on chemically purified papers housed in chemically purified spaces, under the strictures of a scientifically authoritative preservation imperative that keeps books and manuscripts within the boundaries of that imagined pure space. As Kimberly commands in the conclusion of the 1934 "Summary Report," "Stored material should never be removed from the purified air in libraries as it will retain acidity that may be acquired from sulphur dioxide in polluted air." Finally, before a "new acquisition" crosses the threshold into the purified space of the library or

[49] See Edmund Russell, "'Speaking of Annihilation': Mobilizing for War against Human and Insect Enemies, 1914-1945," *The Journal of American History* 82.4 (March 1996): 1505. The racialization of insects eventually also occurs within this discourse. Russell analyzes two different images emerging from intersecting discourses of war, race, and national security. Both images showed "half-human, half-insect creatures, talked of the 'annihilation' of these vermin, and touted modern technology as the means to accomplish that end." The first appeared in 1944, in a magazine for published for U.S. marines, and depicted an insect pest with caricatured slanted eyes, protruding front teeth, with the label "louseous Japanicas." The second appeared in 1945, in a journal for the National Association of Insecticide and Disinfectant Manufacturers, and showed "three creatures with insect bodies, each with a stereotypical head representing a national enemy."

[50] See Stern, *Eugenic*. Also see David Dorado Romo, *Ringside Seat to a Revolution: An Underground Cultural History of El Paso and Juárez: 1893-1923* (El Paso: Cinco Puntos Press, 2005), 233-244.

[51] Stern, *Eugenic*, 74.

archive, it "should be fumigated to kill 'bookworms' or other insect life that may be present."[52]

Preservation Science and the Legitimation of Accelerated Aging Tests

The credibility of preservation science derived not only from its intersection with discourses that expressed national anxieties about boundary maintenance and purity, but from the process of citation amongst state and corporate scientists, the dissemination of their findings in a wide array of professional journals, and eventually the mass media. The BOS studies and the preservation science they established would find their way into stories in the mass media, where the "definite facts" of paper and film records circulated without any attention to the social nature of their construction, their grounding in limited empirical evidence, and the specious research method of simulating time through heating, folding, and gassing paper and film. In 1938, The *Christian Science Monitor* published "Wonders of Research: Aging of Films." The article writes the future of preserved media in a definitive tone, and legitimates the predictions of the BOS by citing their use of accelerated aging methods. It opens with the lines:

> "Some 2,000 years from now in the year 3938 AD, citizens of the world will be able to see and hear today's history in the making. Experiments carried on by professional chemists at the United States Bureau of Standards are conducting 'aging tests' on films of various types and makes to determine which ones stand up the best over long periods of time. In a few weeks they can age film as effectively as if it were stored for fifty years in a cool dark room."

[52] Kimberly and Scribner, "Summary Report," 27.

The article admits that the BOS unofficially estimates the longevity of cellulose acetate film (also known as safety film) at several hundred years, only to exaggerate the estimate in the opening lines. This suggests a popular desire for certainty about the preservation of contemporary artifacts, of traces testifying to the existence of American civilization as it was in the 1930s.

Indeed, the desire to define Americanness, preserve it in paper and film records, and transmit the core values of American society, whatever those were, to the next generation was especially intense in the 1930s. Warren Susman remarks upon a "key structural element" in the society of the decade was "the effort to find, characterize, and adapt to an American Way of Life as distinguished from the material achievements (and the failures) of an American industrial civilization."[53] In Susman's view, Ruth Benedict's *Patterns of Culture* (1934), Constance Rourke's *American Humor: A Study in National Character*, as well her essay, "The Roots of American Culture," were landmark works that show the effort to define what is American culture, while not new, "appeared more widespread and central" in the 1930s "than in any previous time."[54] Gallup polls, established in 1935, gave Americans an impression of their "generally shared attitudes and beliefs," while radio, used with new levels of sophistication, "helped reinforce uniform national responses" and "reinforce uniform national values and beliefs in ways no other medium had ever before been able to do."[55] The first two "permanent" time

[53] Warren I. Susman, "The Culture of the Thirties," *in Culture as History: The Transformation of American Society in the Twentieth Century* (New York: Pantheon, 1984), 156.
[54] Susman, "The Culture," 157.
[55] Susman, "The Culture," 158-159. For more on the significance of Gallup polls and social surveys in the first half of the 20th century, see Sarah E. Igo, *The Averaged American: Surveys, Citizens, and the Making of a Mass Public* (Cambridge and London: Harvard University Press, 2007). For more on the efforts of American anthropologists to make Americans "culture-conscious," beginning in the 1920s, see John S.

capsule projects--The Crypt of Civilization and the Westinghouse Time Capsule of Cupaloy, both with target opening dates over 5,000 years in the future--embodied this to desire to clearly and vividly portray the core of American history, identity, and values, and to transmit this coherent vision of Americanness to our descendants.

These time capsules re-imagined Lewis Mumford's conception of a "new permanent record," described in his *Technics and Civilization* (1936), published the same year that *Scientific American* published its first article on the Crypt of Civilization.[56] Where Mumford referred to those photographic, phonographic, and cinematic media that capture and condense human culture and transmit it to future generations in a more lasting form than spoken words or crumbling stone monuments,[57] time capsule creators meant that they could actually create media that would survive indefinitely, based on the findings of the BOS. In a *New York Times* article from 1938, Crypt creator Thornwell Jacobs cites a letter from the BOS, in which they recommend the use of cellulose acetate, stored in stainless steel receptacles, filled with inert gas to preserve microfilm copies of books effectively for over 5,000 years. Likewise, G. Edward Pendray, creator of the Westinghouse Time Capsule, received extensive consultation from the BOS as Westinghouse engineers created the missile-shaped capsule, also filled with microfilms suspended in inert gas to protect them against decay. The Westinghouse Time Capsule was exhibited and deposited in the grounds of the New York World's Fair of 1939/40, publicized through an ad campaign in *Life Magazine*, as well as a corporate-sponsored

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Gilkeson, *Anthropologists and the Rediscovery of America, 1886-1965* (Cambridge and New York: Cambridge University Press, 2010).

[56] This same year, G. Edward Pendray wrote an article on the Crypt in *Literary Digest*. Pendray would steal the idea to create the Westinghouse Time Capsule of Cupaloy. See T.K. Peters, *The Story of the Crypt of Civilization* (Atlanta: Oglethorpe University, 1940).

[57] See Lewis Mumford, *Technics and Civilization* (New York: Harcourt, 1934).

feature film "The Middleton Family at the New York World's Fair" (1940), produced by the Westinghouse Company. Through this publicity, the viability of claims that media, and thus national memory, could be permanently preserved, enter popular culture and national consciousness. C.G. Weber, a research scientist who carried out some of the BOS studies, even served as an official witness to the sealing-in ceremony of the Westinghouse Time Capsule, and appears in a picture with the editor of *Scientific American*, the Fair president, and the Vice President of Westinghouse in the promotional book, *The Story of the Westinghouse Time Capsule*. Accelerated aging studies were the basis for these new claims about the possibilities of media preservation and utopian narratives about the survival of American culture in the deep future, beyond all the social ruptures and threats that assailed it, seemingly from all sides, during the Depression. The BOS studies thus provided a turning point in both professional literatures and in popular perception about the durability of media.

The BOS Studies in Business Literature

Prior to the BOS studies, amidst the high levels of anxiety about threats to the America's liberal democratic government, its corporate capitalist economic order, and the deteriorating material stock of historical records, librarians and archivists had no way to feel certain that they could preserve state, corporate, and historical memory. While existing research literature provided insight into "certain agencies" causing deterioration, "namely light, acid gases, pests, such as insect, mice, molds, and fungus," "definite data were lacking."[58] The BOS framed all studies that came before their accelerated aging

[58] Kimberly and Scribner, "Summary Report," 4.

studies as unsystematic, some of them only quasi-scientific, incomplete, and, ultimately, unable to supply "definite data" or "definite facts"[59] about the causes of deterioration in paper records and the most effective means of preserving them. The existing literature did not constitute a preservation science yet, though it provided the basis for the BOS to establish "definite facts" gathered through scientific investigation carried out by an authoritative state agency in collaboration with powerful corporate interests and leading historians, librarians, and archivists.[60]

According to Bruno Latour and Steve Woolgar, "the construction of a scientific fact"[61] occurs when it "loses all temporal qualifications and becomes incorporated into a large body of knowledge drawn upon by others."[62] A fact is perceived as "something which is simply recorded in an article and [has] neither been socially constructed nor possesses its own history of construction."[63] The facts established by the BOS were not discoveries, but constructed facts validated by their citation in "a large body of knowledge drawn upon by others." Once enough professional journals and mass media publications cited the BOS studies and circulated their findings as facts, they became

[59] In 1934 "Summary Report": "definite data as to the optimum conditions of storage for paper were found to be meager. In fact, perusal of the literature showed that prior to the work herein reported, no systematic, organized research to determine the causes of the deterioration of paper in libraries and similar depositories, and to find means of minimizing or eliminating this deterioration had even been reported," 3. Also see reference to BOS correspondence with the editors of Scientific American in Binkley, "Do the Records of Science Face Ruin?" *Scientific American* (1929): 30.

[60] The advisory committee for the studies included the chief chemist at the American Paper Writing Co., Inc., the chief of the Bureau of Chemistry and Soils, president of paper merchants W.D. Harper, the director of Paper Research at pulp and paper manufacturers Brown Co., the technical director of the Government Printing Office, the chairman of the Paper Standardization Committee of the National Association of Purchasing Agents, a representative of tte National Association of Book Publishers, as well as the Assistant Director of the New York Public Library, Harry M. Lydenberg, who initially persuaded the Carnegie Foundation to fund the BOS studies. See Kimberly and Scribner, "Summary Report," 2-3.

[61] See Bruno Latour and Steve Woolgar, *Laboratory Life: The Social Construction of Scientific Facts* (Beverly Hills and London: Sage, 1979).

[62] Latour and Woolgar, *Laboratory*, 106.

[63] Latour and Woolgar, *Laboratory*, 105.

facts, in spite of the questionable method of accelerated aging, which went unquestioned in every case.[64]

The BOS studies provided definitive knowledge about records preservation for not only librarians and state archivists, but historians and archivists concerned with corporate memory, especially those working in the emerging field of business history.[65] In the early 1930s, amidst increasing New Deal regulation, corporate and state interests that were in some ways at odds found shared concerns in the preservation of records. As the federal government created the National Archives, a reflection of state commitment to the preservation of national memory, corporations also began to systematically preserve and organize their records, ironically, as part of a backlash against the centralization and regulation enacted by the Roosevelt Administration. In June 1934, a sales manager named DeForrest Mellon wrote an article in the *Bulletin of the National Retail Dry Goods Association* called "Preserving Business Records for History... An Issue Raised by the NRA." The Blanket Code passed in 1933 under the National Recovery Administration was a New Deal policy that fixed prices of certain goods. Mellon writes about how his Cleveland, Ohio employer preserved extensive business records from just before and just after the passage of the Blanket Code. Businessmen like Mellon wanted to measure the effect of this intense regulation imposed on free enterprise. He points out an intensified

[64] BOS scientists cited each others' research reports to validate accelerated aging as a scientific research method. In "Evaluation of Motion Picture Film for Permanent Records," J.R Hill and C.G. Weber cite another BOS study by Royal H. Rasch and B.W. Scribner, "Comparison of Natural Aging of Paper with Accelerated Aging by Heating." The study compared paper aged "naturally" over 4 years and paper aged four years through "accelerated aging" by heating. "Comparison" does not cite any scientific literature beyond the BOS studies to ground the validity of its accelerated aging methods. J.R Hill and C.G. Weber "Evaluation of Motion Picture Film for Permanent Records," *National Bureau of Standards Miscellaneous Publication* 158 (1937): 1-5; Royal H. Rasch and B.W. Scribner, "Comparison of Natural Aging of Paper with Accelerated Aging by Heating," *Bureau of Standards Journal of Research* 11 (1933): 727-732.

[65] For more on the emergence of this field in the 1930s, see Barry E.C. Boothman, "A Theme Worthy of Epic Treatment: N.S.B. Gras and the Emergence of American Business History," *Journal of Macromarketing*, 21.1 (June 2001): 61-73.

concern about the preservation of records on the part of the state, corporations, and historians, demonstrated by recent conversations and research funds dispersed by the Taylor Society, the American Management Council, The Social Science Research Council's Joint Committee for Materials Research, and leading academics like Robert Brecht at Penn and Norman Gras at Harvard's business school.

Mellon's article weds corporate concerns about interference in the free market with the public's "duty" to save historical records for future generations--the preservation imperative--and encourages other businesses to adopt a systematic records preservation program. Businessmen's distaste for economic regulation is evident in the following quote from Mellon, which also demonstrates how he seeks to imbricate the needs and interests of capital with a historical duty to preserve on behalf of the unborn:

> "Your preservation of the records of your business, before and after the NRA code will leave something as interesting to a future generation of business men as it was distressing for the present. Such records become increasingly important for an understanding, not only of the new business regimentation but of our civilization."[66]

A few years later in the *Bulletin of the Business Historical Society,* editor Ralph Hower intensifies Mellon's call for businesses to preserve, and further bolsters the urgency and authority of that call by citing the BOS studies. Hower can be confident that the records of corporate life can be preserved because the BOS studies provide definitive

[66] DeForest Mellon, "Preserving Business Records for History…An Issue Raised by the NRA." *The Bulletin of the National Retail Dry Goods Association* (June 1934): 18-19.

evidence of the permanence of paper and film records of a certain material composition.[67] Hower even goes so far as to claim that preserving records can not only provide the basis of a critique of economic regulation, but help to protect capitalism itself against the threat of revolution:

> "Much of the recent hostility towards private enterprise has arisen because the public has been told the mistakes and misdeeds of business, and there has been no one to supply corrective data on the other side. The publicity material prepared by business fails to help because it is obviously biased and frequently inaccurate. The public must have the facts as they appear to independent scholars, and that means that business, in its own selfish interest, must make its records available for research. If not, the public is likely to accept the stories against business as the whole truth and decide to do away with private enterprise. The systematic preservation of company records is therefore an important aid in warding off unwarranted attacks upon private enterprise."[68]

We know that Hower's views had currency at this time because of his position as a leading business historian, but also because less than a year later, an article in the brand new journal *The American Archivist,* called Hower's piece the most important writing on the subject of records preservation. Within a few decades, Hower's views would become commonplace, as a proliferation of media preservation efforts, informed by the newly formed knowledge of preservation science and the preservation imperative, would

[67] Ralph H. Hower, "The Preservation of Business Records: Why Business Records Should Be Preserved." *Bulletin of the Business Historical Society* 11.3-4 (October 1937): 56. He cites Kimberly's article "Vital Statistics," discussed above.
[68] Hower, "Business," 40.

repeatedly re-trace the perceived linkage between preserving paper and microfilm records and preserving civilization itself.[69]

[69] Holmes, "Evaluation," 179.

Chapter 2: The Degeneration of the Average American:

Eugenic Anxieties and The Crypt of Civilization

"The hope of this country lies in the fact that its business men and its professional men, it[sic] bankers, its manufacturers, its merchants and the great middle class of its educated thinkers have become alarmed at the loss of their liberty, not only, but also at the reason for its loss, which is the degeneracy of the average American citizen."

--Thornwell Jacobs (1936)[70] 937-938

Introduction

An April 16, 1937 *New York Times* article begins "In the year 8113 A.D. a group of archaeologists will apply their eighty-second century equivalents of picks and axes to the stainless steel walls of a crypt buried in the ruins of what was once Oglethorpe University, Atlanta, Ga., United States of America."[71] The creator of the "Crypt of Civilization," Dr. Thornwell Jacobs, aimed to preserve a "permanent" record of civilization's knowledge and achievements. He designed the steel walls of the chamber, as well as its contents--nitrogen-filled steel canisters containing microfilm reproductions

[70] Thornwell Jacobs, "This Perilous Year: A REPORT ON THE STATE OF THE PEOPLE OF THE UNION: The contents of this pamphlet comprise an address made by Dr. Thornwell Jacobs, President of Oglethorpe University, before the Committee of One Hundred at Miami Beach, Florida, January 28, 1936" in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945), 937-938.

[71] "Americana Crypt to Await 8113 A.D: Oglethorpe University Plans a Cache to Be Opened When 20th Century is Ancient Era," *New York Times*. April 16, 1937. ProQuest Historical Newspapers: The New York Times (1851-2009) with Index (1851-1993), 25.

of books--based on consultations from the National Bureau of Standards, which had recently carried out the first systematic, scientific studies of the causes of paper and film deterioration. While humans had long created sealed tombs to preserve bodies, cornerstone deposits, and etched information in stone tablets, the Crypt reflects a historically specific consolidation of scientific knowledge and authority around the practice of media preservation. Rather than treat the Crypt as simply one more example of a universal, transhistorical human tendency to preserve, this chapter seeks to answers the following questions: Why did the desire to preserve media permanently emerge in the 1930s? Why does it take the form of a time capsule?

The Crypt of Civilization is the first attempt to preserve a permanent, comprehensive record of civilization. In interviews and articles in the U.S. media, Thornwell Jacobs explains that his primary motivation in creating this permanent time capsule was the fulfillment of his "archeological duty" to future generations.[72] He wanted to leave behind a complete record of American culture in a way that ancient civilizations had failed to do for us. However, throughout Jacobs' speeches, other writings, and even voice recordings, he exhibits intense eugenic fears about the increasing racial intermixture occurring in the United States, challenges to Anglo-Saxon social dominance, and the "degeneration of the average American citizen." Further, the books preserved in the Crypt, a list of which was never published,[73] includes several texts that are representative of broader trends in eugenic thought up to that time, from the pamphlet

[72] For a full explanation of this concept see Paul Stephen Hudson, "The 'Archaeological Duty' of Thornwell Jacobs: The Oglethorpe Atlanta Crypt of Civilization Time Capsule." *The Georgia Historical Quarterly* 75.1 (Spring 1991): 121-138.

[73] A comprehensive list of books preserved in the Crypt exists only, as far as I know, in the Oglethorpe University Archives.

Sterilization and Its Organized Opposition, to *Ethical Sex Relations, Or The New Eugenics*. Finally, Jacobs recorded a message that he preserved in the Crypt called "Greetings to the Inhabitants of 8113 A.D.," in which he again details his eugenic fears and offer a fuller framing for understanding the threats to civilization that led him to create a permanent record of it, before it was destroyed.[74]

Neither mass media at the time, nor cultural historians since, have addressed Jacobs's eugenic fears as a motivating factor for his permanent preservation project, nor the eugenic texts included in the Crypt.[75] My analysis shows how racial anxieties, not simply a desire to give a gift to the "future," motivated the creation of time capsule in the 1930s, as the threats to the American social order broadly, and to the "average American"

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[74] Jacobs, Thornwell. "Greetings to the Inhabitants of the World in the Year A.D. 8113: Recorded and Placed in the Crypt" in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945).

[75] Hudson's article "The 'Archeological Duty'" is emblematic of all the cultural historical work on the Crypt. The article is mostly a celebratory summary of what inspired Crypt and how the building and sealing proceeded. It claims that a lack of records about ancient civilizations inspired Jacobs to create a record of his culture for future generations to discover. He parrots Jacobs preservation discourse throughout the article and most intensely in his concluding sentence: "As long as there is hope and memory, the stationary crypt will in some way continue to move through time seeking to fulfill, in the words of Thornwell Jacobs, 'our archaeological duty.'" William E. Jarvis has written most extensively about the Crypt, in Jarvis, William E. "Modern Time Capsules: Symbolic Repositories of Civilization." *Libraries & Culture* 27.3 (Summer 1992): 279-295; "Do Not Open Until 8113 AD: The Oglethorpe Crypt and Other Time Capsules," *World Fair* 5.1 (Winter 1985): 1-4; "The Time Capsules a Way for the Future to Acquire Popular Culture Items," in *Popular Culture and Acquisitions*, ed. Allen Ellis. (Binghamton: Haworth Press, 1992), 33-46; and his book *Time Capsules: A Cultural History*. Jefferson and London: McFarland & Company, Inc., 2003. Neither Hudson, nor Jarvis, make mention of Jacobs' racial anxieties, nor do they critically question the aims and future success of the Crypt project. Brian Durrans is most critical about the cultural contradictions embodied in the production of time capsules. See his "Posterity and Paradox: some uses of time capsules," in *Contemporary Futures: Perspectives from Social Anthropology*. Ed. Sandra Wallman. London and New York: Routledge, 1992. 51-67. Hudson, Jarvis, and Durrans are three of the four founding committee members of the International Time Capsule Society (ITCS), "established in 1990 to promote the careful study of time capsules. It strives to document all types of time capsules throughout the world" and is "headquartered at Oglethorpe University." See "International Time Capsule Society" page of the Oglethrope University website, http://www.oglethorpe.edu/about_us/crypt_of_civilization/international_time_capsule_society.asp. Accessed Oct 1, 2013. The ITCS calls Jacobs "the father of the modern time capsule," and seems to hold him in high reverence, which likely makes pointing out his politically incorrect racial views unappealing, and might mar the legacy of the Crypt, whose ingenuity they still extol. For instance, in 2010, Hudson appeared on an episode of The History Channel's *Life After People*, where he lauded Jacobs and asserted the historical and cultural significance of the Crypt (Season 2, Episode 3).

specifically, lent urgency to the emerging practice of permanent media preservation. In his attempt to preserve a record of an entire civilization on photographic and film media, Jacobs manifests and expands André Bazin's mummy complex, in which a subject attempts to ward off time and death by preserving an image of himself that will outlive him.[76] At the heart of this expanded complex--which I call the preservation complex--is not Bazin's transhistorical, universal human subject threatened by "time" broadly, but a white, male, average American subject assailed by historically specific threats of rising immigration, racial intermixture, labor unrest and the destabilization of corporate power by the Depression, as well as despotic regimes threatening liberal democracy from abroad.

A condition of possibility for the emergence of the preservation complex and its embattled subject is the formation of preservation science, detailed in Chapter 1 of this dissertation. On the one hand, preservation science heightened Americans' awareness of the impermanence of all modern media, especially photographs that had previously been thought to immortalize whomever they depicted. On the other, preservation science provided authoritative, scientific validation for the claim that media could be permanently

[76] Andre Bazin, "The Ontology of the Photographic Image," in *What is Cinema? Vol. 1*, translated by Hugh Gray (Berkeley, LA, London: University of California Press, 1967). While Bazin's theory effectively described psychic structure that drives humans, seemingly in all cultures, to create representations of themselves in images, its limit was that it could not account for why intensifications in the desire to create and preserve images emerge when and where they do. Philip Rosen's affirms the value of the theory of the mummy complex and analyzes its limits along these lines: "The universality of the ambition for perfect reproduction of the world is the universality of the preservative obsession, the characterization of the subject that is Bazin's founding theoretical axiom. The axiom finds reconfirmation in history. But the consequence is a waffling on any historical explanation of transformations among media and styles. In this case he seems to embrace the idea that nineteenth-century technological, industrial, and economic developments were important conditions for the emergence of cinema; yet he finally accounts for that emergence only by vague reference to a conjunctural convergence of obsessions (scientific, industrial, economic) into the general preservative obsession. It appears that every new realization of the fundamental preservative obsession described by the mummy complex can only be explained on the basis of a circular reference to that obsession." See *Change Mummified: Cinema, Historicity, Theory*, (Minneapolis: University of Minnesota Press, 2001), 38.

preserved. In the aforementioned April 16, 1937 *New York Times* articles, Jacobs bolsters his permanent preservation claims with scientific authority by citing a letter he received from the Bureau of Standards that provided specifications for indefinitely preserving media in the Crypt. The subject of the preservation complex, then, manifests a doubling of the anxiety motivating the mummy complex. He wants photographs to immortalize him, but also seeks assurance that those photographs can themselves be made permanent.

This historically particular contradiction that occurs in the 1930s, where photographs are not permanent, but can be made permanent, leads the subject of the preservation complex to create and preserve images in a highly circuitous fashion, as is the case in the Crypt. [insert Mark Goble's work on photography becoming historical object in the 1930s right here]. If the subject of the mummy complex created photographs to preserve a trace of himself, the subject of preservation complex both creates photographs and intensively preserves them, which required a technology that would shield photographs from threats, including the threat of their own volatile chemical composition. In the Crypt, Jacobs preserved books on microfilm, preserved the microfilm in vacuum-sealed cannisters to protect it against decay, and also created metal film reels to back up the microfilm in case the specifications of the Bureau of Standards proved to be ineffective for permanent preservation.[77] The Crypt thus contains a "circuit of preservation" that both embodies confidence in the new knowledge produced by

[77] See T.K. Peters, *The Story of the Crypt of Civilization*. Bulletin of Oglethorpe University, 25.1 (January 1940); T.K. Peters, "The Preservation of History in the Crypt of Civilization." *The Journal of the Society of Motion Picture Engineers* (February 1940): 206-211.

preservation science, as well as an anxiety that leads to a reinvestment in residual, even ancient media formats, like etching in metal.

By the 1930s, "time vessels" had already existed in American culture; for decades, economic and intellectual elites had used them to negotiate their anxieties about threats to the prevailing social order, to preserve an idealized vision of the present, and project a regenerated American nation in the future.[78] By the late 1870s, Americans were using various technologies that preserved media as a means of negotiating societal tensions, creating a microcosmic ideal of the social order, and imagining the future resurrection of contemporary culture. In his article, "Encapsulating the Present: Material Decay, Labor Unrest, and the Prehistory of the Time Capsule, 1876-1914," Nick Yablon details how labor unrest in the late 19th century led economic and intellectual elites to create "time vessels" that would preserve culture in the event of its destruction by an "impending class apocalypse."[79] Like Yablon, I will refer to these projects that appear prior to time capsules as "time vessels" to distinguish the two similar, but significantly different types of preservation projects. While the scale of Jacobs' ambition and the technologies he employed were new, the cultural logic of the time capsule pre-existed the Crypt. This helps to explain why the idea of an archive preserved, sealed, and deposited underground with a target opening date in the future would have resonated with

[78] Nick Yablon's work on the "pre-history" of time capsules is the most thorough examination of the purposes of "time vessels" in the late 19th and early 20th century U.S. The term "time capsule" was not coined until 1938, by G. Edward Pendray, though cultural historians like Jarvis and Hudson consistently project that term backwards into the past, thereby obscuring some of the historical and cultural particularities that characterize the continuities and differences between "time vessels" and "time capsules," particularities to which Yablon is attentive. See "Encapsulating the Present: Material Decay, Labor Unrest, and the Prehistory of the Time Capsule, 1876-1914." *Winterthur Portfolio*. 45.1 (Spring 2011): 1-28.
[79] Yablon, "Encapsulating," 3.

Americans in the 1930s, and why Jacobs chose to use such a technology to negotiate his anxieties about threats to the social order.

The Crypt draws upon these preservation practices developed in the late 19th century, but it also embodies a new approach to preservation that intensifies those existing practices. While Brian Durrans and others refer to projects prior to the Crypt as time capsules, such classifications cloud the historical and material specificities of the Crypt's emergence as the the first attempt to preserve a permanent, comprehensive record of civilization. G. Edward Pendray coined the term "time capsule" in 1938--he was the first journalist to write about the Crypt, and later adapted its design to create the Westinghouse Time Capsule of Cupaloy. The U.S. mass media then described both the Crypt and the WTCC as time capsules, but they were the first two projects designated as such. Projects like the 1876 Centennial Safe, which attempted to preserve artifacts from American culture for 100 years, bear some similarities to the Crypt and certainly reflected an incipient cultural logic of preservation practice that would develop in the 20th century, namely, that one could preserve a slice of time and space, seal it, and deliver it to a specific point in the future. However, the creators of the Crypt, as well as the WTCC, based their designs on specifications recommended by a newly formed field of preservation science that emerged out of the BOS studies on the preservation of paper and microfilm records (see Chapter 1). Thornwell Jacobs' assertion that he could permanently preserve a record of civilization was a new kind of psychic investment in the power of photography specifically, and media preservation broadly. Unlike 19th century encapsulators, Jacobs and Peters were both well aware of the fragility of photographic film--a fact established firmly by the BOS studies--and equipped with scientific

techniques for preserving film against all threats, thus ensuring its permanence. The Crypt contributed to the legimitation of the notion that media preservation could provide a kind of broad "backup" for the archive of civilization, a permanent archive that would outlast any and all of the legion threats to civilization in the 1930s.

In "Posterity and Paradox: Some Uses of Time Capsules," Brian Durrans suggests that the emergence of 20th century time capsules like the Crypt, "parallels a shift in how people imagine the future." The horrors of World War I "shattered the view that combined social and technological progress was inevitable."[80] As a result, in the early 20th century, uncertainty replaced widespread "Victorian optimism." The Crypt addresses the uncertainties of American life in the 1930s, including the threat of war, which flashed forward from memory in the form of World War I, and loomed on the horizon through the specter of World War II. Durrans writes that the "likelihood of conflict, destruction, and loss of life" at the time of the Crypt's creation "justified its particular form as a time capsule."[81] Time capsules are like "many traditional rituals, especially those concerned with death," in that they "attempt to reduce uncertainty, controlling the future by making it more predictable." It made the future "more predictable," if only in the sense that it reduced uncertainty in relation to "how we imagine the future will think about us," and offered a guarantee that a material trace of Americans would be incorporated into the reality of the future.

The tone in Jacobs' writings and mass media coverage of the Crypt projected a sense of certainty that the Crypt would be found as a reaction against the deeply uncertain future Americans faced. Durrans writes that

[80] Durrans, "Posterity," 61.
[81] Durrans, "Posterity," 60.

> "encapsulators tend to imagine preferred situations without questioning their likelihood too closely. If those who compile time capsules are to experience some reduction of uncertainty about the future, it is usually sufficient for them to imagine that their capsule will be rediscovered after their own death. [...] For encapsulators, the thought of having done something that will outlast them reduces uncertainty about what the future will be like, since it will now include at least this gesture of their own."[82]

Jacobs certainly did not questions "too closely" the likelihood of the Crypt being found. Apparently, not everyone was quite as convinced, though a large number of Americans found Jacobs' vision to appealing to question. In a letter to G. Edward Pendray, Raimundo de Ovies, the Dean of Atlanta's Cathedral of St. Philip and a participant in the Crypt's dedication, mentions being "panned" by the student newspaper at Oglethorpe, whose staff "rather resented even an implied doubt that their deposit would be discovered in the far-off future and that it would make an amazing contribution to any civilization of that date!"[83] The popular appeal of the Crypt attests to the effectiveness of time capsules not simply to preserve American culture for the future, but to, through the act of preservation, affirm the inherent value and historical importance of American culture, in any time period. The Crypt and other time capsule projects carry with them recursive cultural effects--they preserve a culture because it is valuable, and at the same time, that culture is understood as valuable because it has been permanently preserved.

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[82] Durrans, "Posterity," 63-64.

[83] Raimundo de Ovies to G. Edward Pendray, May 2, 1939. Westinghouse Museum Archives. Box 70--1938 Time Capsule. Folder "Crypt of Civilization--Oglethorpe University." Heinz History Center.

Yablon's "pre-history" of time capsules in the late 19th and early 20th centuries reinforces my previous points about the shared logic between eugenic fears and the production of a typical or average American. In his discussion of one time vessel, the 1901 Century Chest, created to celebrate the quarto-centennial of Colorado's statehood, Yablon notes that the "emergent conception of a time vessel as a microcosm--or encapsulation—of a larger social whole was most visible [...] in the new uses to which it put the medium of photography."[84] Among the hundreds of photographs in the Century Chest were portraits of prominent individual "accompanied by those of the anonymous or the merely representative, such as 'College Girl, Senior Class," which marked a "a turn from the exceptional to the typical." One photographer contributed "composite portraits of twelve male and twelve female members of the city's bourgeoisie," inspired by the work of Sir Francis Galton, an expert in anthropometry and coiner of the term "eugenics." According to Yablon, these two portraits--"12 Colorado Springs Ladies" and "12 Colorado Springs Gentleman"-- "betray a eugenicist desire to glimpse the regenerated, white, middle-class citizen that scientific breeding might produce in the year 2001."[85]

Indeed, media coverage of the Crypt evinces the way in which evolutionary thought and eugenic fantasies structured popular imaginings of the future in the 1930s. The aforementioned *Popular Science* article on the Crypt concludes with the sentence: "Supermen of 8113 may be chagrined to find that some of their inventions were anticipated as early as the twentieth century. Or, if world war or some natural cataclysm has made mankind revert to a barbaric state by that time, the 'lost arts' preserved in the

[84] Yablon, "Encapsulating," 14.
[85] Yablon, "Encapsulating," 16.

Georgia crypt might conceivably start the race back along the road to civilization."[86] An inset illustration depicts the unearthing of the Westinghouse Time Capsule of Cupaloy, a concurrent project inspired by the Crypt, described in the caption as yet "another scheme for 'canning' our civilization." In the comic-book style rendering, muscular, shirtless, white "archaeologists," in tights and boots comparable to that of contemporary superheroes, unearth the Time Capsule, while a crowd looks on and some kind of broadcasting equipment captures the scene. The image visualizes supermen that embody a revitalized masculinity that contrasts sharply with the average physique of the average American, whether his depiction in the statue of the same name or in the person of Roy L. Gray, or others designated as such by newspapers and social scientists at the time. A counterpart to biological advancement embodied in the image is technological prowess; in the background of the illustration a series of odd buildings loom. Each one is a thin tower with a step pyramid structure perched atop it, recalling Egyptian architecture and reminding the reader that the time capsule is being imagined with the accomplishments of ancient Egypt as the backdrop, or inspiration. However, the literal "elevation" of pyramids suggests the West has also surpassed ancient Egyptian achievements, which the successful preservation and retrieval of the Westinghouse Time Capsule would also demonstrate.

The imagination of American culture as ancient, as a set of artifacts discovered thousands of year in the future, generated a paradoxical temporal position for preservationists, where they constantly toggled between imagining themselves as advanced moderns, but could only succeed in doing so by imagining the fantastic future

[86] "Preserving Our History in a Tomb 'Crypt of Civilization' will re-create our daily life for people of 8113 A.D." *Popular Science*, December 1938, 113.

success of their time capsule projects, a vision which again positioned them as primitive ancients in relation to the Supermen that evolutionary thought and eugenic dreams led Americans to believe would inhabit the deep future. In an NBC radio broadcast recorded at Radio City Music Hall on April 18, 1937, Jacobs delivered a message to those who would find the Crypt in 8113, in which he affirms that future humans will likely be more advanced than us, and thus can't help but question the superiority complex of moderns like himself. He says: "We of the year 1937 looked back upon our remote ancestors as being savages and barbarians. Yet, we too, had wars among nations. We thought at the time that the principles for which we fought were important and yet, as you look back through the centuries you will perhaps in turn call us savages and believe that we lived in an uncivilized world."[87]

This message was included in the Crypt in quite a roundabout fashion. According to their correspondence, Jacobs sent a copy of it to Pendray, who included it in the Westinghouse Time Capsule of Cupaloy. Pendray then sent a replica of the Westinghouse Time Capsule to be included in the Crypt.[88] Such circular and mutually reinforcing acts of preservation reflect the deep anxieties of the preservation complex, in which time capsules creators' claims of permanent preservation resound with confidence in newspapers and interviews, but the actual designs and material practices of preservation reveal that they are not quite as certain as they seem.

Thus, the time capsule was a fitting technology through which Jacobs could encapsulate American culture and ward off threats to it. The U.S. media's enthusiastic

[87] George Westinghouse Museum Archives Box 70--1938 Time Capsule. Folder "Crypt of Civilization--Oglethorpe University.
[88] Thornwell Jacobs to G. Edward Pendray, Sept 12, 1938. George Westinghouse Museum Archives Box 70--1938 Time Capsule. Folder "Crypt of Civilization--Oglethorpe University."

embrace of the Crypt project, as well as the preservation science that informed it, familiarized and legitimated permanent media preservation as an effective cultural practice for assuaging national anxieties. Thus, through the Crypt, the preservation science, the preservation imperative, the design principles, and psychic dilemmas of the preservation complex enter the domain of American popular culture. The media's narratives of future discovery of the Crypt invite readers to imagine themselves as a part of a collective that will last forever; it also invites them to imagine the total destruction of their culture and all that is known to them. For instance, a follow-up article to Jacobs' April 16, 1937 interview in the *New York Times* admits that it is objectionable to contemplate all of modern society as a future ruin, but asserts that "it is worth while [sic] to have our imagination definitely set to thinking of cherishing here on earth a place where neither moth nor rust can corrupt nor thieves break through and steal."[89]

The subject of the preservation complex strains under the paradox that informs the Crypt and similar projects that would follow it. This subject wants to believe the promise of an actual, material immortality offered by permanent preservation projects, but these formidable underground, fortified structures like the Crypt also invoke visions of total destruction, and thus the anxieties of the subject persists. The Crypt does not succeed in putting national anxieties to rest; instead it inspires other preservation projects, such as the Westinghouse Time Capsule of Cupaloy. The Crypt is a prototype of the transcendent, underground spaces that proliferate as the preservation complex expands and becomes further embedded in the U.S. material infrastructure and in its structures of

[89] "For the Year 8113 A.D." *New York Times*. April 20, 1937. ProQuest Historical Newspapers: The New York Times (1851-2009) with Index (1851-1993). p. 24.

feeling that broadly shape subjectivity in the Depression, the Cold War, and the late digital age. Thornwell Jacobs is the preservation complex's prototypical subject.

Eugenic Anxieties of Preservation

"...natural selection will preserve and thus separate all the superior individuals, allowing them freely to intercross, and will destroy all the inferior individuals."
--Charles Darwin, *On the Origin of Species by Means of Natural Selection, or The Preservation of Favoured Races in the Struggle for Life*, (1859)[90]

Unlike interviews and other appearances by Jacobs and the Crypt in the mass media, Jacobs' diaries and speeches of the period show a deep anxiety about the degeneration of the average American. Mass media coverage of the Crypt explained that Jacobs had several motivations in creating the Crypt: to fulfill an archeological duty to future generations by leaving a historical record of ourselves, inspirations by ancient Egyptians who preserved cultural artifacts for several thousand years, and fears that a coming war in Europe might destroy civilization as we know it. Time capsule enthusiasts, cultural historians, and other scholars who have written about the Crypt have replicated this explanation. Nevertheless, Jacobs' speeches and writings from the early 1920s through the mid-1940s, and especially those produced during the years of the Crypt's construction (1936-1940), evince a consistent concern about the degeneration of the

[90] On the *Origin of Species* is preserved in the Crypt, and was a significant influence on Jacobs, who struggled to reconcile his Presbyterian faith with the truths of evolutionary science. See Hudson, Paul Stephen, "'The End of the World--And After': The Cosmic History Millenarianism of Thornwell Jacobs." *The Georgia Historical Quarterly* 82.3 (Fall 1998): 595. In this quote it is not difficult to see how the concept of natural selection articulated by Darwin would be extended into the principles of eugenics, a term coined by Darwin's cousin, Sir Francis Galton.

average American, which he sometimes refers to as "the deterioration of the national stock," or "the destruction of the national character."

While Jacobs was not a eugenicist--he did not call himself one, nor did he belong to any formal eugenics movement or consistently advocate for eugenics policy--his racial anxieties and the books he preserved in the Crypt reflect the widespread influence of eugenics in American culture in the 1930s, much of it still overlooked. In her highly original book, *Eugenic Design: Streamlining America in the 1930s*, Elizabeth Cogdell traces the ways in which "three of the formative principles beneath eugenic ideology--the pursuits of efficiency, hygiene, and the ideal type" informed streamlining, the "major popular design style of the period."[91] Cogdell admits that the designers she examines--including Norman Bel Geddes, Henry Dreyfuss , and Donald Deskey--were "not eugenic activists per se."[92] However, though they were not "immersed in the formal eugenics movement, each to a greater or lesser extent still managed to absorb its rhetoric and its principles because they were so much a part of contemporary social, political, and scientific debates, so much a part of the social circles in which they moved, and so much a part of what it meant to make something 'modern' and 'civilized' in an evolutionary sense. Their speeches and writings thus reveal their acceptance of eugenic ideas and their application of them to the realm of design."[93] Like these designers, Crypt creator Thornwell Jacobs was not a eugenic activist, but his speeches and writings, as well as the books he chose to include in the Crypt, reflect the pervasive influence of eugenic thought

[91] Christina Cogdell, *Eugenic Design: Streamlining America in the 1930s*. University of Pennsylvania Press, 2004. ix.
[92] Cogdell, *Eugenic*, xi-xii.
[93] Cogdell, *Eugenic*, xi-xii.

in American culture in the 1930s.[94] In this section, I demonstrate that his abiding concern about "the degeneracy of the average American citizen," which he saw as the root of a host of societal ills, as well as his imaginings of the future, were articulated in the terms of eugenic thought.

Jacobs' Crypt, a project that emerges in the second half of the 1930s, reinforces the conclusions of a recent body of scholarship, exemplified by Cogdell's work, that traces the influence of eugenics in places historians have overlooked as sites potential sites for interrogating the history of eugenics.[95] Wendy Kline, in her work on sterilization and the continued influence of eugenics throughout the 1930s, challenges the traditional historical framing of the eugenics movement and details what the blind spots that have resulted from it. Traditional scholarship on eugenics asserts that "eugenics lost all scientific and academic credibility and support in the 1930s." Kline argues that eugenicists appropriation of familial language "transformed the politics of reproduction from a private matter of personal liberty to a public issue of racial health...and convinced the public that sacrificing reproductive freedom for the sake of stabilizing the American family was worth it." Rather than declining in its influence, eugenic sterilization actually "paved the way" for the public acceptance of New Deal policies also modeled on

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[94] Jacobs was not a eugenicist on the order of members of the American Eugenics Society, such as Clark Wissler, who wrote the "Foreword" to Middletown; Robert Yerkes and Edward Thorndike, whose psychological tests of army recruits during World War I provided a key basis for the emergence of the figure of the "average American"; or Edwin Conklin, whose book Heredity and Environment in the Development of Men is preserved in the Crypt. Similar to the associations that Cogdell discusses in *Eugenic Design*, Jacobs delivered speeches organizations like the Committee of the 100 and the Oxford Group, whose aims resonated with the principles eugenics and whose leadership and/or founders were members of the American Eugenics Society, or had close relationships with leaders in the Nazi Party. I bring this up not to somehow demonize Jacobs, but again, to highlight the pervasive influence of eugenics in the 1930s and how it influenced many who did not necessarily identity themselves as eugenicists.

[95] For more of this body of scholarship, see the edited volume *Popular Eugenics: National Efficiency and American Mass Culture in the 1930s*, eds. Susan Currell and Christina Cogdell (Athens: Ohio University Press, 2006).

increased state regulation in private affairs for the purpose of stabilizing societal institutions. Sterilization "guaranteed a healthy and stable future citizenry," thus serving as "the social security of American civilization."[96] The economic "stringencies" of the Depression also made sterilization of unfit mothers more broadly appealing to Americans who saw it as a way to limit financial burdens on the nation.[97]

Kline's work provides a context for a pamphlet included in the Crypt, from books like *Ethical Sex Relations, or The New Eugenics*; *Prostitution*; *Abortion: Spontaneous and Induced*; to the influential pamphlet *Sterilization and the Organized Opposition*.[98] These works reflect Jacobs' eugenic anxieties of its creator, and of an American culture increasingly concerned with threats to the white mass subject, or "average American," and the nation that cohered within him. Books in the Crypt reflect the way in which the label "eugenics" itself referred to a diversity of ideas and approaches to social and racial problems. Eugenics was not simply a movement synonymous with the Nazi program of racial extermination. It was a movement in scientific inquiry, intellectual thought, and public policy that accommodated broad tensions, multiple and contradictory approaches to the problem of race-betterment, from the negative eugenics of sterilization and birth control (*Sterilization and Its Organized Opposition*), to the positive eugenics of pairing those of "good-breeding" with mates who would complement or further enhance their superior stock (*Ethical Sex Relations*), or even the "third way," which was to improve all

[96] Wendy Kline, "A New Deal for the Child: Ann Cooper Hewitt and Sterilization in the 1930s," in *Popular Eugenics: National Efficiency and American Mass Culture in the 1930s*, eds. Susan Currell and Elizabeth Cogdell (Athens: Ohio University Press, 2006), 18-19.
[97] Kline, "New," 17.
[98] The pamphlet *Sterilization and its Organized Opposition* (1935) by Marion S. Norton supports Kline's point, as two year after publishing the pamphlet, Norton founded the Sterilization League of New Jersey, at a moment when, according to many historians, the influence of eugenics was either on the wane, or had faded away entirely.

of humankind through the miracles of hormone therapy, outlined in Louis Berman's *The Glands Regulating Personality*.[99] Eugenics in the 1930s was an evolving problematic through which Americans, broadly--whether they identified themselves as eugenicists or not, or advocated any specific eugenic policy or not--thought through and responded to imagined threats to the prevailing social order, the white race, or the national stock.

In Jacobs' speeches and writings, a concern about the degeneracy of the average American, who represents the American nation and the American branch of the white race, is not only present, but at the heart of Jacobs' concerns about the threats to civilization that drove him to preserve a permanent record of it. On the same trip to New York City in 1936, Jacobs visited the offices of *Scientific American* magazine, where he arranged for them to publish his first article on the Crypt to appear in U.S. mass media, and he also delivered a speech called "This Perilous Year: A REPORT ON THE STATE OF THE PEOPLE OF THE UNION" to the Oxford Group, in Stockbridge, MA. In his Scientific American article published later that year, he gives no indication of the deep anxieties expressed in the speech, but rather offers a utopian vision of the Crypt's discovery by our future descendants several thousand years from now, as he calls for financial contributions from philanthropists and suggestions from everyday Americans about what the Crypt should include.[100] In the speech, his elaboration of his various anxieties about threats to American specifically and civilization broadly--rising interwar tensions between European nations, the policies of the New Deal--help to explain why his

[99] For more on Berman's "third way" of eugenics, see Christer Nordlund, "Endocrinology and Expectations in 1930s America: Louis Berman's Ideas on New Creations in Human Beings," *The British Journal for the History of Science* 40.1 (Mar 2007): 100-101.
[100] Jacobs, Thornwell. "TODAY--TOMORROW: Archeology in A.D. 8113," *Scientific American*, (November 1936).

dramatic preservation project emerges at the particular historical moment when it does. In Jacobs' views outlined in his "This Perilous Year" speech, however, it is not any political tension or government policy at the root of America's pressing problems, but rather "the degeneracy of the average American citizen."

In "This Perilous Year," he begins by elaborating upon the massive killing power of modern nations and the tensions between them which point to another war in the near future, which is consistent with mass media explanations of why he felt it necessary to preserve a permanent record of civilization, buried underground beyond the reach of bombs, fire, and other disasters. However, he gives further definition to his anxieties during the conclusion to this opening section, when he remarks that among the "Seven Great Powers" of the world, America is the only one "which is *not only not aggressive and not tenacious but which is actually giving up its former winnings* and withdrawing from tis former spheres of influence and contracting its former borders."[101] While this exceptionalist claim of an end to American imperialism is specious empirically, it nonetheless functions to take Jacobs to the question at the heart of the speech: "In short, we are withdrawing into ourselves in a way utterly different from anything that has ever happened in American history. That *a profound psychological change has taken place* in the spirit of the American people is evident. Is this wisdom or is it senescence? *Is it loss of barbarism or loss of nerve?*"(emphasis in original).[102] Jacobs uses "spirit," "soul," "character," and "stock" interchangeably throughout his speeches to symbolize the

[101] Jacobs, "Perilous," 924.
[102] Jacobs, "Perilous," 925.

internal essence of the nation, and by extension, of the white race--that which the average American carries within them.[103]

Jacobs' next major concern is the New Deal, which, in his mind, destroys American character by robbing the people of their liberties, arrogating private property by redistributing wealth and forcing contributions to government funds like Social Security, and "relieving" the American citizen of "the necessity of thrift, frugality, and work by guaranteeing him a living and leisure." In a contradiction of the "age-long sanctions of God in nature which punished the lazy, the inefficient, the thriftless, with hunger and want and suffering," the policies of the New Deal require that "the industrious MUST divide with the sluggard, the frugal MUST divide with the spendthrift."[104] Again, Jacobs is not primarily concerned with a political attack on the Democratic Party in order to advocate for a specific alternative platform, but returns to the question of the changes these policies reflect and produce in the American national character. "What will be the effect of these new doctrines upon the character of American citizens? or more to the point, what has happened to the character of the American people that they adopt and welcome such doctrines?"

The alarmism of Jacobs' speech reaches its shrillest notes near the end of the speech, which articulates his anxieties, in his words, with "a still finer point": *"at this moment, and in this perilous year*, we are now witnessing the disintegration of a civilization, the dissolution of a social order and the degeneration of a whole nation."[105] While Jacobs does refer to geopolitical tensions and "latent wars," as well as a possible

[103] Jacobs, "Perilous," 937-938. Below I will discuss an excerpt from this speech where Jacobs explicitly conceives of the national stock as white racial stock.
[104] Jacobs, "Perilous," 930.
[105] Jacobs, "Perilous," 937.

war to come, and myriad social ills, as reflecting this "disintegration" and "dissolution," it is the character, or spirit, of the average American that is the root cause of these disastrous changes. Jacobs calls his audience--all whites of either middle or upper class standing, typical of the membership of the Oxford Group--to a crusade to regenerate the American nation. "The hope of this country lies in the fact that its business men and its professional men, its bankers, its manufacturers, its merchants and the great middle class of its educated thinkers have become alarmed at the loss of their liberty, not only, but also at *the reason for its loss, which is the degeneracy of the average American citizen*." (emphasis in original) For Jacobs, according the broader cultural logic through which the "typical" or "average American" stands in for the collective national body, the national character and the character of the average American are interconstitutive. The regeneration of a degenerated America must begin with "the general principle that *the only important thing in any nation is the personal character of its citizens.*"[106]

Jacobs' assertion of the degeneration of the average American, his disdain for the New Deal's progressive social programs, and his targeting of character or internal characteristics as the site for sparking national and racial regeneration, are all consistent with the main tributaries of eugenic thought in the US in the 1930s.[107] In eugenic thought, degeneracy occurred on the level of the individual, but since the nation was built out of individuals, enough individual carriers of bad heredity characteristics would ruin the national stock. Jacobs states as much in "This Perilous Year": "It is a chronic disease

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[106] Jacobs, "Perilous," 936.

[107] For more on eugenics see Martin Pernick, *The Black Stork: Eugenics and the Death of 'Defective' Babies in American Medicine and Motion Pictures Since 1915*. Oxford University Press, 1999; Edwin Black, *War Against the Weak: Eugenics and America's Campaign to Create a Master Race* (New York and London: Four Walls Eight Windows/Turnaround, 2003); Jonathan Spiro, *Defending the Master Race: Conservation, Eugenics, and the Legacy of Madison Grant* (Burlington: University of Vermont, 2009).

from which we suffer and demands a chronic cure. Just as the well-being of each individual cell determines the health of the body, so the well-being of each individual student, of each individual citizen, determines the health of the college or the nation."[108] I point out the eugenic logic of Jacobs' thought not in order to label him a eugenicist, but to reinforce the fact that concerns about the degeneration of the average American citizen were necessarily racial concerns about the purity of the American national "stock," which is synonymous with "character."

Perhaps the clearest and most powerful articulation of Jacobs' anxieties about threats to the racial purity of the average American, and by extension the nation itself, is his speech "Greetings to the Inhabitants." Jacobs imagined that this text would serve as a kind of introduction to the Crypt's contents, and is thus an especially important document for understanding the anxieties motivating the Crypt's creation. On the heels of a litany about the problem of modern society, Jacobs tells the people of the future that

> "It is almost a sure bet that, if nothing is done about it, the United States will, in a few centuries, become a nation of quadroons ruled by an upper class of Jewish blood. At present we are a conglomerate of whites from northern Europe, brownwhites from Southern Europe, yellows from Asia, indigenous reds, blacks from Africa, with our movies, radios and newspapers either owned or operated by Jews. With the single exception of science which is progressing magnificently, all the balance of our civilization—morals, politics, literature, painting, sculpture

[108] Jacobs, "Perilous," 939.

seem to be retrograding and, as I prophesied twenty years ago, we are face to face with another World War."[109]

The racial categories Jacobs employed reflect the influence of eugenic thought upon his social imagination, especially in the division of "brownwhite" southern Europeans from the truly white Europeans in England and Scandinavia. Again, here in this excerpt as was the case in "This Perilous Year," the racial intermixture of various kinds of whites with non-European populations that could lead to the discord and destruction of a second World War.

Jacobs' eugenic fears of racial intermixture seemed to intensify throughout the late 1930s, from "This Perilous Year" delivered the year he conceived of the Crypt, to "Greetings" deposited and sealed in the Crypt in 1940. This arc continued into the 1940s, and by 1945 he began to openly voice the value of eugenics. In an editorial in the *Atlanta Journal Magazine*, "What Will the World Be Like in 8113 When the Crypt is Opened?" he wrote: "Between now and [8113AD] we shall have many New Deals but none of them will relieve the world of the ill-clad, ill-housed and ill-fed who will be just as numerous then as they are today unless they are eliminated by a world-wide adoption of the principles of eugenics."[110]

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[109] Jacobs, Thornwell. "Greetings to the Inhabitants of the World in the Year A.D. 8113: Recorded and Placed in the Crypt" in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945), 910.

[110] Jacobs, Thornwell. "What Will the World Be Like in 8113?: When the Crypt at Oglethorpe University is Opened" *in Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945), 918. Originally appeared in Atlanta Journal Magazine, Sept 27, 1942.

U.S. Media Coverage of the Crypt

A December 1938 Popular Science article, "Preserving Our History in a Tomb," describes a scene where the people of 8113AD locate the the Crypt, break into it and "find themselves in a treasure house of the past." The article lists, generally, the kinds of things to be included in the Crypt:

> "sound films of the voices of present-day leaders, stereoscopic photos of all the world's masterpieces of sculpture, a year-by-year-history-in-pictures of the United States for the last 100 years, and the world's greatest masterpieces of poetry. Models will show every essential kind of modern tool and machine, household utensils and tableware, and great engineering feats. A complete set of costumes for men and women will be preserved in helium gas. There will be cook books, histories, science textbooks, and books of practical instruction in mechanics, engineering, and all the arts and manufactures."[111]

The cornucopic fullness communicated by the article creates the sense that the Crypt comprehensively reflects human knowledge and American life up until the 1930s, which legitimates its claims to universality. Similar to every other published article or essay about the Crypt, the article does not contain an actual list of the titles in the Crypt. This prevents the possibility of political contention about specific titles and allows the Crypt's aims to have a more broad appeal. The enthusiastic tone of the Popular Science article suggests that the Crypt project, while unprecedented in many ways, satisfied popular desires in terms of offering definitive picture of American culture.

[111] "Preserving Our History in a Tomb: 'Crypt of Civilization' will re-create our daily life for people of 8113 A.D." *Popular Science.* December 1938, 113.

This enthusiasm is consistent with the other mass media coverage of the Crypt , all of which parroted Jacobs' optimistic universalist rhetoric, and thus worked to familiarize and popularize the Crypt project. While Americans had previously seen time vessels, and been deeply fascinated by Egyptian architecture and tombs for decades,[112] The Crypt was a unique in the way it combined the architectural principles and permanent preservation aims of ancient Egyptian tombs with the cultural logic of the 19th century time vessel. The Crypt is, paradoxically, designed to be permanently sealed on the one hand--like an Egyptian tomb--and meant to be opened at a target date, on the other hand, like the time vessels of the 19th century. The stainless steel door that seals and protects the Crypt even bears a kind of curse directed at anyone who would open the it prior to its target date of 8113 A.D. In September 1937, *American Magazine* featured Jacobs in its "Most Interesting People" section. Each person featured appears in a full page photo with a one word banner and a caption describing why he or she is so

[112] For more on the American fascination with Egypt and all things Egyptian, and the construction of American national and racial identity through engagements with Egyptian artifacts and imagery, see Scott Trafton. *Egypt Land: Race and Nineteenth-Century Egyptomania*. (Durham and London: Duke University Press, 2004); C. Wyatt Evans. *The Legend of John Wilkes Booth: Myth, Memory, & a Mummy* (Lawrence: University Press of Kansas, 2004). On the contentious politics of preservation and the emergence of archaeology within colonial struggles between Europeans and Egyptians, as well as a broader transnational context for American Egyptomania, see Elliot Colla, *Conflicted Antiquities: Egyptology, Egyptomania, Egyptian Modernity* (Durham and London: Duke University Press, 2007). Thomas Kimmwood Peters was a part of the first filmmaking companies and communities in southern California and the San Francisco Bay Area, and early silent films, through the 1920s repeatedly drew upon Egyptian imagery and locations both within films and in their promotional materials. Peters traveled to ancient Egyptian ruins at Karnak and Luxor and other places, and had an abiding interest in Eastern religion and cosmology. Early cinema culture was pervaded by an intensified form of Egyptomania, where the ancient, exotic, and thus other-timely and other-worldly setting of Egypt served as a symbolic means of conceptualizing new media technologies that produced cinema, and framed audiences' experiences of cinematic images as coming, like ghosts, from another time and place--even the architecture of early theaters and pre-cinematic spectacles like the phantasmagoria drew upon Egyptian motifs. See Antonia Lant, "The Curse of the Pharoah, or How Cinema Contracted Egyptomania." *October* 59 (Winter, 1992): 86-112. Jacobs' and Peters' fascination with ancient Egypt, reflected in the design and target date of the Crypt, then, reflected a broader national fascination, albeit it in an intensified form.

"interesting." In Jacobs case, American Magazine called him a "Canner."[113] A comparison of Jacobs' project to canning food familiarized his unprecedented aim of permanently preserving media, as canned food was a common household item by the 1930s.[114] The article also refers to the Crypt as "a sealed and dated museum" (which is another kind of canned food comparison), and "an airtight subterranean vault." This article reflects the way in which the Crypt was both a novel project in its ambitions, and a drew upon pre-existing cultural logics of preservation; the U.S. mass media served as a midwife to the emergence of permanent time capsules as a meaningful cultural technology that appealed to this desire.

The Crypt provided a historical and archival counterpart to an emerging but powerful social scientific discourse in the 1930s--that of the "typical" or "average American." The *American Magazine* article concludes by hinting at the racial and cultural politics that end up shaping Jacobs' selection of materials to preserve in the Crypt. Besides preserving permanent records of mankind's achievements, Jacobs' "other hobbies are reading, writing, and arithmetic (balancing the university budget). Favorite dislikes are jazz, spinach, and tyranny." Despite Jacobs' claims about the Crypt's comprehensiveness, it was, in fact, a very selective reduction of the historical record, a simplification that rendered the massive totality of the historical record more manageable, and excluded racialized cultural forms like jazz music from its archive. In a parallel, reductive fashion, the essence of collective American culture and identity was increasingly expressed through the simplified figure of a single individual in the 1930s.

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[113] "Most Interesting People." *American Magazine*. September 1937.
[114] James Harvey Young details the rise of canned food and its significance in American culture in *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton: Princeton University Press, 1989).

The title of the *Popular Science* article implicitly posits an American national collective and positions the Crypt as the archive of Americans' shared history when it states that the Crypt preserves "Our History."

An especially powerful image of the "average American" in *Eyes on the World: A Photographic Record of History in the Making* (1935), one of the few books in the Crypt whose title is highlighted in mass media coverage. In one of the images included in the *Popular Science* article, the Crypt's archivist T.K. Peters holds a copy of *Eyes*, a book of photojournalistic montage, next to a reel of microfilm he is pulling from projector. In a broad sense, *Eyes* succinctly captures the geopolitical upheavals, labor strife, racial tensions, economic crises, and cultural developments that were radically changing the American social order, with dramatically arranged news clippings and images splashing across its pages news of Mussolini, Hitler, labor riots in Toledo, racial strife, and the leading lights of Modernist art and literature. Specifically, it reflects, in its conclusion, a concern about the health and hygiene of the average American.

The final chapter of *Eyes*, entitled "Man, Proud Man," visualizes the emergence of the average American subject. It opens with a two page spread called "Two Million Human Beings Who Inhabit the Earth," a nine-panel set of images, all of which depict thick crowds of heads and shoulders, an undifferentiated mass of human without individuality and identity. On the page that follows is a "Portrait of the Average Man," with a single face staring at the reader from the center of the image.[115] The grayscale background repeats the mass of heads and shoulders from the previous pages, which represent the entirety of humanity, and reinforce the universal representative power of the

[115] E. Lincoln Schuster, *Eyes on the World: A Photographic Record of History-In-the-Making* (Simon and Schuster: New York, 1935), 284.

concept of the "average man," who appears in strong black and white contrasts. The mediation between the grayscale mass and the well-defined average man is a chart of social science survey results produced by a study in 1935 by a reporter for the *Columbus Citizen* newspaper. A perforated hole in the center of the chart allows us to view the average man, as if he is hatched from the results, or as if he is literally what is "inside" such results, at their heart if we could punch through their surface. The caption tells us that the man in the image is Roy L. Gray of Fort Madison, Iowa, "chosen eight years ago as the 'average American.' He lives on an average street in an average city in an average home."[116]

In her book, *The Averaged American: Surveys, Citizens, and the Makings of a Mass Public*, Sarah E. Igo traces the emergence of the American mass subject as a symbolic figure that simplified the cultural complexity of a Depression-era America undergoing rapid social and demographic change. Igo describes the emergence of Gallup polls and other statistical surveys as common tools through which Americans came to know themselves as a coherent collective. These surveys did not simply reflect the opinions of the mass public, as they often claimed. Igo claims that "a self-consciously modern society was in this respect as much an outgrowth as an object of survey

[116] Schuster, *Eyes*, 284. For other news articles that feature Roy L. Gray, see "America's 'Average Man,'" *The Cornell Daily Sun*, October 27, 1927; the syndicated article "How Nation's 'Average Man' is Meeting the Depression," by Robert Talley, *Plattsburgh Daily Press*, March 19, 1932, re-deployed Gray as a meaningful figure through which to understand collective economic woes. Another article neatly conjoins the cultural forces of an advertising industry that sought to engender a consumerist public even, and especially, amidst a Depression, and the desire to simplify and define a complex nation through a white male body. In "A Typically Average Couple," Roy L. Gray converses with Verna Long, crowned 'Miss Typical Consumer" at the Industrial Arts Exposition in New York. *Utica Observer-Dispatch*, April 25, 1935. In *Fables of Abundance*, Lears details advertising strategies based on denying the reality of the Depression in efforts to reinvigorate and sustain consumer spending. See especially "Chapter 8: Trauma, Denial, Recovery."

techniques."[117] During the "economic crisis" of the Depression, as in times of war, "social scientific findings about 'typical Americans' and the search for a coherent Americanism in the culture at large were symbiotic. Even if it was never particularly accurate or representative, invoking a 'mass subject' to stand in for the whole could play a vital role in consolidating the national public."[118]

The constitution of the mass public and its representative mass subject, supposedly a universal representative of the American nation, required the exclusion of national others along lines of race, gender, class, and national origin. Igo calls social

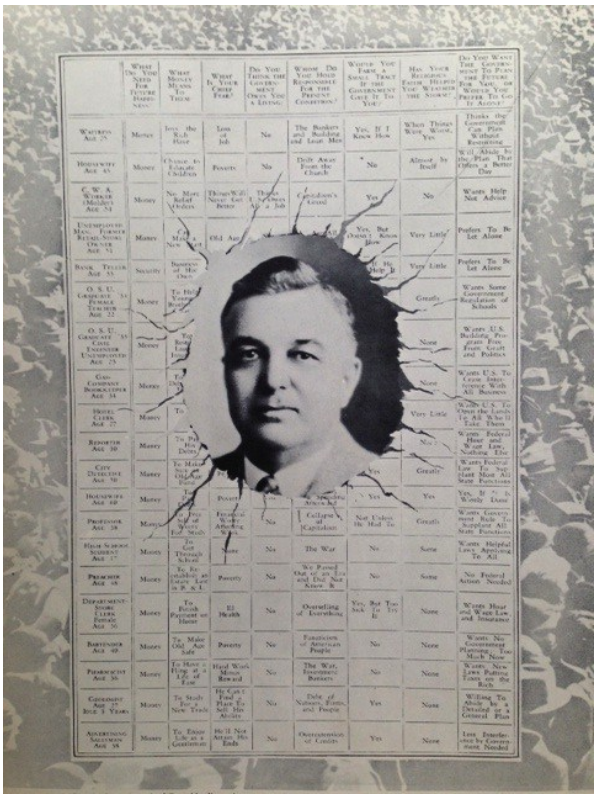

Figure 2.1 "Portrait of the Average Man." *Eyes on the World*. (1935) p. 284.

[117] Sarah E. Igo. *The Averaged American: Surveys, Citizens, and the Makings of a Mass Public*. Cambridge: Harvard University Press, 2008.
[118] Igo, *Averaged*, 19.

scientific surveyors "covert nation-builders, conjuring up a collective that could be visualized only because it was radically simplified." These nation-builders necessarily excluded African Americans, poor people, and immigrants from their conception of who constituted "Americans," and thus the American nation. Social scientific surveys were thus a powerful means of imagining the national "social body" as white during a decade of fears about increased immigration of foreign populations as well as the mass migration of African Americans from the South into predominantly white northern cities and towns. The books in the Crypt preserved a record of a civilization whose subjects it imagined to be white. The Crypt is thus not a universal snapshot of America in 1936, but is a reflection of the ideologically loaded and racially specific vision of an idealized version of the nation represented and circulated widely in 1936.[119] The constitution of the "typical American" required the cutting away of racial minorities, immigrants, and the poor, even as they placed emphasis on the fact that they resulted from the aggregation of massive amounts of data; in the same way, the Jacobs claimed that the Crypt accumulated and preserved the knowledge and achievements of all of mankind, though what it preserved, reinforced, and reproduced was a racialized conception of civilization and the nation.

In the pages of *Eyes* immediately following the "Portrait of the Average Man," several photographs and their captions address the health and hygiene of the average American. Next to an image of a white wrist and hand reaching into the frame to test the temperature of water flowing from a showerhead is a caption that reads: "The morning shower virtually obligatory in the life of the average American. 7:55 to 8:00 A.M. are the

[119] Igo, *Averaged*, 18-19.

minutes sacred to this rite." The pseudo-anthropological tone reflects what Warren Susman described as an increased interest in Americans as a coherent culture, as a geographically unified people also unified by certain common beliefs, values, and practices.[120] Like the morning shower, another image of a disembodied white hand under a faucet insists that "The morning shave also is obligatory, national advertisers having declared that the loss of a job, loss of a friend, or loss of a wife is likely to befall the unshaven male." As Natalie Molina details, between the late 19th century and the late 1930s, cleanliness was an important marked of one's fitness for citizenship, just as a lack of hygiene and good health marked off entire segments of the U.S. population from inclusion in the national body, thus framing them, and the urban spaces where they lived, as threats to public health itself.[121]

The captions of the showering and shaving images also indexes the increasing power of advertising discourse in an emerging consumer culture to shape citizen-subjects. Jackson Lears details the increasing importance of hygiene in American culture in the early 20th century, as urbanization brought bodies repeatedly into close proximity. A range of consumer products addressed and exacerbated these anxieties, as they aimed to mitigate body odor, bad breath, and control germs both on the surface of the skin and within the body. Ads for such products promised consumers a sense of belonging in a civilized society, defined as civilized by its cleanliness.[122] In the 1930s, ads for a variety

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[120] Warren Susman, "The Culture of the Thirties," in *Culture as History: The Transformation of American Society in the Twentieth Century* (New York: Pantheon, 1984).
[121] Natalie Molina, *Fit to Be Citizens?: Public Health and Race in Los Angeles, 1879-1979* (Berkeley and Los Angeles: University of California Press, 2005), 2.
[122] Jackson Lears. *Fables of Abundance: A Cultural History of Advertising in America* (New York: Basic Books, 1994), 163-164; 246. Lears analyzes an Ivory Soap ad from 1900 that juxtaposes industrial civilization with Native American culture, where soap shines the light of civilization into the grime of America's dark, primitive past. For a longer history of soap's material and symbolic role in civilizing both

of laxatives reflected a broad American fear of bad digestion and constipation, brought on by the sedentary habits of modern man, and attributed a host of diseases and bodily inefficiencies to an inability to efficiently process food and thus keep "clean inside." Two of the other images in *Eyes on the World* depict the daily routine of the average man, and the captions lament the all-too-quick breakfast and lunch taken by the majority of Americans and reiterate physicians' warnings against such bad dietary practices, indexing the anxieties of bad digestion and its attendant ills. Through such national obsessions with the body's functions, reflected in ads, the average American man served as a surrogate for the nation that also wanted to remain "clean inside." Lears analyzes ads from the late 1920s and early 1930s for products that aided digestion and worked to prevent "intestinal toxicity," and concludes: "National advertising translated longings for self-transformation into a secular rhetoric with political as well as personal significance. The obsession with expelling 'alien filth' caught the connection between bodily and national purification: the eugenic dream of perfecting Anglo-Saxon racial dominance in the United States through immigration restriction."[123]

The captions on the images of hygienic maintenance also resonate with the survey results from which average American Roy L. Gray emerges a few pages earlier. In one of the columns cascading and fracturing around the face of Gray are the answers to the question "What Is Your Chief Fear?" The answers include "Loss of job," "Poverty," "Financial Worry Affecting Work," "Ill Health," "Poverty," "Poverty," and "He Can't

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the urban masses of the metropole and the dominated foreign peoples subdued by empire, see Ann McClintock, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest*. Routledge, 1995. In *Eugenic Design*, Cogdell powerfully draws connections between concerns about digestive efficiency and streamlined design, evident in ads for various laxatives and other products in the 1930s, which featured high-speed trains and other emblems of the streamline industrial aesthetic.

[123] Lears, *Fables*, 167.

Find a Place to Sell His Ability." A final image in the section clinches the symbolic linkage between the average American and the nation. This time the white fingertips pinch a match lighting a pipe, an out-of-focus book lying on the smoker's lap: "The advertisements have told Mr. Average American that his wife likes a man who smokes a pipe. Tobacco, in one form or another, plays an important rôle in the life of the nation."[124] The life of the average American is thus equivalent to the life of the nation, and the lives of both are white, male, consumers concerned with health, hygiene, and attaining and keeping a job that allows for a middle-class lifestyle.

The typical or average American of the 1930s was invariably a white, male, middle class subject. In "The American Adonis: A Natural History of the 'Average American' (Man), 1921-32," Mary K. Coffey analyzes the display of the statue, The Average American Male, at the Second and Third International Eugenics Congresses.[125] She explains how the this literal figure of the average American indexed anxieties about broader biological changes in the American population, and in particular the degeneracy of the white race due to intermixture with immigrants. She also notes how invocations and representations of the average American were quite common in the 1930s, especially in newspaper articles that either used surveys to conjure this figure, or held contests then selected an actual American male as the living embodiment of the typical American. While Coffey is concerned primarily with shifts in eugenic discourse, her work demonstrates more broadly how instantiations of the average American served as important sites of collective representation for publicly assessing the condition of an

[124] Schuster, *Eyes*, 287.
[125] Mary K. Coffey, "The American Adonis: A Natural History of the 'Average American' (Man), 1921-32," in *Popular Eugenics: National Efficiency and American Mass Culture in the 1930s*, eds. Susan Currell and Christina Cogdell (Athens: Ohio University Press, 2006), 185-216.

American national body thoroughly conflated with the white racial body. The average American, which had its roots in the statistical work of eugenicists Robert Yerkes and Edward Thorndike,[126] was an important site for eugenicists, and the broader American public that absorbed the principles of eugenic thought as they navigated the economic hardships, broad social and demographic changes, and uncertain future that characterized life in the Depression.

The figure of the "average American" visually simplified the nation and the national stock into a white male body, and thus provided a key site for engaging the eugenic problematic in the negotiation of racial and social anxieties, and answering the fraught question of who was fit for citizenship within a shifting national demographic. The average American was a different figure from the "common man" of the 19th C., and was the product of an institutional matrix that had only recently emerged in the early 20th century. This institutional matrix fostered philanthropy and social science research.[127] A

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[126] Coffey discusses Robert Yerkes' psychological analyses of American army recruits during World War I, which produced the first authoritative statistical picture of the average American male. Olivier Zunz offers an even more thorough exploration of these foundational studies, though he places no emphasis on the researchers' membership in the American Eugenics Society. In his view, The "average American" was a figure quite different from the "common man" of the 19th Century, as his emergence from statistics reflected a late 19th/early 20th century formation of an "institutional matrix" that aligned corporate and academic research and large-scale philanthropic funding for social science research. Racism midwived the birth of the average American in the 1920s and 1930s, because the appeal of this figure broadened because it reinforced eugenic whiteness as a norm from which racial and national others deviated, and were thus unfit biologically for reproduction, and unfit mentally and intellectually for self-government and thus U.S. citizenship. Zunz argues that one of the reasons for the broad acceptance of the results of the army studies was that they "seemed to support the prejudices of the age. Millions of Americans were sympathetic in the 1920s to the resurgent Ku Klux Klan and '100 percent Americanism.' They saw in the Army experiment plenty of ammunition to support sterilization of the unfit, immigration restriction, and a quota system. Carl Brigham, who had served under Yerkes before joining the Princeton faculty, spared no effort in blaming the decline of American intelligence on "racial admixture" in his Study of American Intelligence (1923). Prefaced by Yerkes, it was published during the debates on the immigration restriction act of 1924. As Steven J. Gould has forcefully shown in The Mismeasure of Man, American psychologists gave scientific backing to the superiority of white, Anglo-Saxon, middle-class culture, blind as they were to the pluralistic process of cultural adaptations and creations." See *Why the American Century?* (Chicago: University of Chicago Press, 1998), 55. On the formation of the new "institutional matrix," see Chapter 1.

[127] Zunz, *Century?*

landmark and representative text from this period is *Middletown: A Study in Modern American Culture*, by Robert Staughton Lynd and Helen Merrell Lynd --preserved in the Crypt--which helped to establish not only the figure of the average American, but of the "average American town" referred to in "The Portrait of the Average Man." I do not mean to imply that the Middletown studies are somehow texts of eugenic thought, however they do reflect the contradictory cultural logic by which the exclusion of racial others from the national collective constitutes a precondition for the production of the average American, and the American nation, as white. While this contradiction characterized America from its beginnings, as it was always a culturally diverse collective with an abstract white male citizen-subject imagined at its center,[128] the Middletown studies sparked an intensification of this contradiction. Middletown, which influenced all such studies that followed it, offered an empirical basis and compelling narrative for imagining an actual "average" American subject, family, or town or city.

The Lynds wanted to measure cultural change in a typical American community, and in order to make such a study feasible, they attempted to exclude racial complexity as a variable in their analysis. As it would be too difficult to simultaneously measure both "cultural change" and "racial change" in the same study, they hoped that *Middletown*, which admittedly described an overwhelmingly white community, could serve as a "base-line" for future studies that measured "racial change." It is unclear precisely what they meant by "racial change," beyond demographics, but, in any case, their conception of the

[128] Nikhil Pal Singh draws upon the work of Eric Foner and Matthew Frye Jacobson in his articulation of this contradiction at the heart of the ideal American national subject. He writes that in the U.S. "the ideal national subject has actually been a highly specific person whose universality has been fashioned from a succession of those who have designated his antithesis, those irreducibly non-national subjects who appeared in the different guises of slave, Indian, and, at times immigrant." See "Rethinking Race and Nation," in *American Studies: An Anthology*, eds. Janice A. Radway, et al. (West Sussex: Wiley-Blackwell, 2009), 9.

typical town both reflected and reinforced prevailing conceptions of the typical as white in the 1920s and 1930s. The Lynds thought that the typical city at the heart of their study should have:

> "A small Negro and foreign-born population. In a difficult study of this sort it seemed a distinct advantage to deal with a homogeneous, native-born population, even though such a population is unusual in an American industrial city. Thus, instead of being forced to handle two major variables, racial change and cultural change, the field staff was enabled to concentrate upon cultural change. The study thus becomes one of the interplay of a relatively constant native American stock and its changing environment. As such it may possibly afford a base-line group against which the process of social change in the type of community that includes different racial backgrounds may be studied by future workers."[129]

This passage shows how constructing a town as typical requires several assumptions. First, "outstanding peculiarities or acute local problems" would disqualify a town from being considered typical. This reveals how the construction of the typical requires a fundamental denial of the distinctions that admittedly exist within the national population. The search, then, starts with an encounter of differences that cannot be assimilated into what the authors call "the mid-channel sort of American community."[130] Second, the town must have a small Negro and foreign-born population, and, necessarily must be largely comprised of what the authors call "native American stock." By this, they do not mean the Delaware Indians who founded the town that later became Muncie, after the U.S. government forced them to cede it to white settlers. Further, the authors

[129] Lynd and Lynd, *Middletown*, 8.
[130] Lynd and Lynd, *Middletown*, 7.

distinguish whites in Muncie from the "foreign-born population," and while "Negroes" were not "foreign-born," they were not included in the category of "native Americans."

So, even the idea that there is such a thing as the typical American town requires several rhetorical moves. These moves empty the country of the racial and cultural diversity that characterized it from the beginning, construct certain community features as peculiarities and local problems that would "mark [off a town] from the mid-channel sort of American community," and erase the historical presence of Native Americans so that white settlers can be constructed as native, essential representatives of Americanness. The characterization of Muncie as a "mid-channel sort of American community" relies upon a contradictory cultural logic: Muncie qualifies as such a community because it doesn't have the distinctness of most other communities. But if most other communities have the kind of peculiarities that would disqualify them from being typical, then the typical town of Muncie is necessarily, then, atypical. The authors even admit that such a racially homogeneous community as Middletown is "unusual" for an industrial city. Muncie is thus not representative of a statistical demographic average, but is able to represent universally the average American town, average Americans, and the nation itself, precisely because it appeals to and contributes to the formation of a white racial norm of average Americanness, a conception of Americanness that is inseparable from the influential force of eugenic thought.

The construction of typicalness in the Middletown studies suggests that conceptions of the "typical" town or family or American individual are not representative of the differences and diversity of the entire country, but rather are grounded in the denial of those differences. The establishment of the typical, similar to the establishment of

white racial superiority in eugenics, posits a white racial purity into which modernization, immigrants, racial intermixture, or other elements invade and thus pollute and change that purity. The Lynds refer to the population of their Middletown as "a relatively constant American stock" [...] "against which the process of social change in the type of community that includes different racial backgrounds may be studied by future workers."[131] In one of Jacobs' diary entries before 1945 (it is undated), he narrates the history of the American nation in similar terms, where a mythical white racial purity is disturbed by a "flood" of racial others and foreigners:

> "Up to the beginning of the twentieth century the United States was s commonwealth, purposefully governed by Anglo-Germanic peoples and their associated nations such as English, Scotch, Irish, Welsh, Norwegians, Swedes, Danes, Dutch and Germans. They belonged to the same 'race', the blond Nordic, Indo-European, and their traditions, culture, religion and languages were closely related. Came the flood of immigration from Southern, Central and Eastern Europe, bringing with them all the political sores, infections and diseases of their afflicted countries. They ridiculed the Aryans, popularly so called, as 'herren-volk'. They took possession of many important and influential sections of America, e.g., New York City. Among them were millions of Jews, millions of Catholics and very few Protestants. They immediately classified themselves by their creeds and conduct as 'oppressed minorities', against whom the plutocratic Protestant, gentile masses were 'prejudiced'. Led by quadroon and octoroon

[131] Lynd and Lynd, *Middletown*, 8.

editors, politicians and preachers, the thirteen million negroes made common cause with them."[132]

The desire to preserve in the 1930s emerges powerfully to perceived threats to a purely white American nation, a pure nation that only ever existed in streamlines narratives like the one above, and the one reproduced by the research design of *Middletown*, where a non-Anglo whites and African Americans impinge upon a national social body that is relatively uniform, and in the case of Jacobs' eugenically inflected rhetoric, genetically superior and more civilized.

Like the Middletown studies that produce the notion of averageness they purport to describe, the Crypt produces a particular historical version of the American civilization it claims to simply preserve by assembling existing cultural materials and technologies into a microcosmic whole. This whole, which claims to be universally representative as "our history," achieves its universality through exclusion, just as the average American and the average American town are born through a process of excluding blacks and immigrants from the nation. In publicity for the Crypt, Jacobs is generally vague about the books to be preserved, thus titles that may have been more objectionable do not factor into media and public perception of the project, which leaves open a space for the "our" in our history to signify the dominant ideological conception of who comprises the nation. The Crypt, then, through its vague aim of preserving a "record of civilization," publicly functions as "our history," meaning the history of an average, white, American nation. As Toni Morrison once said about a character in Ernest Hemingway's 1937 novel,

[132] Jacobs, *Step*, 536.

To Have and Have Not, "Eddy is white, and we know he is because nobody says so."[133] In a similar fashion, the speeches and writings of Jacobs, as well as the actual texts preserved in the Crypt, reveal the eugenic anxieties informing the creation of the Crypt of "Civilization."

Microfilm and the Dilemma of New Media Preservation

The Crypt reflects and reinforces emerging cultural assumptions about the power of the new medium microfilm to preserve old media like paper books, newspapers, and ephemera, and to preserve the paper trail that had become the life blood of corporate and state institutions in the late-19th and early 20th centuries. At the time, studies by the National Bureau of Standards had recently established microfilm as a "permanent" records storage medium, at least as durable as high quality rag paper, and perhaps even more so. The National Archives, only recently established in 1934, had also adopted microfilm as a permanent medium for records, while other institutions, such as banks and insurance companies, had been backing up their records with microfilm since the late 1920s.[134] All of these institutional uses lent legitimacy to cellulose acetate microfilm (also known as "safety film"), a very new medium, as an appropriate medium for storing historical records (for more see Chapter 1 of this dissertation). The condensing ability of microfilm allowed for a higher volume of information and images to be stored in a smaller space, and reinforced the notion that the Crypt was a more comprehensive, systematic archive of knowledge than any long-term preservation project up to that time.

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[133] Toni Morrison, *Playing in the Dark: Whiteness and the Literary Imagination*. Harvard University Press, 1992.
[134] Susan Cady, *Machine Tool of Management: A History of Microfilm Technology*. Ph.D. Dissertation. Lehigh University, 1994;

However, because microfilm was a new medium, its use as a preservation technology necessarily carried with it a supplement of anxiety. In 1926, the *Transactions of the Society of Motion Picture Engineers* included an article by Fred W. Perkins that points out "a need that has been increasingly realized by those who believe in the value of a visual record of the great events of our Nation and of our world."[135] However, he lamented that there was "no definite answer to the question": "how long can film records of great events be preserved?"[136] He consulted Eastman Kodak, but their recommendations only served to prevent quick decomposition of celluloid, not to preserve it indefinitely, or even for several hundred years. In 1929, historian Robert Binkley tried to issue the preservation imperative in an article entitled "Do the Records of Science Face Ruin?" He cited the rapid deterioration of scholarly materials and newspapers and libraries, and groped for a permanent media preservation solution, perhaps by creating photostat copies on "stronger paper," or reproducing texts on microfilm. But since the permanence of microfilm had not yet been established, Binkley admitted that the "danger remains that the photographic film may itself prove perishable." Binkley than suggests a return to an older, time-tested photographic technology when he suggests that "possibly photography upon metal plates may accomplish the desired result."[137] The editors of *Scientific American* attached an editorial comment as long as Binkley's article, in which they concluded that "while Mr. Binkley's survey is most interesting, it will be of more value if supported by further definite

[135] Fred W. Perkins, "Preservation of Historical Films," *Transactions of the Society of Motion Picture Engineers* 10.27 (October 1926): 81.
[136] Perkins, "Preservation," 82.
[137] Binkley, "Records," 29.

facts."[138] The editors wrote to scientists at the BOS, who responded that while they did not yet have "definite facts" about the relative durability of various kinds of paper (i.e. wood-pulp vs. rag) and microfilm, that they are currently "working on it."[139] In 1936, J.R. Hill and C.G. Weber of the BOS published "Stability of Motion Picture Films as Determined by Accelerated Aging"[140] and provided the definite answer sought by Perkins, and the rest of the Society, a decade previously. By 1940, because of the "definite facts" established by the BOS studies, T.K. Peters was able to publish an article in the same venue (renamed the *Journal of the Society of Motion Picture Engineers*), on the permanent preservation of cellulose acetate microfilm, by which time both the validity of accelerated aging tests and permanent media preservation were firmly established.[141] The editors of *Scientific American* that had, only 7 years before, rejected Binkley's call to preserve paper records on microfilm even embraced the Crypt project, serving as a clearinghouse for suggestions about what to include.

Jacobs and Peters cited research by the BOS to assert the permanence of their microfilm records, but all of that evidence was based upon "scientific" projections from accelerated aging studies. Only ancient materials such as papyrus, metal, and clay had empirically proved themselves to be permanent media. In response to this dilemma, Peters backed up some of the microfilm records with metal film reels, a technology he had invented a few years before but for which he had, up until the Crypt project, found no practical use. In the Crypt, then, a new medium (cellulose acetate microfilm) backed up

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[138] "The Scientific American Survey of the Problem." 29.
[139] [Robert] C. Binkley, "Do the Records of Science Face Ruin?" *Scientific American* (January 1929): 30.
[140] J.R. Hill and C.G. Weber, "Stability of Motion Picture Films as Determined by Accelerated Aging," *Journal of the Society of Motion Picture Engineers* 27.6 (December 1936): 677-690.
[141] T.K. Peters, "The Preservation of History in the Crypt of Civilization." *The Journal of the Society of Motion Picture Engineers* (Feb 1940): 206-211.

an old medium (paper) and thus asserted the superiority of modern technology over ancient culture. At the same time images etched in metal--an old, even ancient, media format--provided insurance against the decay of new media materials.[142] The appeal and promise of a new medium, as well as the anxiety provoked by its ascendance to dominance, both derive from its newness. In terms of permanent preservation projects, then, new media like microfilm are useful but ultimately cannot assuage the anxieties they negotiate. New media might promise a more permanent record, but their newness also provokes a return to precisely the ancient technologies that modern civilization's science has supposedly surpassed. Thus the mark of modern technological superiority breaks down in this circuit of preservation, where new medium preserves an old one, and an ancient medium preserves a new one.

Peters subjected microfilm to other preservative measures that further reinforce an anxiety about microfilm's durability, an anxiety that belies his rhetoric about it being a "permanent" medium. Peters used the Vaporate Film Treatment to protect microfilms from a variety of threats. Vaporate was a technology that increased the melting point

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[142] Jacobs and Peters' ambivalence about the power and permanence of new media in the Crypt corresponded to an ongoing question in the 1930s about the institutional uses of microfilm in libraries, archives, and other repositories. These questions persisted in spite of the increasingly widespread adoption of microfilm for the purpose of records storage. Thus, preservationists who used the authority of the BOS studies to frame microfilm as a permanent medium did so in contentious environment, as many librarians and archivists were not convinced of the permanence of the new medium. This suspicion was prevalent up through the 1960s, then grew into full-blown disillusionment in the succeeding decades when the widespread decay of film-based archives proved that no film was permanent. Peters, who invented the first 35mm microfilm camera, was obsessed with microfilm technology and its applications. In the personal papers of Peters are an array of pamphlets, advertisements, and technical articles related to microfilm technology. One of them is titled "Library Objections to Micro-Film." Someone, presumably Peters, based on the handwriting, crossed out the word "Library" and replaced it with "Mr. Broadman's." Peters clearly sided with proponents of the institutional uses of microfilm, yet his inclusion of metal film reels in the Crypt betray a more complex feeling about the new medium, and perhaps suggest a generality about the use of new media in permanent preservation projects. On persistent questioning of microfilm's power on the part of librarians, archivists and others, see "Reproduction vs. Preservation"in *Library Conservation*, and *Double Fold: Libraries and the Assault on Paper* by Nicholson Baker. The Broadman pamphlet is located in Box 2, Folder 4 of the Thomas Kimmwood Peters Papers, Young Research Library, UCLA.

Figure 2.2 Fragment of metal newsreel depicting Franklin Delano Roosevelt. Source: Thomas Kimmwood Peters Papers. Manuscript Division, Library of Congress, Washington, D.C. Image Credit: Brian Michael Murphy.

of treated films and protected them against "heat, climatic action, abrasion, and excessive moisture."[143] The treatment involved placing the films in a vacuum chamber, removing the air from the chamber and any moisture in the film, then replacing the atmosphere in the chamber with "certain chemicals" that coated the film with a varnish, making it "difficult to scratch," resistant to "oil or excess water" and "finger marks." Once treated, Peters placed the microfilm inside a glass cylinder, and again, a vacuum machine removed the air from the cylinder and replaced it with helium. Finally he placed the glass cylinder inside an fireproof asbestos cylinder, sealed both ends, and placed that inside a stainless steel canister, and sealed it. All of these measures suggest that microfilm, on its

[143] "Vaporate Film Treatment to Protect Your Films," *Filmo Topics*, Summer 1937. 11.

own, was not the permanent medium it first appeared to be, and suggest that a persistent anxiety attends the use of new media in permanent preservation projects, the grand promises and future visions of the preservationists notwithstanding. Further, this practice replicates an ancient practice with what Peters hoped were more durable modern materials: the ancient Babylonians preserved artifacts in terra cotta capsules, artifacts that survive today.

The metal film created by Peters for preserving both photographs and motion pictures illustrates powerfully the anxiety operating in the Crypt's circuit of preservation, where a new medium preserves an old medium, only to itself be preserved by an ancient medium. The final layer of complexity in this circuit consists of the "coating of cellulose acetate or one of the methylcrylates" applied to the metal films.[144] Cellulose acetate is, of course, the material base of the microfilm used in the Crypt. So, the circuit of preservation doubles over anxiously yet again: a new medium (cellulose acetate microfilm) preserves an old medium (paper books and photographs); an ancient medium (metal etchings) preserves the new medium (microfilm); a new medium (cellulose acetate) preserves the ancient medium (metal etchings). This circuit reflects microfilm's contentious cultural status as a permanent medium and expresses the anxiety at the heart of permanent preservation projects, where confidence in new media cannot be, ultimately, sustained, and moderns revert to using ancient technologies and materials to provide a guarantee that modern culture will be preserved. Peters also placed these metal film reels, coated with cellulose acetate, inside glass, then asbestos, then steel canisters,

[144] Peters, "Preservation," 209.

filled with helium, and thought that with these protections the reels "should last ten thousand years."[145]

Post-Crypt: What Will the World Be Like in 8113?

"How I wish I could be with you when the Crypt is opened to see what manner of folks you are who open it and to see what you say about us who placed it here. We are strong and happy today but when you shall have come to inspect the contents of this vault we shall long since have turned to dust. I wonder whether you will have the same hope of immortality that I have!"

--Thornwell Jacobs[146]

The preservation complex entails a more complicated relation between the subject and "time" than that which operates within the mummy complex. Jacobs articulates this relationship in his "Address at the Closing of the Crypt of Civilization," which he delivered to an audience of dignitaries as the Crypt was sealed.[147] In Jacobs' view, and in the preservation complex more broadly, "time" comprises both a near future, for which "the outlook is dark," and a distant future, "of which we have no fear." This darker, near future contains all the threats that haunt Jacobs: rising immigration, racial intermixture, the "race-suicide" of another World War, New Deal policy and impending tyranny, all of which derive from and exacerbate the degeneration of the average American citizen. The distant future is an optimistic, even utopian, space of eugenic dreams, where supermen

[145] Peters, "The Preservation of History," 209.
[146] "Greetings to the Inhabitants of 8113 A.D." 907-908.
[147] Jacobs, Thornwell. "Address at the Closing of the Crypt of Civilization" in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945).

manifest the enhanced characteristics wrought in humankind through thousands of years of evolution and through, Jacobs hopes, the practices of race betterment guided by eugenic principles. In 1945 Jacobs offered a vision of the distant future in an editorial for the *Atlanta Journal-Constitution*, titled "What Will the World Be Like in 8113?: When the Crypt at Oglethorpe University is Opened." Jacobs reverses the eugenic anxieties in his vision of the present into eugenic hopes for the distant future:

> "It is possible that government will be administered by experts as are medicine and dentistry and law. It is possible that the science of dietetics combined with hygiene and medicine may have made sickness before the age of 150 a disgrace and rarity. It is a practical certainty that medicine will be concerned more with the health of the aged and with increasing the efficiency of those who are under one hundred or a hundred and twenty-five. It is entirely possible that we shall be receiving dispatches from living beings, if there are such, on other heavenly bodies."[148]

Here is a vision of not only a regenerated white race, but a race of eugenic supermen, whose government exists primarily to promote the health, hygiene, and efficiency of its citizens, rather than degenerate the national stock through New Deal-style policies that nurture the unfit.

It is logical that Jacobs' future visions would intensify at this time, as World War II continued to ravage European nations and America. In response to this massive destruction, the realization of what he feared when he conceived of the Crypt in the mid-

[148] Thornwell Jacobs, "What Will the World Be Like in 8113?: When the Crypt at Oglethorpe University is Opened" in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945), 918. Originally appeared in *Atlanta Journal Magazine*.

1930s, Jacobs waxed Biblical in another essay from 1945, this one appearing in the *Westminster Magazine*:

> "As from some gigantic Gehenna the smoke of a million homes ascends perpetually as war's terrible incense to Moloch. America is being consumed and her youth cremated in the flames. The horrors of Har Megiddo are in every newspaper, every magazine, every broadcast. Europe, the tri-millenial home of our civilization quakes and shudders as the accumulated treasures of her greatest spirits become ashes and rubble. Yellows, blacks, browns and reds laugh as white nation slashes the throat of white nation and world power slips from the flaccid hands of the Aryan."[149]

As is evident from this passage, the Crypt's permanent preservation could not ultimately quell Jacobs' eugenic anxieties. Likewise, in the broader culture, the Crypt did not put to rest all concerns about the survival of American culture, but instead inspired more projects like it, and helped spark a tradition of compulsive repetition of permanent media preservation projects within the proliferating spaces of the preservation complex. These spaces where, supposedly, "moth and dust cannot corrupt," were often underground, built to transcend the vicissitudes and threats of mortal life. Thus the Crypt and the similar spaces it prefigured testify to both the persistence of Bazin's mummy complex through historical changes, but also, the transformation of that transhistorical complex into something emerging more directly from the specific historical anxieties of Americans in the twentieth century--the preservation complex.

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[149] Jacobs, Thornwell. "The Prophet on Parnassus" in the Westminster Magazine, Spring, 1945, in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945), 1077-1078.

Chapter 3: Preserving the Typical American Family: Race, Public Health, and the Westinghouse Time Capsule of Cupaloy (WTCC)

"Probably the persons who open the Capsule will have a physical appearance very like our own, except that they should have learned the principle of breeding a better race. These men and women should be as healthy as the healthiest, sturdy as the sturdiest, as beautiful as our most beautiful, and as intelligent as the best of us today. They should be, and probably will be, a race of supermen and superwomen, as judged by our standards; but only common men and women as judged by their standards. [...] This will be a healthy world governed by wholesome people. The abnormal will have no place in it. Good health will be the rule, and the vigor of the people will make an active life the only happy life. And it is to these people, under these circumstances, that we dedicate this Capsule, in the fond hope that they will discover it, and visualize in vivid detail the life which we now lead."

-A.W. Robertson, "5,000-Year Time Capsule: Address by A. W. Robertson, Chairman of the Board, Westinghouse Electric and Manufacturing Company, on the Occasion of the Depositing of the Westinghouse Time Capsule on the Site of the New York World's Fair 1939, September 23, 1938"[150]

[150] Westinghouse Museum Archives. Box 70. Folder "Time Capsule--Westinghouse Press Releases."

The Heinz History Center in Pittsburgh currently displays a replica of The Westinghouse Time Capsule of Cupaloy (WTCC). This replica, fitted with a cutaway glass panel to show thecapsule's contents, was first displayed at the New York World's Fair of 1939, where the original time capsule was deposited fifty feet underground in Flushing Meadows Park, directly in front of the Westinghouse Building. An explanatory placard accompanies the exhibit, and reproduces ads depicting the fictional Middleton Family, created by Westinghouse to show "typical Americans" experiencing the wonders of the Westinghouse exhibits, and references a film produced by Westinghouse called The Middleton Family at the New York World's Fair. Visitors can also flip through an archival piece stored in plastic sleeves in a three ring binder--a magazine called *Westinghouse Fair World*--which contains articles on the time capsule, the Middleton Family film, and an exhibit called the Microvivarium, where "watch" fairgoers watched "images of thousand of tiny organisms" [...] "magnified to the size of jackrabbits and projected on a five-foot screen for close inspection." The "climax" of this exhibit was the killing of these organisms by the ultraviolet light of the Westinghouse Sterilamp, a germicidal bulb that emitted deadly radiation and sanitized restaurants, operating rooms, and other spaces in the service of public health. When its rays are "turned upon these thrashing, fighting organisms," they "stop their wild gyrations, curl up and die--and science scores another victory."[151] Besides books, microfilms, newsreels and "items of everyday use" like safety razors and a baseball, the time capsule also contained a small Sterilamp bulb.

[151] *Westinghouse Fair World*. Undated Publication (likely ca. 1939). On display at Heinz History Center in the 1939/40 World's Fair in New York Exhibit.

The WTCC was a permanent media preservation project--its target opening date was 6939 A.D--that reflected an emerging preservation imperative that guided state and corporate records preservation practices. G. Edward Pendray, an assistant to the President of Westinghouse, created the WTCC. Pendray--a science fiction writer, rocket enthusiast and scientist, and public relations pioneer--based the WTCC on the Crypt of Civilization.[152] Pendray wrote the first mass media article on the Crypt, which appeared in *Literary Digest* in 1936, and acknowledged the influence of the Crypt on his project in correspondence with Crypt creator Thornwell Jacobs.[153] With the WTCC, a project backed by a major U.S. corporation, displayed at the New York World's Fair, and promoted in extensive advertising in mass media publications like the *Saturday Evening Post* and *Life*, the concept of permanent media preservation circulated widely. This circulation effected the legitimation of permanent media preservation as a scientific, effective, and logical way of capturing the essence of American culture and defending it against any and all threats.

Westinghouse Chairman A.W. Robertson's address at the WTCC's burial ceremony (see the epigraph), with its emphasis on a future of improved race-breeding and impeccable public health, reveals the way in which the Time Capsule served as a powerful material site for imagining utopian eugenic futures in the "better tomorrow" promised by the 1939/40 World's Fair. As I have shown in chapters 1 and 2, the desire to preserve media permanently in the 1930s was deeply interwoven with anxieties about

[152] For more on Pendray's varied career, see De Witt Douglas Kilgore. *Astrofuturism: Science, Race, and Visions of Utopia in Space*. Philadelphia: University of Pennsylvania Press, 2003.
[153] A copy of the article appears reproduced in The Story of the Crypt of Civilization by T.K. Peters (1940). Correspondence between Pendray and Jacobs is in the Westinghouse Museum Archive, Box 70. Folder "Crypt of Civilization--Oglethorpe University."

threats to corporate capitalism and liberal democracy, as well as threats to white racial purity, health, and hegemony. In this chapter, I discuss how Westinghouse' exhibits at the World's Fair reflect these anxieties and address them with preservation technologies, namely the WTCC, which preserves history, and the Sterilamp, which preserves public health. I argue that these Westinghouse exhibits highlight the ways in which intensified concerns about threats to media, and public health concerns about threats to the white national body not only emerge at the same time, but together reflect the constellation of cultural anxieties that characterize the emergence of the preservation complex. The WTCC and Sterilamp, I argue, are artifacts that index this complex of anxieties about threats to paper and microfilm records, to the corporate capitalist social order, which rested on the racial integrity and stability of the typical (white) American family, and to "public health." I decrypt "public" as a racially coded term, and argue that the "public" is a white body, constituted against an array of dehumanized racial others and humanized natural others (i.e. insects, germs, disease). The preservation of history in the WTCC, then, does not simply preserve a record of an existing social formation but actually produces a powerful idealized image of typical Americans and American culture that sought to influence the way Americans saw themselves in the 1930s, not just how the people of 6939 A.D. would see them. Similarly, the preservation of public health by the Sterilamp not only protects individual bodies against contagion and contamination, but was a prop in a technological spectacle that served to perform the iterative reconstitution of a white public against the racial, animal, insect, and microscopic threats to the health of that public, and thus the health of the national body. I analyze the Time Capsule and

Sterilamp exhibits through Westinghouse press releases, photographs, internal memos, speech drafts, and other archival materials.

In order to provide a point of identification and model for the American public whose history and health their technologies preserved, Westinghouse produced an ad campaign and feature filmed centered around the Middletons-- "the typical American family"--and their visit to the Fair. These narratives of the fictional Middletons showcase both Westinghouse innovations and a corporate cultural ideal of an all-American family totally aligned with corporate values. In these narratives, the family is the front line of ideological, cultural, and racial defense against threats to the prevailing social order, an order characterized by heteropatriarchal, white, capitalist hegemony. Thus, the Middleton ads and film vividly index some of the economic, racial, cultural, and social anxieties affecting Americans in the 1930s, anxieties that stimulated and shaped the intense desire to preserve both national memory and the health of the (white) national body with the WTCC and the Sterilamp.

The WTCC and The Material Culture of Capitalism

While many commentators at the time, and since, have described the time capsule as unusual,[154] I contend that it powerfully reflected broader cultural trends of the 1930s,

[154] Various newspapers characterized the time capsule this way, while at the same time helping to familiarize it in the eyes of the American public by comparing it to the more everyday preservation technology of food canning. Canning also implied that the WTCC, like canned food, preserved objects within a secure space free from spoilage, germs, and contamination. See Harvey Levenstein, *Fear of Food: A History of Why We Worry about What We Eat* (Chicago and London: University of Chicago Press, 2012) for more on common food fears amongst Americans in the late 19th and 20th centuries, especially in urban areas like New York where toxic and excremental dust floated in the air and covered food left in the open, not sealed inside a can. See the article on the Crypt of Civilization, which makes mention of the time capsule, "Preserving Our History in a Tomb: 'Crypt of Civilization' will re-create our daily life for people of 8113 A.D." *Popular Science*. December 1938, 110-113. The National Bureau of Standards that

and thus is not entirely unusual, but a logical outgrowth of American capitalism's material culture during the Depression. In the October 10, 1938 issue of *American Banker* newspaper, an article describes the use of Recordak microfilm in the Westinghouse Time Capsule.[155] The article points out that this microfilm in the time capsule is "the same kind that banks use to record checks and valuable records." Indeed, Recordak, invented in the late 1920s, survived the Depression and was available to Westinghouse because it revolutionized corporate record-keeping, first in banking, then in department stores and insurance companies. The success of Recordak coincided with and contributed to the expansion of personal loans, installment plans, and consumer credit, all of which generated an avalanche of records for corporations to preserve and store.[156] The newness of this vast credit system is evident in an article on the front page of the same edition of American Banker, one describing the profitability of debt. Bank executive J.P. Huston tells "of his bank's success with a personal loan department and advise[s] any bank which [does] not have one that they [are] missing very profitable business."

The WTCC reflects broader developments in the material culture of capitalism during the 1920s and 1930s. This material culture involves three categories of materials. First, it includes but is not limited to the business machines and office appliances that came into prominent usage in the late 19th and early 20th centuries, such as typewriters,

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consulted Westinghouse on the design of the time capsule also called the project "unusual" in one of its newsletters. In the Middleton family ad that featured the WTCC, Mrs. Middleton asks if the capsule will deteriorate in 5,000 years. Jim Treadway explains to the family that it is made of cupaloy, "a special Westinghouse metal that resists corrosion. The contents are sealed inside with a gas that protects them from spoiling." Westinghouse Electric Corporation Records. MSO Oversized Record Collection.

[155] "Recordak Micro-Film Records Interred in "Time Capsule" at N.Y. World's Fair." *The American Banker*, October 10, 1938. Westinghouse Museum Archive. Folder "Time Capsule—Published Articles." Heinz History Center. Pittsburgh, PA

[156] See Cady, *Machine*.

vertical files, carbon copies, and duplicating devices such as hectographs, photostats, and mimeographs.[157] Second, it refers to the avalanche of documents generated by corporate organizations beginning in this period, as well as the storage technologies devised to protect and preserve them, such as metal cabinets, fireproof storage buildings and vaults, some of them underground, and others off-site, especially as fear of bombing during World War II and after led many large corporations to store their records miles away from likely "target cities" like New York and Chicago. Third, it refers to the material artifacts that populated World Fairs and industrial expositions, as well as the displays and performances created to render these artifacts interesting and meaningful to the mass public, a mass public that such displays also helped produce and shape.[158] The Westinghouse Time Capsule of Cupaloy, deposited and displayed at the 1939 New York World's Fair, belongs to this third class of material culture.

In the 1930s, the records of history, such as the paper books and microfilms preserved in the time capsule, and the records of corporate capitalism, such as the debt records preserved in the underground vaults of banks, began to be preserved according to remarkably similar principles. The design of the WTCC reflected the principles, which would become dominant by the middle of World War II: 1) The use of a durable, even permanent media format for records 2) the use of an economical media format that

[157] For a thorough historical overview of the increasing use of "office appliances" and "business machines" during the late 19th and early 20th centuries, see Cady, *Machine.* For more on the rise of punched-card systems, from their use by the U.S. government for the 1890 census, through their use to organize the records and payments of the Social Security administration, see Heide, Lars. *Punched-Card Systems and the Early Information Explosion, 1880-1945* (Johns Hopkins University Press, 2009). For the gender politics of the evolving nature of office work at this time, see Susan Strom, *Beyond the Typewriter: Gender, Class, and the Origins of Modern American Office Work, 1900-1930* (University of Illinois Press, 1994).

[158] Rydell analyzes the Century of Progress exhibitions and effectively locates them within an historical and cultural milieu, dominated by concerns about destabilized corporate power and eugenic fears about rising immigration and the degeneration of the "national stock." See Robert Rydell, *World of Fairs: The Century-of-Progress Expositions* (Chicago and London: The University of Chicago Press, 1993).

required little space 3) a secure storage facility, such as an underground vault, to protect against fire, flood, and war; and 4) the location of records in a relatively inaccessible site.[159] Both the time capsule and corporate record-keeping practices relied upon scientific knowledge of the material qualities of paper and microfilm media: i.e. the most durable kinds of paper and film, the causes of their deterioration, the proper environmental conditions for their preservation, whether or not they can be relied upon as permanent. In the 1930s, "accelerated aging studies" (discussed in Chapter 1) carried out by the National Bureau of Studies (BOS) confirmed the permanence of both high-quality rag paper and certain kinds of cellulose acetate microfilm, otherwise known as safety film.[160] The BOS recommended precise guidelines and specifications for the material composition of permanent film, its processing, handling, and storage conditions.[161] Westinghouse consulted the BOS directly and designed their time capsule according to BOS specifications, while academics in the emerging field of business history, as well as

[159] For representative articles on shifts in corporate records storage practices during this period, Leahy, Emmett and Robert E. Weil. "Will One Fire…or Bomb Ruin Your Company?" *Credit and Financial Management* 53 (October 1951): 7-8; Ward, Walter H. "Records Protection Against Bombing: Your Storage Facilities." *Savings and Loan News* (May 1951): 26-27. Admittedly, these articles were published after the advent of nuclear weapons and not during the 1930s, but through this dissertation I hope to show that such business record preservation practices are not entirely a symptom of Cold War paranoia, but rather that Cold War anxieties intensified certain already ongoing transformations in records preservation practices rooted in broad cultural concerns the predate both the Bomb and even World War II.

[160] See Arthur E. Kimberly and B.W. Scribner. "Summary Report of National Bureau of Standards Research on Preservation of Records," *in Bureau of Standards Miscellaneous Publication* 144 (May 9, 1934); J.R. Hill and C.G. Weber, "Stability of Motion Picture Films as Determined by Accelerated Aging," *Journal of the Society of Motion Picture Engineers* 27.6 (December 1936): 677-690.

[161] A number of memos in the Westinghouse archives capture the exchange between G. Edward Pendray (creator of the time capsule; assistant to the President of Westinghouse) and C.G Weber at the BOS. Weber also posed for publicity photos with Westinghouse executives, the president of the World's Fair, and the editor of Scientific American magazine, which can be viewed in *The Story of the Westinghouse Time Capsule* (Westinghouse Electric Company: Pittsburgh, 1938).

librarians and archivists of all kinds referred to the BOS studies in their calls for the use of microfilm to improve corporate record preservation practices.[162]

Westinghouse ensured the permanence of its preserved microfilms by constructing the WTCC out of a "permanent" metal alloy invented by corporate engineers, the permanence of which was established according the same logic as the BOS's accelerated aging tests that determined microfilm to be as permanent as high-quality rag paper. To be certain of the permanence of metal itself, engineers subjected cupaloy to a series of "torture" tests. On their way to coming up with that alloy, which they termed cupaloy, they composed a series of alloys and each one was subjected to 900 degrees (F) of heat for a month solid to test its heat resistant properties, then placed in a hydraulic press and "squeezed, then stretched," and "socked" with an electric charge. "One by one, the samples were discarded as they failed to pass all of the torture tests," until cupaloy survived them and proved itself to be, according to Westinghouse engineers, "something that ought to last a good five thousand years."[163] The "ought" in

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[162] See Oliver Wendell Holmes, "The Evaluation and Preservation of Business Archives," The American Archivist 1.4 (October 1938); Ralph H. Hower. "The Preservation of Business Records: Why Business Records Should Be Preserved." *Bulletin of the Business Historical Society* 11.3-4 (October 1937); DeForest Mellon. "Preserving Business Records for History…An Issue Raised by the NRA." *The Bulletin of the National Retail Dry Goods Association* (June 1934); Arthur E. Kimberly. "The Preservation of Records in Vital Statistics," *Vital Statistics—Special Reports* 3.33 (August 5 1937).

[163] "White Copy Time Capsule." George Westinghouse Museum Archive. Box 70--1938 Time Capsule. Folder "Time Capsule--Westinghouse Press Releases." The particularly violent aspect of the language describing materials testing was part of a broader discourses of human domination--of nature, and of whites over nonwhite conflated with nature--through which Westinghouse repeatedly conceptualized its technological innovations. In the Book of Record, Pendray wrote in reference to the superbly strong alloy Cupaloy: "We have made metals our slaves, and learned to change their characteristics to our needs." (15) Pendray imagines the metallurgical innovation of Cupaloy through the subjection of slavery, positioning Westinghouse engineers as masters of nature and the elements. In a Fair exhibit consistent with this framing, a large sign reads "Westinghouse Electricity--Transforms Dead Metal into Useful Products." Just below the sign, two smiling, boy mannequins tinker with tools, and a caption says "Any Boy Can Build a Motor...But Industry demands motors to withstand unusual punishment." The whiteness of the two mannequin boys suggests that not any boy can build a motor, and more firmly lodges the discourse of mastery over "dead metal" within a racial imaginary. The metaphorical deadness of the metal resonates with historical racial discourses that framed actual black slaves as socially dead, as forms of life without

this phrase subtly expresses the supplement of uncertainty that attends all claims of material permanence--neither these "torture" tests, nor the accelerated aging tests could reliably and quantifiably predict the permanence of a given material. Nonetheless, the endorsement of claims of material permanence by powerful institutions like BOS and Westinghouse legitimated the concept of permanent media preservation in American popular culture. With their WTCC display at the World's Fair, Westinghouse transformed the preservation science of the BOS into a mass cultural spectacle that reinforced corporate capitalist visions for the future, and present.

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recognizable kinship networks or inherent value until given a market value. In the slave economy, black bodies both produced "useful products" and became "useful products" through forms of subjection that "changed their characteristics to the needs" of masters. The dark, smooth-surfaced Westinghouse motors on display in the exhibit--one a "dustproof motor," the other a "splashproof" motor--must be able to "withstand unusual punishment" as "industry demands" it, and are powerfully juxtaposed with the thin, small boy mannequins hovering above. For more on the concept of social death, see Orlando Patterson's *Slavery and Social Death: A Comparative Study* (Harvard University Press, 1985); Sharon Holland's *Raising the Dead: Readings of Death and (Black) Subjectivity* (Duke University Press, 2000); on punishment and the shaping of enslaved subjects, see Saidiya Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America* (Oxford University Press, 1997).

In the same paragraph that Pendray asserts Western science's enslavement of metals, he also frames preservation as an act of domination, and thus links the preservation in the time capsule to the broader Western imperial mission of conquering all realms--natural, human, and microcosmic. "We have learned to arrest the processes of decay; our foods are preserved in metal or frost." Whether the preservation of paper records by bookworm fumigators like Thomas Iiams, or of microfilm reels within the Time Capsule, the absolute domination and violent extermination of natural elements--such as insects, mold, bacteria, and other pests--was integral to protecting the preserved object. In *Dust: A History of the Small and Invisible*, Joseph Amato situates the domination of the microcosmic--germs, disease, the molecular structures of metals and other elements--within the broader context of Western colonial domination. See Chapter 6, especially 110-111.

Figure 3.1. Middleton Family Ad: "Buried Treasure for the Seventieth Century." Image: from Detre Library and Archives, Sen. John Heinz History Center.

In the above advertisement, the "typical American family," The Middletons, encounter the Westinghouse Time Capsule of Cupaloy at the New York World's Fair of 1939/1940. The ad exclaims that the WTCC is "Fascinating alike to scientists and to everyday folks," like the Middletons. As the Westinghouse guide explains, the time capsule preserved hundreds of images and thousands of pages of books and magazines and scientific articles on microfilm. He responds to their many questions and assures them that the time capsule will not deteriorate in the five millennia between 1939 and 6939, its target opening date. The ad seems to be focused on the future, as the Middletons agree that electricity is the "greatest gift of science to the future," and Mrs. Middleton tells her mother she wouldn't want to live in the future if the people of that time don't have what we have today, "like refrigerators, irons, toasters, and vacuum cleaners." Mrs. Middleton's comment implies that these technological accoutrements of feminized domestic labor make life worth living, that the future will be marked by progress to the degree that it contains such tools (rather than to the degree, say, that women are free from such drudgery), and that, despite a raging Depression, life in America is good, and it is Westinghouse that makes it so.

The Middletons provided an important point of contact between Westinghouse and the American public it hoped to educate at the Fair. The ad above was one of several deployed by Westinghouse in popular magazines such as the *Saturday Evening Post*, *Collier's*, *Liberty*, *Country Gentleman*, and *Life*.[164] In all of these ads, the Middleton family travels from the Midwest to New York to experience the technological marvels of the Westinghouse Building at the World's Fair. The name Middleton draws upon a

[164] See original ads in Westinghouse Electric Corporation Records. MSO 424 Oversized Records collection.

popular understanding of "average" or "typical" American culture at the time, most powerfully described in the sociological studies, *Middletown: A Study in Modern American Culture* (1929) and *Middletown: A Study in Cultural Conflicts* (1937).[165] Westinghouse strongly emphasized the Middletons as the primary point of identification for fairgoers not only through this ad campaign but also by producing a feature film called *The Middleton Family at the New York World's Fair*,[166] shot in Technicolor with popular actors like Marjorie Lord, who played the Middleton daughter, Babs. I analyze the precise ways that Westinghouse constructed the typical American family to gain insight into the broader set of anxieties that informed Westinghouse's Fair exhibits. In other words, forces represented as threats to the typical American family--and metonymically, to all normative white Americans--form the ideological, racial, and cultural context for preservation technologies like the WTCC and Sterilamp, which preserved the history and health of the nation.

Westinghouse's deployment of "typical Americanness" reflected and contributed to a broader trend at the Fair, where displays and images of actual American families helped validate corporate visions of the future, and reinforced the association between whiteness and essential Americanness. This trend derived significantly from the influence

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[165] Clark Wissler gave a speech at the dedication to the time capsule, poured the pitch that sealed it into the immortal well, and also wrote the "Foreword" to the first Middletown study. In my broader project, I further develop my analysis of the relationship between the desire to define the essence of American culture, to preserve that essence permanently, and to protect its purity against the threats of racial, national, and cultural degeneration. Wissler is one of several figures of the period who were deeply concerned with both the preservation of the historical record and the protection of the imagined white symbolic center of the American nation.

[166] The Middleton film has continued significance in American culture, as it was screened at both the MOMA and the Carnegie Museum of Art in the past several years, and in 2012 was added to the National Film Registry. See Library of Congress news release of 12/20/12, "2012 National Film Registry Picks in a League of Their Own." For another discussion of the film, more focused on the scene where the Middletons are introduced to TV, which directly follows the time capsule scene, see "Introduction: TV, the Heartland Myth, and the Value of Cultural Populism" in Victoria E. Johnson, *Heartland TV: Primetime Television and the Struggle for U.S. Identity* (NYU Press, 2008).

and participation of American eugenicists on Fair displays, and American exhibition culture at even smaller venues such as country fairs, since before World War I. Robert Rydell explains:

> "After the war, they developed major displays in conjunction with international eugenics congresses held at the American Museum of Natural History in New York, and organized exhibits that became fixtures at state and county fairs around the country during the 1920s. When, despite the growing challenge by intellectuals, some of these displays spilled over into the century-of-progress expositions themselves, it became clear that builders of these fairs would share crucial presuppositions with pre-First World War exposition builders about he primacy of racial categories in determining citizenship in the world of tomorrow. Perhaps the best indication of this continuity occurred at the 1940 New York World's Fair where race-betterment ideas were articulated in an exhibit devoted to 'typical American families.' While not the sole component in the ideological scaffolding of the century-of-progress expositions, race betterment ideas did help shape the intellectual universe in which the world of tomorrow was mapped."[167]

In order to qualify as a "typical American family," it had to win an essay contest sponsored by their local newspaper. In these essays, families were supposed "to explain why they were typical." Corporate sponsors outfitted winners with various consumer products--they received a free ride to the Fair in a new Ford, "lived on the fairgrounds in houses built by the Federal Housing Administration and sided with 'Asbestos Cedar-

[167] Rydell, *World*, 39.

grain Siding Shingles' provided by the Johns Mansville Company."[168] When New York Mayor Fiorello LaGuardia met with two of these families who were "to serve as representatives of the families of the nation," he told them that they were the people "who make this country real."[169]

While the Middletons are a fictional creation meant to flatten the racial and cultural diversity of the nation, they nonetheless index actual cultural assumptions and widespread anxieties in Depression-era America. The entire narrative of the Middletons in both the film and the ads is fraught with anxieties that attend the psychic life of subjects within an emerging preservation complex. In the film, the Time Capsule is the

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[168] Rydell, *World*, 56. According to a New York Times article, lodging in FHA homes was meant to advertise the low-cost, state-subsidized housing program. See "'Typical Families' Greeted by Mayor: After Official Ceremony, He, His Wife and Children Have Private Visit With Them." *New York Times*. May 12, 1940. *ProQuest Historical Newspapers*. The FHA program helped to generate the economic privileges that constituted the material benefits and visible markers of whiteness in the postwar period. George Lipsitz explains: "The Federal Housing Act of 1934 brought home ownership within reach of millions of citizens by placing the credit of the federal government behind private lending to home buyers, but overtly racist categories in the Federal Housing Agency's (FHA) 'confidential city surveys and appraisers' manuals channeled almost all of the loan money toward whites and away from communities of color.f8 [...] Federal housing policy offers an important illustration of the broader principles at work in the possessive investment in whiteness. By channeling loans away from older inner-city neighborhoods and toward white home buyers moving into segregated suburbs, the FHA and private lenders after World War II aided and abetted segregation in U.S. residential neighborhoods. FHA appraisers denied federally supported loans to prospective home buyers in the racial mixed Boyle Heights neighborhood of Los Angeles in 1939, for example, because the area struck them as a "'melting pot' area literally honeycombed with diverse and subversive racial elements*." The Possessive Investment in Whiteness: How White People Profit From Identity Politics* (Temple University Press, 1998), 74-75.

[169] One of the families greeted by Mayor LaGuardia were the Burdins of Miami. On their "Questionnaire for Selecting the National Typical American Family," Mrs. Burdin declared her occupation to be "housewife," like Mrs. Middleton, while Mr. Howard Burdin owned an office equipment company, similar to Mr. Middleton, who owned a hardware stored. Thus, the Burdin family's livelihood rested on the demand for office equipment by corporate enterprise, and their gender responsbilities conformed to the corporate typical family ideal represented in the Middletons. Similar to the typical Americans described in the Middletown studies, their typical and "native"Americanness required an historical amnesia about their family's actual origins, which were necessarily, at some point in the past, located outside of America. On the "Questionnaire," which required them to "Tell briefly the origin of the family," the Burdin's amnesia was apparently precisely the answer sought by the contest judges: "The ancestors of both parents lived in Alabama for so many generations that neither Mr. nor Mrs. Burdin ever heard where they came from. All were farmers." Finally, the family origin narrative also position the family more squarely, geographically, within the American nation than origins in Miami would suggest, as "Burdin's great-great-grandfather, who died at the age of 98 when Burden was about 10 years hold, had spent his whole life in Alabama. Mr. and Mrs. Burdin moved to Miami in 1925." New York Public Library Biblion Collection.

first exhibit encountered by the Middletons, guided by Jim Treadway. The Middletons provide an effective point of identification for viewers by helping them to understand the time capsule as an expression of corporate science's power to bring about "a better tomorrow"--the theme of the fair--rather than see it simply as a strange novelty. The Middleton son Bud, and his father, ask the questions; the mother giggles and gasps in amazement; and the grandmother watches passively, except for chiming in about how she "supposes cloth and things like that are included in it, too." The scene closes with Jim referring to the underlying cultural anxieties motivating such a grandiose preservation project, namely that war or economic collapse or some other form of civilizational ruin will cause the utter destruction of everything that is not preserved on microfilm, sealed inside a secure vault, and buried in an inaccessible location. Jim says of the time capsule that "It's the most permanent exhibit of the Fair. It'll still be here when the rest of this place is nothing but dust." Tom Middleton replies, "That's remarkable," then immediately changes the subject.

While the Time Capsule certainly testifies to the transcendent power of science, Jim Treadway's comment that eventually everything but the WTCC will be "nothing but dust" necessarily evokes the image of total destruction and loss that eventually befalls all civilizations. To say that everything eventually becomes dust is commonsensical, and true, but, according to Westinghouse, the WTCC is an exception to this universal condition of materiality, and contains within itself a transcendent space populated by transcendent objects. For the first time in history, fairgoers can look at the "cut-away replica" of the time capsule and see reproductions of eternal objects whose permanence is underwritten by both scientific knowledge and corporate authority. Thus, it both

promotes and troubles the progress narrative of limitless innovation and economic growth that inform both the Westinghouse exhibits and the overarching ideology of the Fair. To imagine the entire fair as nothing but dust grinds against Fair planners hopes that fairgoers would envision a better future through limitless free enterprise and technological innovation. The Fair promised a "mass consumption-driven paradise if only Americans consented to modernize their lives along lines suggested by the fairs" and trusted corporate managers and scientists "with planning the future course of America."[170] Fair planners wanted to "lead the nation out of the depression and place it on the road to future perfection."[171]

Within the preservation complex, subjects understand new technology as both the probable future source of total human destruction, and the guarantor of the permanent preservation of human cultural traces against all threats. The fearful meditations of Thornwell Jacobs, creator of the Crypt of Civilization, demonstrated this predicament clearly enough. Time Capsule creator G. Edward Pendray's brainstorming for the time capsule also indexes technology's paradoxical status within the preservation complex--he originally wanted to call the time capsule a "time bomb," but thought better of it.[172] However, this dual resonance of preservation and destruction within spectacles of technological progress is present in the frontispiece to *The Book of Record* written to accompany the time capsule project (a copy printed on "permanent" rag paper is also

[170] Rydell, *World,* 213; 215-216
[171] Rydell, *World*, 213.
[172] Melvin Jarvis, "Modern Time Capsules: Symbolic Repositories of Civilization," *Libraries and Culture* 27:3 (Summer 1992): 281.

preserved in the time capsule).[173] Above the heads of white Westinghouse scientists hangs the WTCC, a marvel of streamline design, admired by the smiling faces below it. But the time capsule in the photo is also a time bomb: at the very top of the capsule is obscured, and so what we're seeing might very well be a falling bomb, just before its moment of impact, a grim thought that can be read on the non-smiling faces in the crowd. This image is a dialectical object, capturing the fundamental contradiction of a technological progress that leads to a better tomorrow where technology will have the capacity to destroy everything forever, and to preserve everything forever. The dialectical image of the preservation and destruction above circulated widely, in publications such as *The New York Times* and P*opular Science*, and thus distributed a powerful visual encapsulation of the paradoxical and anxious status of new technology within the preservation complex. Westinghouse distributed *The Book of Record*,[174] which carried the image on its first page, to over 3,000 libraries, museums, science clubs, and monasteries, and thus framed its preservation project as an anxious one that both warded off and indexed deep uncertainties about the future.

Other anxieties afflicting subjects within the preservation complex derive from perceived ideological, racial, and cultural threats to the youngest generations of Americans, and thus, threats to the future the family, capitalism, and to the nation itself. The plot of the Middleton film turns around the transformation of the Middleton children,

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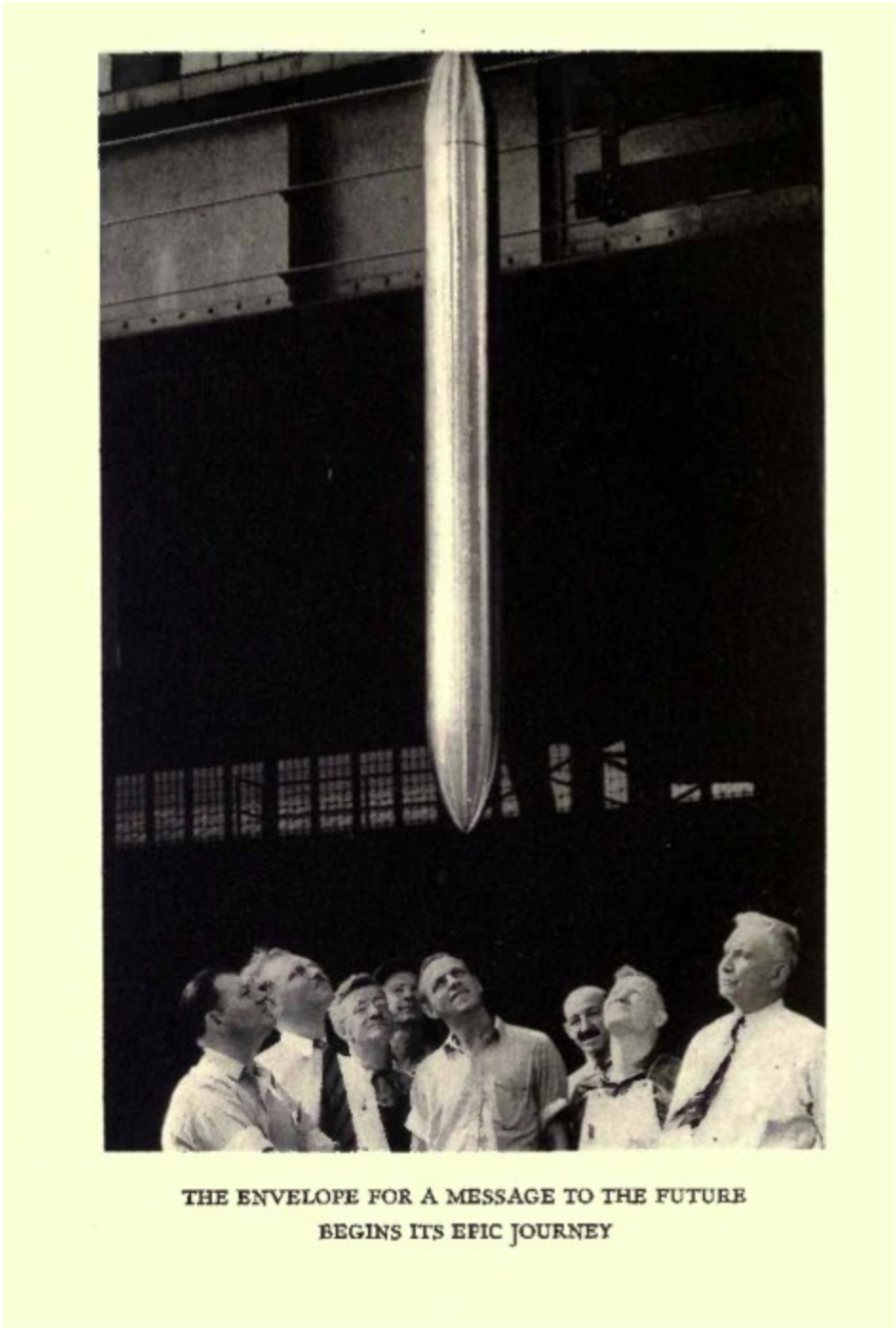
[173] G. Edward Pendray. *The Book of Record of the Time Capsule of Cupaloy: deemed capable of resisting the effects of time for five thousand years; preserving an account of universal achievements; embedded in the grounds of the New York World's Fair, 1939*. (New York: Westinghouse Electric & Manufacturing Company, 1938). My digital copy came from the Prelinger Library, San Francisco, California 2006. archive.org.

[174] "Rare Book Describes 'Library' Buried in 5000-Yr. Time Capsule: Imperishable Document to Guide Archaeologists of A.D. 6939 to 'Story of Mankind' Deposited by Westinghouse at the World's Fair" Westinghouse Museum Archive. Box 70. Folder "Time Capsule--Westinghouse Press Releases."



THE ENVELOPE FOR A MESSAGE TO THE FUTURE
BEGINS ITS EPIC JOURNEY

Figure 3.2. Frontispiece for *The Book of Record*.

Bud and Babs. Bud is a playful but pessimistic boy who deeply questions the value of free enterprise, corporate capitalism, and scientific innovation as he faces the dwindling economic opportunities of the Depression. The Middleton daughter, Babs, is attending art school in New York, and has begun dating one of her instructors, an immigrant, Marxist, abstract painter of Russian descent named Nickolas Mackaroff, whose arrogance and snobbery is exceeded only by his anti-capitalist fervor. The family hopes to correct this by fixing her up with Jim Treadway, a hometown boy from Indiana who now works as an engineer and guide in the Westinghouse building at the Fair. By the end of the film, all the threats to America's future seem to be resolved through the changes in these two young people: Babs breaks of her relationship with Mackaroff and pairs with Treadway. Bud wins a letter-writing contest where he explains to a friend back home how bad off the world would be without the innovations of Westinghouse, and reads the letter publicly at the awards ceremony, effectively turning him into a copywriter or budding PR man for American big business before our very eyes.

Scholars consistently center Babs in their discussions of the film's driving narrative,[175] but a script draft shows that Westinghouse conceived of Bud's transformation as being more central to the story Westinghouse wanted to tell--the story of the wonders of the Fair convincing the next generation of Americans of the superiority

[175] For an example that centers the story around Babs, see Andrew Wood's "The Middletons, Futurama, and Progressland: Disciplinary Technology and Temporal Heterotopia in Two New York World's Fairs." *The New Jersey Journal of Communication* 11.1 (Spring 2003): 63-76. When The Middleton film was added to the National Film Registry in 2012, the Library of Congress press release likewise makes Babs the focus of the picture, and does not mention Bud or his transformation at all: "While the entire family is affected by the visit, none are changed so much as daughter Babs (played by a young Marjorie Lord), who eventually sours on her foreign-born, anti-capitalistic boyfriend in favor of a hometown electrical engineer who works at the fair." See "2012 National Film Registry Picks in a League of Their Own." News from the Library of Congress. http://www.loc.gov/today/pr/2012/12-226.html. My interpretation is consistent with Roland Marchand's understanding of the film. He likewise considers Babs' storyline as a "subplot." See *Creating the Corporate Soul*, 295-298.

of American free enterprise. The opening descriptions of the film's characters reveals that Tom Middleton, the father, worries that not only Babs, but both of his children's lives are "about to be ruined." The scene descriptions and narrative remarks of the screenplay offer insight into the interpretive frame Westinghouse imagined for its film, and thus the messages it hoped audiences would receive. Both in the script draft, and in the final version of the film, it is an encounter between Bud and Tom that offera both the first lines of dialogue, and the first outline of the threats to the integrity and stability of the American family, and by extension, the American Way of Life.

The first scene of the film reveals Bud, with his economic pessimism and appreciation of nontraditional values and cultural forms, like jazz, to be at the center of the typical family's anxieties. We first meet Tom Middleton in the opening scene of the film, set at the home of Grandma Middleton in Huntington, Long Island, where the family will stay for the duration of their World Fair trip. Tom is alone in the living room, and his first action on-screen is to turn on the radio, where he encounters a band leader counting off; he changes the station only to be greeted by a jazzy piano riff; finally he arrives at a news radio program, where a "pleasant, measured voice" addresses the dire economic situation for young Americans:

> "And over six thousand young Americans are stepping hopefully out into the world this year, looking for their first jobs. The same number faced a similar problem last year. An equal number will face it next year. What chance have these boys and girls in a world already staked out?...What hope is their for youth in the world of tomorrow? The answers to these questions are vital to every man, woman, and child in the nation. They present grave problems to labor, commerce,

agriculture and industry. Their solution should be a primary concern for education and government for the quality of citizenship in the United States."[176]

Bud comes downstairs in the middle of the program and greets his father, the young man's tie loose, his vest and jacket in hand, and he finishes dressing as the broadcast continues. Bud is the primary representative of the next generation of Americans, and thus the future of the nation. The script draft even describes Bud as "Young America in the flesh." Bud being not fully dressed when he enters the scene, juxtaposed to his "self-reliant" father who enters the scene fully dressed in a suit of the same color, represents the younger generations' disordering of American social norms. The script draft says he is "not overly respectful but never intentionally rude" as he "tosses his coat into a chair" and "slips his tie into his collar." His partially assembled outfit also signifies possibility, however. It gives the impression that Bud is still in process, unfinished and open to the influence of the voice of the radio and its double in the voice of his father.

The first interaction between Tom and Bud reveals the racial, cultural, and ideological struggles that broadly shape Westinghouse's understanding of what threatens to undo the promise of a better tomorrow for American youth. Tom is greatly concerned with the same economic problems outlined in the radio address and their consequences for "the quality of citizenship," whereas Bud's reaction is to say "Blah, blah, blah" in response. Bud even changes the radio channel while his father listens, saying, "Sorry dad, I gotta do it. He's breakin my heart!" He changes it to the jazz station his father skipped over and begins to dance a bit. In the script draft, Bud's absorption of and love for black cultural idioms is even more pronounced. He hunts for a station, "finally getting a swing

[176] "The Middleton Family. Fair Weather (tentative title)." Westinghouse Electric Corporation Records. Box 70 Folder 9.

band which meets his hearty approval, he executes a few jitterbug steps, grabs up two long pencils from the table, and travels around the room 'beating the skins' on lamps and furniture," "giving a vase a few hot licks." Bud is virtually possessed by the black music, a force that turns the pencils meant to be used in schoolwork and business endeavors into drumsticks that literally attack the white, middle-class home. The movements and rhythms transmitted through his body literally *invade* the domestic space. It disturbs Tom not only that Bud listens to music, but that it seems to enter into and pass through his body: "How you can *digest* swing music before breakfast is beyond me," Tom complains.[177] "I ain't digestin' it, Dad--I'm just absorbin' it!" Bud replies, and goes on to repeatedly drops his g's, use black slang when calling the trumpeter "hot" and the radio announcer's talk of jobs "bunk."[178]

When Tom declares that he wishes he knew "the answer" to the country's economic problems, Bud's response captures the way Westinghouse imagined economic threats converging with cultural threats to the typical American family, and the corporate capitalism for which that family provided the basic building block and primary site of

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[177] My emphasis.

[178] The jitterbug dance, also called the hop or Lindy hop, originated in black dance clubs of Harlem in the 1920s, like the Savoy Ballroom. See Jacqui Malone*, Steppin' on the Blues: The Visible Rhythms of African American Dance* (Urbana and Chicago: University of Illinois Press, 1996), 100. In *Jazz Dance: The Story of American Vernacular Dance* (New York: Da Capo Press, 1968), Marshall and Jean Stearns capture the way in which the spread of the jitterbug caused a revolution in American dance and a transformation of white teens that disturbed older generations and introduced black bodily movements and rhythms into the bodies and culture of whites. The Stearns tell the story of a white teen named Ernie Smith who would travel to Hill City, the black section of Pittsburgh to watch blacks dance and to learn the jitterbug. Smith said: "I lived a kind of Jekyll-Hyde existence. In the daytime I went to high school and got along fine with my friends there. At night I'd sneak over to Hill City and study the dancers from the balcony of the ballroom. I found what I'd been missing. [...] The hardest thing to learn is the pelvic motion. I suppose I always felt that these motions are somehow obscene." The authors add: "Smith imported his own version of Hill City dancing at the next high school prom, shocking and impressing his friends in a very satisfying fashion." 329-330. For more on the jitterbug within the broader context of American social dance and its evolution and decline in relation to the Depression, see Carol Martin, "Reality Dance: American Dance Marathons," *in Ballroom, Boogie, Shimmy Sham, Shake: A Social and Popular Dance Reader, edited by Julie Malnig*. (Urbana and Chicago: University of Illinois Press, 2009), 93-108.

social reproduction. In the script: "There ain't no answer, Dad. It's just one of them things," Bud remarks cheerfully, if ungrammatically." Tom tells Bud to say "isn't" rather than "ain't," but Bud wittily replies that "Sorry, Dad. But 'ain't' or 'isn't'--the answers the same...None." Bud's use of black language, bodily "digestion," "absorption," and expression of jazz rhythms and the black dance form of the jitterbug, are all presented as troubling signs of a change in America's youth. Bud calling the economic situation "just one of them things" likens the economic situation to the love affair in the Cole Porter's 1935 jazz standard of nearly the same name ("Just One of Those Things"). In the lyrics, two lovers should have seen the end coming from far away, but they were too intoxicated by their feelings, like America's rampant overspeculation in the Roaring Twenties, which led to the Crash 1829: "If we had thought a bit/ Of the end of it when we started painting the town," say the lyrics, "We'd have been aware that our love affair/ Was too hot not to cool down."[179]

The Middleton film both vividly indexes the broad array of threats to the corporate capitalist social order in the 1930s, and embodies Westinghouse's intentions for the Fair to re-educate the American public on a massive scale and produce a reorientation in American youth toward corporate capitalist values. Toward the end of the scene, Tom scolds Bud for not having hope that the nation's economic situation will improve, for giving up too soon, while the jazz spurned by the father and loved by the son plays from the "new Westinghouse radio" in the background. Nonetheless, Tom remains hopeful:

[179] Some foresaw the crash, and purposely, and quietly, sold their interests in the stock market before it happened. Wall Street genius Alfred Lee Loomis went as far as to say that " everybody on the Street knew the crash was coming, the only difference was that he and Thorne refused to bank on its being inevitably delayed." Jennet Conant, *Tuxedo Park: A Wall Street Tycoon and the Secret Palace of Science that Changed the Course of World War II* (New York: Simon & Schuster, 2002).

"Now listen, son. I wasn't gonna tell you this. But you're the reason we came here all the way from Indiana. You've heard all the talkers, now I'm going to show you the doers. That's why I brought you and your mother to the Fair." Bud's disturbing cultural tastes and pessimistic economic views are the reason for the family's trip. The family goes to the Fair without knowing that Babs is dating the anticapitalist Mackaroff, and thus it cannot be the primary motivation for their trip. Once they find out about Babs' relationship, only then does the protection of Babs against "ruin" by coupling with the Russian immigrant Mackaroff become a deep concern for the family. But Babs' storyline is actually subordinate to the overall protection of American youth from a wide range of racial, ideological, and cultural threats, not just the growing numbers of immigrants and Marxists living in America, represented by Mackaroff. The film's conclusion shows Babs paired with Treadway, while Bud's future is filled in by the Middleton magazine ads. In a full-page color ad that appeared inside the cover of *Life* magazine, readers learned that Bud, after interacting with teenage scientists in the Junior Science Laboratories of the Westinghouse building, "has now decided to abandon his ambitions to lead a swing band in favor of an electrical engineering career." In an effort to connect the transformation of Bud to the transformation of prospective fairgoers reading *Life*, the ad asserts confidently that "You, too, will enjoy seeing and talking with these scientists of the future."[180]

The Contents of the Time Capsule

In the Middleton film, the family encounters a replica of the WTCC and a display case offering an ordered version of its jumbled contents stuffed tightly and vacuum-

[180] *Life*, August 7, 1939.

sealed inside the cylindrical glass crypt of the Time Capsule. The Time Capsule replica and display case viewed by the Middletons and other fairgoers, along with *The Book of Record* included in the Time Capsule, framed the Crypt's contents not only for future archaeologists, but for contemporary audiences. The encyclopedias lined up side by side attested to the condensing power of microfilm and suggested an order and comprehensiveness of the knowledge preserved in the capsule, or as Jim Treadway termed it, "The brains of the world done up in a small package." Microfilm's relatively compact format fit nicely with time capsule creators' claims that they accumulated records that comprised a representative cross-section of man's knowledge, achievements, and lifestyle.

The sets of records and objects in time capsules were, of course, not as cumulative as they were thoroughly selective, in their exclusion of a wide range of cultural documents in order to produce an idealized vision of the American culture. The books and articles in the time capsule, for instance, placed a heavy emphasis on encyclopedic scientific and engineering knowledge and achievements, and only included two novels--Margaret Mitchell's *Gone with the Wind*, and Sinclair Lewis's *Arrowsmith*. Nonetheless the inclusion of these novels is especially revealing. Both were popular and critically acclaimed; both won Pulitzer Prizes; *Gone* won the National Book Award, and was already a bestseller before the first reviews of it even appeared in newspapers. Westinghouse included these novels in the time capsule to reflect what interested Americans in the 1920s and 1930s, and their storylines reinforce the idealized vision of the social order constructed and preserved by Westinghouse. *Arrowsmith* tells the story of a young doctor from the fictional Midwestern state of Winnemac--a place one literary

critic called "more typical than any real state in the Union."[181] However, Winnemac was also home to a world class, futuristic university that supposedly put Oxford and Harvard to shame, a school with

> "a baseball field under glass; its buildings are measured by the mile; it hires hundreds of young Doctors of Philosophy to give rapid instruction in Sanskrit, navigation, accountancy, spectacle-fitting, sanitary engineering, Provencal poetry, tariff schedules, rutabaga-growing, motor-car designing, the history of Voronezh, the style of Matthew Arnold, the diagnosis of myohypertropiha kymoparalytica, and department-store advertising."[182]

Arrowsmith thus resonates with two broader cultural trends of the 1930s, first to define the what is typically American, the precise essence of American culture, and second the attempts by corporate science to establish popular faith in the power of corporate science and innovation to bring about a better tomorrow.

The popularity of *Gone with the Wind* reflected a broader trend, not simply of fiction offering people an escape from contemporary problems, but "of an increased interest in a particular life-style, in patterns of belief and their consequences, as well as in the consequences of the destruction of such cultures."[183] According to Warren Susman, the popular work *Patterns of Culture* by Ruth Benedict (1934) provides a "symbolic landmark" of culture becoming defined as "all the things that a group of people inhabiting a common geographical area do, the ways they do things and ways they think

[181] See Mark Schorer, *Sinclair Lewis: A Collection of Critical Essays* (Prentice-Hall, 1962).
[182] Sinclair Lewis, *Arrowsmith* (Harcourt, Brace and Company, 1925).
[183] Warren I. Susman, "The Culture of the Thirties," in *Culture as History: The Transformation of American Society in the Twentieth Century* (New York: Pantheon, 1984), 156.

and feel about things, their material tools and their values and symbols." Susman writes that it was during the Depression that

> "the idea of culture was domesticated, with important consequences. Americans then began thinking in terms of patterns of behavior and belief, values and lifestyles, symbols and meanings. It was during this period that we find, for the first time, frequent reference to an 'American Way of Life.' The phrase 'The American Dream' came into common use."[184]

Susman admits that defining Americanness had long been a preoccupation in the United States, but insists that "it appears more widespread and central" in the 1930s than "in any previous time."[185] The time capsule, however, while reflecting these trends, was also especially powerful because it sought to not only highlight examples of typical American culture but to preserve them permanently. In doing so, it effectively combined the desire to discover and know Americanness on the level of the individual and the community (systematically embodied in the *Middletown* Studies), with the utopian desire for a guarantee of national regeneration during the Depression, an especially intense decade of economic, political, and social crisis.[186]

The nontextual "objects of everyday use" included in the time capsule reflect the increasingly pervasive influence of consumer culture under capitalism in the 1930s.

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[184] Susman, "The Culture," 154.

[185] This perspective receives a powerful reinforcement and update by Sarah Igo, in her detailing of how the emergence of the Middletown studies and Gallup polls reflect precisely the intensification described by Susman. See Sarah E. Igo, *The Averaged American: Surveys, Citizens, and the Making of a Mass Publi*c (Cambridge and London: Harvard University Press, 2007). For more on the efforts of American anthropologists to make Americans "culture-conscious," beginning in the 1920s, see John S. Gilkeson, *Anthropologists and the Rediscovery of America, 1886-1965* (Cambridge and New York: Cambridge University Press, 2010).

[186] For a discussion of the powerful desire for national and cultural regeneration in the U.S. in the late 19th and early 20th centuries, see Jackson Lears, *Rebirth of a Nation*.

These are "small articles that we wear or use," "with which we write, play, groom ourselves, correct our vision, remove our beards, illuminate our homes and work-places, tell time, make pictures, calculate sums, exchange values, protect property, train our children, prepare our food."[187] According to Pendray, these articles included cigarettes and safety razors, as well as modern cosmetics, in order to demonstrate the belief, held by "the people of each age," that "our women are the most beautiful, most intelligent, and best groomed of all ages."[188] The objects emphasize a cultural valuation of hygiene, punctuality, a clean-cut appearance in men and a beautiful appearance in women, bodies whose visual and sensorimotor capacities are "corrected" conform to the demands of industrial and office work, all within the context of a capitalist society perpetually "calculating sums," "exchanging values," and "protecting property." This emphasis emphasis on value calculation, hygiene, and the technological normalization of bodies within a consumer capitalist society also resonates with the subjects taught at the university of the future in Lewis' *Arrowsmith*, which include "accountancy," "spectacle-fitting," "sanitary engineering," "department-store advertising."

The laundry-list mode in which *The Book of Record* and *Arrowsmith* presents these objects and subjects, respectively, implies that they are diverse arrays, when in actuality they compose a highly circumscribed concept of what counts as typical American culture, and indeed what counts as culture. The future university's course on "the style of Matthew Arnold" would reinforce the exclusionary, Eurocentric, idealized notion of culture made famous by Arnold, and reflected in the time capsule, where

[187] Pendray, *Book of Record*, 16.
[188] Pendray, *Book of Record*, 17-18/

culture comprised "all the best that has been thought and said."[189] The many commonalities between the two lists suggests that certain objects and concepts condensed powerfully dominant notions about what represented the essence of American culture in the 1920s and 30s. The future university in *Arrowsmith* would have a baseball field "under glass," ostensibly to allow year-round play and protect the national pastime from the elements, while the time capsule included an actual baseball, concealed and preserved within the glass "crypt" inside the tube of cupaloy. The WTCC claims to simply preserve the essence of American culture for the future, and in actuality produces a specific conception of that essence and reinforces it in the minds of Fairgoers, like the Middletons, in the present. Preservation, in this case, is an act that functions to obscure the exclusions that make possible a monolithic conception of American culture, a logic that corresponds to the flattening of the diversity of the American citizenry necessary to composing figures like the typical American family, or the typical American, that constitutes the singular American "public."

Cultural historians have followed Westinghouse's lead in presenting the WTCC's contents as an extensive laundry list.[190] But even the items on a literal laundry list reveal much about the material culture, gender norms, hygienic standards, and economic conditions in a given time and place. In the replica of the Time Capsule displayed at the Fair, which is now on display at the Heinz History Center in Pennsylvania, the Sterilamp lies beside a toothbrush, a sliderule, a safety razor and blades, and Yale Lock and key. The Sterilamp emitted germicidal ultraviolet radiation that killed bacteria in meat-

[189] See Matthew Arnold, *Culture and Anarchy* (1869).
[190] For an example of a critical cultural history that treats the Crypt of Civilization this way, see Peter C. Van Wyck, *Signs of Danger: Waster, Trauma, and Nuclear Threat* (Minneapolis and London: University of Minnesota Press, 200), 39-41.

processing plants, operating rooms in hospitals, and to sanitize utensils and dishware in restaurants. It was one of several technologies--along with the electrostatic air purifier called the Precipitron, and X-ray machines--showcased by Westinghouse as innovations in "the preservation of human health."[191] The Sterilamp in the Time Capsule replica, beside these tools of hygiene, value calculation, and the protection of property, subtly but

Figure 3.3: WTCC Replica. Image Credit: Brian Michael Murphy

powerfully illustrates how anxieties about bodily and national contamination that provoke intense acts of preservation, whether the preservation of history in the hermetically-sealed

[191] "How Electrical Devices Foster Public Health is Displayed at Fair." Press Release. Westinghouse Museum Archive. Box 69. Folder "Miscellaneous Exhibits."

crypt of the Time Capsule, or the preservation of public health through the creation of spaces free of germs, purified by the Sterilamp and other Westinghouse technologies on display at the Fair. The reproduction of capitalism required not only typical families that transmitted a white-washed American culture and corporate values to the next generation of American citizen-workers, but also healthy families protected from the germs and diseases that threatened the strength of their bodies, in which rested the productive strength of the economic system and the American nation.

The Preservation of Public Health

"The headlines these days are all of dictators and armies, the threat of war and what seems the death rattle of peace. Probably we do wrong to try to guess the future, whether political or economic, from the news printed in the largest type. We must read the back pages and the finer print, to find those events, presided over by cautious, quiet men bending over test tubes, which will most radically and permanently change the world our children are to live in. The features of 1964 are being molded, not by statesmen, soldiers or dictators, but by technicians in the laboratories. It is here that the real revolution is taking place."-G. Edward Pendray, "The Crucible of Change" (1939)[192]

"IN THE LABORATORIES OF TODAY the distant future is even now being born," wrote G. Edward Pendray in an article published in the summer of 1939, less than a year after Westinghouse deposited his Time Capsule in the grounds of the Fair.[193]

[192] G. Edward Pendray, "The Crucible of Change," *North American Review* 247:2 (Summer 1939): 344-354. 354.
[193] Pendray, "Crucible," 344.

Pendray imagines what life will be like in a quarter century, and, not surprisingly, envisions the Westinghouse technologies that will make our lives easier, more comfortable, make us healthier and better-fed. The Sterilamp figures prominently in his vision. He remarks that currently "inexpensive ultraviolet lamps are already being used in meat markets and storehouses to help preserve food against bacterial decay; in restaurants and soda fountains to sterilize glasses. Some hospitals are using them experimentally to reduce the danger of infection during operations." He continues directly after this, after talking about food, to talking about sterilizing bodies. "Much research remains to be done, but it is not inconceivable that the theatregoers of 1964 will get baths of invisible germ killing radiation, that during epidemics health commissioners, instead of warning against crowds, may be urging attendance at irradiated public gatherings."[194]

During the 1930s, the threat of plague and disease was difficult to conceptualize within dominant American culture without an appeal to a racialized imaginary that associated germs, disease, and insects with Asians, Mexicans, and other immigrant "invaders."[195] The Microvivarium, a Westinghouse display which showcased the effects

[194] Pendray, "Crucible," 347.

[195] For more on the discursive co-production of racialized human difference, the human animal/divide, and the overlapping threats of human, insect, and plant immigrants to the nation, see Jeannie Shinozuka, "Deadly Perils: Beetles and the Pestilential Immigrant, 1920s-1930s." *American Quarterly* (December 2013): 831-852. Also see her doctoral dissertation, *From a "Contagious" to a "Poisonous Yellow Peril"?: Japanese and Japanese Americans in Public Health and Agriculture, 1890s-1950*. University of Minnesota, Ph.D. Diss. 2009. Pendray himself wrote a "yellow peril" novel called *The Earth-Tube*, published in 1929 under his science fiction pseudonym "Gawain Edwards." In the novel, a group of Asians conquer Japan and China, then tunnel through the center of the earth in an attempt to conquer Pan-America, a political entity that comprises the entire Western hemisphere. The "mysterious Asians" have "discovered" or "originated" the hardest metal in existence, an innovation that allows them to build impregnable forts, impervious tanks, and mining equipment that allows them, like insects and burrowing animals, to dig directly through the center of the earth, with its incalculably high temperatures and crushing pressure. A prophetic scientist tried to warn a state official early on in the story, that "certain mysterious and hostile peoples on the other side of the earth, fearing to attack us in the air or on water for reasons I shall explain, have dug a tunnel directly through the hot center of earth, and at this moment are preparing to land a hostile force in South America, in the first drive of a war which may wipe out all of the white population on both of the American continents, and which may, if they are not careful, destroy the earth as well!"

of the Sterilamp, effectively captures the way in which the preservation of public health required the annihilation of subhuman forms of life that were often figured as nonwhite, criminal, enemies of the (white) nation. In the Sterilamp bulb preserved in the WTCC converge historical anxieties about the contamination of media and the contamination of people, threats to national memory and the white national body. The Microvivarium's illustration of the preservation of public health, is an example of preservation as an act of violence, both material violence and symbolic violence, both of which shore up the boundaries of whiteness as symbolic category, and as a physical trait of healthy bodies free of racial contamination by nonwhite others.

In order to render spectacular the invisible germicidal work of the Sterilamp, the Microvivarium had to make this work both visible and meaningful to the American public that would pass through the exhibit. The micro-projector machine addressed the visibility issue, by enlarging a microscopic slide and projecting it, live, onto a wall screen. To make these images of simple organisms like paramecia meaningful, Westinghouse constructed a series of interlocking narratives about the forms of life quivering on the microscopic slide and the effects of the Sterilamp on those life forms. In a press release entitled "How Electrical Devices Foster Public Health is Displayed at Fair,"[196] Westinghouse describes the Sterilamp as a technology that plays a "big part" in "the preservation of human health," while other promotional materials describe it

[196] Westinghouse Museum Archive. Box 69. Folder "Miscellaneous Exhibits." Such press releases shaped U.S. media coverage of Westinghouse's exhibits. I compared original press releases from the Westinghouse archives and articles covering the exhibits and found many cases where mass media outlets reproduced Westinghouse's language word for word. One Popular Mechanix article on the Microvivarium reproduced several paragraphs. This is common and crucial in the emergence of the preservation complex, as mass media transmitted, exaggerated, legitimated, and spectacularized the knowledge, technologies, and practices of a newly-formed preservation science, thus propagating the preservation imperative that otherwise would have circulated only in professional journals for librarians, archivists, business historians, entomologists, and exterminators.

similarly as "a new Westinghouse device for service in public health," a technology "designed for use in promoting health and sanitation." The Microvivarium was a two-part show, held in a darkened theater, the same as a movie theater, except in that crowds stood rather than sat. First, audiences watched a 6-minute long, stop-action animated film called "The Bugaboo of Bugville," wherein the residents of Bugville, all various kinds of germs and viruses, are annihilated by a "mysterious death ray," which represents the Sterilamp. In the second part, audiences witnessed the microbial life forms living in a drop of water, projected live from a microscopic slide to the same wall screen that showed the film. A Westinghouse scientist in a white coat narrated the scene, then turned on the Sterilamp and killed everything moving on the slide. In effect, Westinghouse used cinematic technology to render the violence work of the Sterilamp visible to a mass audience who served both as spectators and the subject-participants whose health was being preserved.

In the 1939 issue of *Westinghouse Magazine*, an article on the Bugaboo of Bugville described the beginning of the film this way:

> "The picture opens with a huge celebration in the town of Bugville, where the germy citizens are paying tribute to their aged patriarch. The populace, led by the Bugville Chamber of Commerce, parades through the streets. Very much in evidence are the swashbuckling Malaria, Scarlet Fever, Strep and Cold, four of the toughest hombres who ever slipped anyone an infection."[197]

[197] "The Bugaboo of Bugville: Now Showing." *Westinghouse Magazine*. Vol 11 No 5 March 1939. p 5. Westinghouse Electric Corporation Records MSS Box 70 folder 7 "Exhibitions—Worlds Fairs—1939, New York (1938-1939)"

The description of the germs as "hombres" likens them to Mexican outlaws, thus racializing the germs, and resonating with widespread fears of the diseases that Mexicans supposedly brought into the country with them. The "germy citizens" are not just covered in germs—they are germs. This picture manifests a discursive conflation that was common in the 1930s—between racialized others of the white national body and disease or insects those bodies supposedly carried. Public health discourse in the early 20th century dehumanized racial others by comparing them to insects and germs, and humanized insects and germs by visualizing them as racialized enemies of the national body, as racialized threats to the health of the nation.[198]

The Sterilamp kills germs to prevent the invasion of the public's bodies by disease-carrying "hombres," a narrative that draws upon and feeds into common anxieties about racial and bodily contamination. The article stops short of telling readers the end of the film so as not to "spoil the picture" for them. Though the film itself has apparently been lost, a *Newsweek* article called "Blitzkrieg in Bugville" fills in the details.[199] Bugville is described as "a fanciful town of bacteria, located on a teaspoon," and its neighboring town is called "Forkville." When the bugs receive news that a "mysterious death ray" is annihilating bugs en masse, they send their toughest soldiers to go investigate. But eventually, at "the climax of the unique motion picture," "a man-made 'death ray' exterminates the entire populace of Bugville." *Newsweek* notes that the Sterilamp, which stars as the "mysterious death ray" in the film, has been used since the

[198] See Shinozuka, "Deadly"; Russell, "Speaking,"; Hugh Raffles, "Jews, Lice, and History," *Public Culture* 19:3 (2007): 521-566; and Karen Cardozo and Banu Subramaniam, "Assembling Asian/American Naturecultures: Orientalism and Invited Invasions." *Journal of Asian American Studies* 16.1 (February 2013): 1-23.

[199] "Blitzkrieg in Bugville." *Newsweek* June 2 1940. p. 43 Westinghouse Museum Archives. Box 69. Folder Sterilamp (Microvivarium/Bugaboo of Bugville)

Figure 3.4 Depicts Death Ray in Movie. The sign held by the bugs reads "Happy Birthday Dear Patriarch. Bugville Chamber of Commerce." Image Credit: Detre Library and Archives, Sen. John Heinz History Center.

mid-1930s to"decontaminate operating-room atmospheres, drinking glasses, and other possible sources of infection." Spoons and forks--where the bug civilizations in the film live--drinking glasses and operating rooms are objects upon which Americans displaced anxieties about bodily integrity--all involve the opening of bodies and the breaching of bodily boundaries, and the ingestion or absorption of foreign substances.

The preservation of health, then, involves killing, albeit of subhuman forms of life, but forms of life whose subhumanity is figured through racially-coded, nonwhite bodies of the "hombres." In the film, both insects/germs and nonwhites are fit for extermination in the name of preserving public health, and thus their conflation mutually reinforces the status of both as forms of bare life--that which can be killed without moral calculation. The racialization of bugs and their comparison to national enemies was not entirely new in the 1930s, but was especially intense as institutional alliances formed between biological weapons researchers and the pesticide industry.[200] As early as 1795, early Euro-American naturalist Goldsmith talked of how "insect tribes maintain their ground and are but unwelcome intruders upon the fruits of human industry."[201] Goldsmith's quote effectively compares insect pests to Native Americans who also paradoxically both "maintain their ground" and "invade," as Native Americans were clearly in the Americas before Europeans, but were seen as invaders since they occupied land destined to be possessed and ruled by whites. Likewise, the bugs of Bugville represented invaders of American bodies, just as their racialized and naturalized human counterparts represented invaders of the American nation, though some of these

[200] Russell, *War*.
[201] Cited in John E. McWilliams. *American Pests: The Losing War on Insects from Colonial Times to DDT* (New York: Columbia University Press, 2008).

"invaders," like Mexican Americans, have lived in the area that is now the United States for hundreds of years.

The extermination depicted on-screen provoked and satisfied a desire for bodily, racial, and national boundary maintenance against the threats embodied by insect and human enemies and threats to the protected space of the nation. In *American Pests: The Losing War on Insects from Colonial Times to DDT*, James E. McWilliams theorizes what he calls the "insect paradox," which characterizes American responses to insect threats throughout the history of the nation. The insect paradox is a "very American paradox" in that "the men and women who settled and developed the United States sought to control the environment," however [...] "they strove to achieve economic goals through the kind of agricultural expansion that undermined that control."[202] As American farming expanded and industrialized in the late 19th and early 20th century, farmers encountered new agricultural terrains and new pests, which had to be controlled or exterminated.[203] Amy Kaplan writes about the parallel and interrelated paradox operating at the heart of anxieties stimulated by imperial expansion. According to Kaplan, "one of the major contradictions of imperialist expansion is that while the United States strove to nationalize and domesticate foreign territories and peoples, annexation threatened to incorporate non-white foreign subjects into the republic in a way that was perceived to undermine the nation as a domestic space." The Sterilamp's annihilation of racialized

[202] McWilliams, *American*, 4.
[203] While elimination might seem like the default form of control of insects, this singular response actually emerges historically in the early 20th century, as more farmers embraced the industrialization of agriculture, employed toxic pesticides to kill insects rather than use traditional methods of managing or co-existing with them. This widespread usage of toxic pesticides to the neglect of other methods of insect control distanced farmers from the ecosystems they once knew intimately, and the economic hardship of the Depression disallowed experimentation with pest control alternatives to the chemicals pushed by the powerful institutional trio of agribusiness, the federal government, and the insecticide industry. See McWilliams, *American*, 169-172.

germs on an alien landscape in "The Bugaboo of Bugville" evokes not only the contemporary narratives of fantastic science fiction and tales of outer space, but also resonates with ongoing material and social processes that killed and poisoned actual insects and humans in the late 19th and early 20th centuries in the name of protecting the nation and preserving its boundaries. Environmental historian Edmund P. Russell III describes how in American culture between the World Wars, the "emphasis on protection against outsiders helps explain the popularity of extermination, or driving beyond boundaries, as a term for dealing with both human and insect enemies."[204] Russell highlights the fact that the term "extermination" originally did not mean to kill *en masse,* but to push outside of a protected space. Its additional signification as mass killing in the 20th century reinforces the importance of boundary maintenance as an aim of the "bug" extermination in the Microvivarium.

Americans responded to these threats in similar ways and even used the same chemicals to protect the nation, which highlights the way in which the Microvivarium draws upon already circulating metaphors and ways of conceptualizing threats to public health within a racial imaginary. As Russell points out, "farmers and armies used identical chemicals (chloropicrin and hydrogen cyanide) to kill their enemies," and the United States Public Health service used the same chemicals to fumigate and de-louse the bodies and clothing of Mexican immigrants, as well as the freight train cars in which they sometimes traveled. This convergence is not simply a coincidence, but reflects the thoroughly interlocked institutions, metaphors, and ideologies that legitimated extermination as a response to threats to the nation, and figured those threats within a

[204] Russell, "Speaking," 1527.

racial imaginary that humanized insects/germs and dehumanized (or "naturalized," to use Shinozuka's term) humans. By 1944, this racial imaginary was so thoroughly institutionalized that the Chief of the Chemical Warfare Service, William Porter, stated it plainly: "the fundamental biological principles of poisoning Japanese, insects, rats, bacteria and cancer are essentially the same."[205]

The Microvivarium provided a space for the projection of the vulnerability of the American national body onto life forms fit for destruction. In the wake of World War I, which brought the advent of widespread aerial bombing, chemical and biological weapons, and "total war," Americans felt increasingly vulnerable to large-scale military attack and themselves feared annihilation in new ways. The article that appears just before "Blitzkrieg in Bugville" is a review of a new book entitled *Chemistry in Warfare*. The review draws on the book to outline "places of relative safety" in the case of "the much-feared spraying of mustard gas over large cities" or other forms of aerial attack by

[205] William N. Porter to Vannevar Bush, Sept. 30, 1944, file 710. Office of Scientific Research and Development, Miscellaneous Series, 1942-1945, Records of the Chemical Warfare Service, United States Artmy. Cited in Russell, "Speaking of Annihilation," 1528. In his essay "Jews, Lice, and History," Hugh Raffles argues that the genocide perpetrated by Nazis in the death camps was not a state of exception by a hyperbolization of a logic that framed racialized enemies within the nation nonhuman, parasitic threats to the nation. He analyzes Himmler's assertion that "Antisemitism is exactly the same as delousing. Getting rid of lice is not a question of ideology. It is a matter of cleanliness. In just the same way, antisemitism, for us, has not been a question of ideology, but a matter of cleanliness, which now will soon have been dealt with. We shall soon be deloused. We have only 20,000 lice left, and then the matter is finished within the whole of Germany." Raffles concludes that it is this "collapse of a distinction between human and nonhuman" that "allows for extermination." 558 Later, in 1949, Martin Heidegger echoed these statements and underscored this equivalence between the destruction of human and insect enemies, as forms of destruction that were not simply similar, but the same thing: ""agriculture is now a motorized food industry, the same thing in its essence as the production of corpses in the gas chambers and the extermination camps, the same thing as blockades and the reduction of countries to famine, the same thing as the manufacture of hydrogen bombs." See an early version of the essay, "The Question Concerning Technology," delivered as a lecture in Bremen in 1949 under the title "The Framework." Cited in Chun, "Race." Frantz Fanon also picked upon on these equivalences as they characterize colonial domination of nature and human beings, in his book *The Wretched of the Earth* (1961): "A hostile, ungovernable, and fundamentally rebellious Nature is in fact synonymous in the colonies with the bush, the mosquitoes, the natives, and disease. [...] Cutting railroads though the bush, draining swamps, and ignoring the political and economic existence of the native population are in fact one and the same thing," 182.

incendiary, explosive, or poison gas bombs. The book contained a fictional sequence, summarized in the review, that vividly describes the effects of the "much-feared" poison gas air raid on an American city, in which "Inhabitants rush out on the streets, only to be tortured by gas--first, sneezing gas, to prevent the donning of masks by those too careless to have them on already, and to make them vulnerable to follow-up missiles of deadly, blistering mustard gas or Lewisite." The annihilation of Bugville, then, is a "cinema fantasy" that attempts to exorcise Americans' anxieties about the possibility of their own national annihilation by aerial attack.

At the re-opening of the Fair on May 11, 1940 (it closed for the winter), the Microvivarium took on a new name took on the name--"Microblitzkrieg"--which was a rather precise reflection of the anxieties Americans projected onto the tiny life forms in the film, and later, in the Sterilamp demonstration--apparently, it was too precise. Almost immediately, Microblitzkrieg seemed too sharp a reminder of the fears of actual violence Americans sought to displace onto the tortured germs on-screen. In the spring of 1940, A.P. Craig, manager of the Westinghouse Building's exhibits, voiced his concerns in correspondence with an editor at *The American City* magazine. The editor agreed that "use of the term 'Blitzkrieg' is out of order in this country because of its sad connotation and also because too many people are using the term exceedingly freely at the present time."[206] The editor's letter was dated May 20, 1940, only eight months after Hitler's "blitzkrieg" of Poland captured the world's attention, and only ten days after the Nazi invasion of France. In a letter dated June 3, 1940, Craig decided, after conferring with G.

[206] The use of "blitzkrieg" in the American press, indeed, seems to have been common at this time. In *the New York Times* alone, between April and May 1940, at least three articles appeared with blitzkrieg in the title: "The Meaning of Blitzkrieg," April 5, 1940; "B.P. Schulberg Will Produce 'Blitzkrieg,'" April 20, 1940; "New Blitzkrieg, Empire at Stake," May 12, 1940.

Edward Pendray, to change the name if the exhibit "in view of the things which we read every day in the paper relating to the word "Microblitzkrieg", and in view of a number of definitely unfavorable reactions to the use of this word."

Beyond fears of military attack, World War I intensified Americans' fears of microscopic germs and disease, as germ theory and public health officials gained increasing influence in the early 20th century, and young American soldiers were sent to foreign war theaters with foreign ecosystems. According to Joseph Amato, by World War I, "a portion of the public already believed that germs were as real and as deadly as battlefield enemies," and the war effort "focused public sentiment on the invisible legions of disease awaiting the boys from home in the strange lands where they fought."[207] The war also "intensified the belief that nations were besieged by germ-carrying outsiders," thus "Victory itself depended on health—and health depended on winning microscopic war."[208] The *Bugaboo of Bugville* film, then, reflected anxieties about national vulnerability to aerial and gas attacks, and to the invisible, microscopic threats lurking in both foreign war theaters and the domestic space of the nation besieged by germs. The bacteriological revolution of the 19th century, precipitated by the work of Louis Pasteur, "permitted the possibility of a complete narrative of contagion, epidemic, and plague" and "transformed the popular understanding of unseen and minuscule things." The new enemies within this "new microscopic regime" were "bacteria, viruses, yeast, and fungi,"

[207] Joseph Amato, *Dust: A History of the Small and Invisible* (Berkeley and London: University of California Press, 2000), 114.
[208] Amato, Dust, 114-115.

all of which became targets of "a new line of cures that could be developed and manufactured in laboratories."[209] The Sterilamp was one of these "cures."

The Microvivarium's second part provided a live Sterilamp demonstration that intensified the message of *The Bugaboo of Bugville*, and reinforced the conflation of racialized humans and germs as dire threats to the health of the white national body. The Westinghouse Magazine article, quoted above, frames the live demonstration as a second "climax" of the Bugaboo film:

> "Good as the picture is, the stage show down at the Westinghouse Theater is even better. The master of ceremonies, a young man in a white jacket, opens the performance by projecting on a screen a host of images of ordinarily invisible microscopic life. These tiny, one-celled creatures. [...] They are seen rushing around at a frightful pace—eating, loving, fighting and going through all the usual incidents of their hurly-burly existence. As they dart about, entirely unaware of what is to come, the master of ceremonies tells of the Westinghouse Sterilamp, a device harmless to humans, but an ultraviolet terror to microscopic life."[210]

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[209] Amato, *Dust*, 102.

[210] At the time of this press release, no scientific consensus had established the supposed harmlessness of the Sterilamp's radiation. Fitzgerald writes A 1938 Westinghouse promotional pamphlet trumpeted this new process to the food industry by proclaiming that "just as Pasteurization was a means of sterilizing through the use of heat, so the Rentschler-James process or 'Rentschlerization' was a means of sterilizing through the use of selected ultra-violet radiation," 58. While promotional material extolled the virtues of the Sterilamp in industrial settings, questions remained about the safety of direct ultraviolet irradiation. A Westinghouse article cautioned that "the lamps must be installed and operated only under conditions which provide adequate protection for the eyes and which minimize as much as is practically possible to the direct exposure of the skin." This protection included wearing goggles and tightly woven clothing, 59. To enhance safety, Westinghouse engineers designed "a door switch" for freezers and display cases "that deenergizes the [Sterilamp] unit when the door is opened."F6 132 Further, even as late at 1947, scientists still were unable to identify a single disease for which airborne contagion was a primary mode of transmission, thus raising "serious questions about the public health phenomenon the Sterilamp was designed to contain." Gerard J. Fitzgerald*, From Prevention to Infection: Intramural Aerobiology, Biomedical Technology, and the Origins of Biological Warfare Research in the United States, 1910-1955*, especially Chapter 3: "The Bugaboo of Bugville: The Westinghouse Sterilamp and the Technological Challenge of Airborne Disease Research, 1930-1947." PhD. Diss, Carnegie Mellon University, 2003. 143;

According to press releases, the life forms annihilated by the Sterilamp live in a "jitterbug realm" ordered only by "jungle law," where "some frantic citizens spend their time spinning around on their noses," while others "wind ceaselessly in and out to some unheard rhythm," shaking, trembling, and "possessed of unending fidgets." These "primitive animals" that "exhibit all the primary instincts of life in its lowest form," are "humanity's enemies, dangerous, if uncontrolled, to our life." Westinghouse renders them visible not only through the cinematic projection of a microscopic image, but through this racially-coded discourse that likens their movements to those of a jitterbug dance, like "possessed" Africans Americans hearing rhythms "unheard" by the audience.[211] Though the animals on-screen occasionally show "startling signs of intelligence," they remain irredeemably primitive, as they cannibalistically "eat enemies," and occupy themselves with "love-making," "dancing, fighting, and killing." Westinghouse not so subtly reinforces their hypersexual nature when it says that these "queer animals" are magnified

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152-153. Workers, like scientists not employed by Westinghouse, remained skeptical of the supposedly harmless Sterilamp. In his memoir, former Kroger employee Frank F. Mathias recalled his time working in a meat locker bathed in the light of the Sterilamp, and noted how workers were scared that it might not only sterilize the meat in the locker but the workers' themselves. During his training, he asked about the "suspicious looking blue glow fogging the interior of our refrigerator" and another worker, named Glenn, explained that it was a Sterilamp, a device whose name was the reason "you won't be here a week before some nut will come up and tell you that blue light will make you sterile." The worker assured Mathias that it would not sterilize him and that "From what I've seen of all the Kroger boys I know, it seems to work in the opposite direction!" Mathias made a joke about it and they laughed it off but Mathias the humor did not relieve his fears: "from that moment on, thoughts of being "tenderized" kept me clear of the subtly glowing blue light whenever possible." See Mathias, Frank Furlong, *The GI Generation: A Memoir* (Lexington: The University Press of Kentucky, 2000), 245.

[211] The "jitterbug" as a symbolic insect had the power to possess, weaken, and exhaust white bodies, a notion powerfully rendered in a scene cut from the 1939 film The Wizard of Oz. The only footage of the scene is a home video made by someone on the set during a rehearsal, but the lyrics of the song "Jitterbug" and the script for the scene survives. In the scene, a jitterbug magically possesses Dorothy and her fellow travelers; they dance until they are exhausted and fall to the ground, and only then are they subdued by the Wicked Witch's flying monkeys. In L. Frank Baum's novel that formed the basis of the film, the jitterbugs were bees. The song urged the listener to "be careful/ of that rascal,/ Keep away from/ The Jitter Bug." See Aljean Harmetz, *The Making of the Wizard of Oz: Movie Magic and Studio Power in the Prime of MGM*. (New York: Hyperion, 1998), 84-89. Cab Calloway first popularized the term with his song "Call of the Jitterbug." (1934). I am indebted to the Wikipedia entry on "Jitterbug" for gathering together the diverse sources related to this dance and cultural concept.

and projected to the "size of jackrabbits," a species notorious for its prolific sexual activity, thereby conforming the germs to stereotypes of African Americans and other racialized groups.

The Microvivarium's spectacular, simplified narratives of a battle between racialized germs and scientific man are, in part, a symptom of a shift in American corporate public relations priorities in the 1930s, and a shift in the way they sought to use the World Fair. According to Roland Marchand, "the defense of the economic system had gained priority on the corporate public relations agenda of the late 1930s."[212] As the emerging profession of public relations gained increasing influence in the 1930s, " the new experts in design and in audience response" warned corporations "that only increased showmanship would save their displays from obscurity at the great New York and San Francisco fairs of 1939."[213] These experts also counseled corporations to simplify their exhibits, because contemporary processes of production were far too complicated for the masses, afflicted with short attention spans, to understand. Rather than educate the masses by illustrating the impressive processes of production that generated a cornucopia of modern consumer goods, this Fair would instead showcase technologies and products in order to "promote an appreciation of the company as an institution, not a systematic understanding of its processes of production."[214]

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[212] See Roland Marchand, *Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business* (Berkeley and London: University of California Press, 2001), especially Chapter 6.

[213] Marchand, *Creating*, 291.

[214] Marchand, *Creating*, 291-293. For more on the ideas informing the design of the Fair exhibits, aimed at engaging and educating the American masses about the supremacy of the American "system" of liberal democracy and free enterprise, see Edward L. Bernays, *The New York World's Fair--A Symbol for Democracy. Address of Edward L. Bernays, Member of World's Fair Committee of The Merchants' Association of New York at Luncheon under Auspices of The Association's Members' Council at Hotel Pennsylvania, April 7, 1937.* New York City: The Merchants' Association of New York, 1937. George

This approach was consistent with Fair planners' overall intention of creating an "everyman's fair" in New York. Planners even designated and publicized a Fair mascot named Elmer, meant to provide a point of identification for everyday people and entice them to attend the Fair. Elmer fit the somewhat flexible, yet highly circumscribed, racial and hygienic ideal of the average American man, similar to Roy L. Gray (see Chapter 2) and Mr. Middleton. The deployment of Elmer in Fair publicity further embedded an abstract white male subject at the symbolic heart of the Fair's assumed audience, and by extension, at the heart of the masses that could look forward to better future fashioned by corporate science and technology. The winners of the Typical American Families contest also literalized this symbolic ordering--their FHA model homes were located at the very center of the Fairgrounds. Historian Bonnie Yochelson relates this symbolic centering to the streamline design style that shaped the visual appearance of many new technologies at the Fair, including the sleek "bullet-shaped" WTCC. "Just as a seamless, streamlined form masked the complexities of a machine's inner workings, so the ideal of the 'typical American' masked the complexities of American society. Despite its constant refrain of tolerance and freedom, the Fair proposed a future society that was homogeneous, exclusive, and harmonious by virtue of its shared heritage. There was no place for

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Westinghouse Museum Archives. Box 69--World's Fair. Folder "Fair Publicity." Bernays, the nephew of Sigmund Freud, is a founding figure in public relations and the modulation of public opinion, the manufacture of consent. See Larry Tye. *The Father of Spin: Edward L. Bernays and the Birth of Public Relations*. New York: Henry Holt and Company, 1998. On the first page of science fiction writer Kendall Foster Crossen's futuristic novel set in the 1990s contains quotes from both Bernays and G. Edward Pendray, who went on after working at Westinghouse to establish his own public relations firm and become a significant pioneer in the field. In the story, the American masses are entirely under the control of public relations' men and their propaganda, and those who see through the lies and manipulation are subjected to a lobotomy to "cure" them. The quotes from Bernays and Pendray are "engraved upon the head of a certain pin." Pendray's quote reads: "To public-relations men may go the most important social-engineering role of them all: the gradual reorganization of human society...." while Bernays says similarly: "...The approach to the problems encountered can be scientific — social engineering, the engineering of consent...or whatever term we wish to give it." *The Year of Consent* (New York: Dell, 1954).

Americans who were poor, urban, non-white, or foreign-born."[215] The new order of the future, presented to "everyday" Americans at the Fair, was meant to "preserve, not

Figure 3.5 When Elmer Ventured Into the Kitchen. In this Westinghouse press photo, Elmer (right), "famous typical American of the World's Fair, bakes his strawberry shortcake at the Westinghouse Exhibit at the Fair" and gives a taste to A.P. Craig (left), director of the Westinghouse building exhibits.[216] Image Credit: Detre Library and Archives, Sen. John Heinz History Center.

[215] Bonnie Yochelson, "Selling the World of Tomorrow: Section Labels" (unpublished script for an exhibition at the Museum of the City of New York), Cited in Rydell 58.
[216] Quoted from the original Westinghouse caption.

reform, asymmetrical power relations in society. The "everyday," "typical," or "average" American in this context performed a crucial role as the conduit for the ideological imperatives aimed at the masses, imperatives that produced a particular, idealized conception of that status quo, projected it into the future, and framed that act of production and projection as "preservation."

In order to frame Sterilamp technology and its "preservation of public health" in ways that would immediately appeal and make sense to the "masses" attending the Fair, Westinghouse's promotional materials used narratives and language reminiscent of "the cinema of attractions" that were popular at the turn of the twentieth century, films that depicted executions, lynchings, fires, floods, circus and freakshows, and other extraordinary events. One Westinghouse press release refers to Dr. Roemmer, inventor of the micro-projector used in the Sterilamp demonstration, as both a "circus ringmaster," and "an executioner."[217] Indeed, these comparisons and their supporting narratives attempted to transform the rather unspectacular microscopic "annihilation" of germs, where the annihilated buzz about and then suddenly stop--into an execution spectacle both thrilling and legible to American audiences. Amy Wood discusses the role of execution and lynching films in the development of early cinema and in American mass culture more broadly, and notes that they "intended to seduce viewers by offering the sadistic thrill of watching another person's violent death [...] and appealed to sensational

[217] World in a Water-Drop Shown in Fair Exhibit: 12-Ring "Circus of Science" Will Magnify Microbes to Size of Jackrabbits at Westinghouse Building." March 10, 1939. Westinghouse Museum Archives. Box 69. Folder "Sterilamp (Microvivarium/Bugaboo of Bugville)"

and sadistic desire that were aroused in modern, turn-of-the-century urban life, an appetite for morbid thrills that cinema both exploited and satisfied."[218]

Though crowds at the Microblitzkrieg did not witness the violent deaths of other humans, they witnessed the microscopically violent deaths inflicted on racialized, humanized forms of subhuman life in an event Westinghouse framed in the terms of public human execution and mass extermination. Therefore, Wood's discussion of "cinematic acts of sadism" also applies to the Sterilamp demonstration, which was both a live event and a live-projected cinematic spectacle, where audiences could see the germs' "unborn babies stirring in their brood pouch," just moments before the "climax" of instantaneous annihilation. Such sadistic cinematic events "excited and titillated viewers by projecting physical assault and diminishment onto the bodies shown on-screen, all while guaranteeing the spectators' own physical safety."[219] The germs were "heedless to their audience" as they engaged in eating, killing, love-making, and thus the Sterilamp demonstration offered a voyeuristic pleasure similar to the cinema of attractions, one that "eased spectators' anxieties about the fragility and alienation of the body in modern life by displacing those fears onto the cinematic subject."[220]

Westinghouse further underscored an affinity between the death of germs and the death of actual humans by introducing a moral narrative common to execution spectacles, whether live or cinematic--the condemned person walking from the prison cell to the gallows. According to a Westinghouse press release, the "oddest job at the Forty Fair is

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[218] Amy Louise Wood, *Lynching and Spectacle: Witnessing Racial Violence in America, 1890-1940* (Chapel Hill: University of North Carolina Press, 2009), 115.
[219] Wood, *Lynching*, 144. In making this point, she draw upon work by Benjamin; Kracauer; Gunning; Singer; Charney and Schwartz; and Doane as well as Bordwell's critique of the modernity thesis.
[220] Wood, *Lynching*, 144.

shared by Andrea Powelson and her white-clad assistant," who grow paramecia for the microvivarium--"the healthiest bugs on Flushing Meadows." They play "soothing melodies of Strauss and Liszt" in a "spotlessly white, air-conditioned room" and feed the bugs a solution to get to keep them alive."[221] Westinghouse's dramatization of paramecium cultivation and extermination likens the microbes to inmates on death row, and compares the Sterilamp demonstration to an mass execution: "Each day thousands of them walk the last long mile to the microscope slides where they are wantonly slaughtered by the Westinghouse Sterilamp as the climax to the stirring drama, 'The Bugaboo of Bugville.'"

Beyond the language Westinghouse used to describe the Sterilamp demonstration, Westinghouse's publicity photographs further reinforced the interpretive frame of public executions, and even lynchings, for understanding the killing happening live in the theater and projected on-screen in the Microvivarium. The first publicity image, "'Death Ray' for Bacteria," shows the backs of the crowd, with the white-coated scientist-executioner perched on a raised platform upon which "the microscope and the projector are all mounted [...] in full view of the audience," similar to the positioning of a gallows to a crowd gathered around it. The composition of the photograph recalls the conventions of lynching photography, with the audience directing its and, by extension, the viewers' attention to the executed victim.[222] In the "Death Ray" image below, the scientist showman turns on the Sterilamp with his right hand; in the lynching image, also below,

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[221] Undated Press Release. Westinghouse Museum Archives. Box 69. "Folder Sterilamp (Microvivarium/Bugaboo of Bugville)"

[222] For more on these conventions, see James Allen, *Without Sanctuary: Lynching Photography in America*, Santa Fe: Twin Palms Publishers, 2000; Dora Apel, *Imagery of Lynching: Black Men, White Women, and the Mob* (New Brunswick, London: Rutgers University Press, 2004); Jacqueline Goldsby, *A Spectacular Secret: Lynching in American Life and Literature* (Chicago: University of Chicago Press, 2006).

the man to the right keeps a hand on the rope, tied around a tree on one end, and around the neck of alleged killer Ab Young on the other. In her essay, "The Evidence of Lynching Photographs," Shawn Michelle Smith notes that "what is seen and not seen in photographs depends on the cultural filters through which they are viewed and on the repertoire of images that have shaped looking."[223] Viewers always see "photographs through other images." Westinghouse's press releases that describe the Sterilamp demonstration as an execution of racialized microscopic life thus provide a "cultural filter" that associates the publicity photographs of the demonstration with lynching and execution photos that circulated widely in America at the time. These photographs of

Figure 3.6 "Death Ray" for Bacteria. Image Credit: Detre Library and Archives, Sen. John Heinz History Center.

[223] Shawn Michelle Smith, "The Evidence of Lynching Photographs," in *Lynching Photographs*, eds. Dora Apel and Shawn Michelle Smith (University of California Press, 2008), 15.

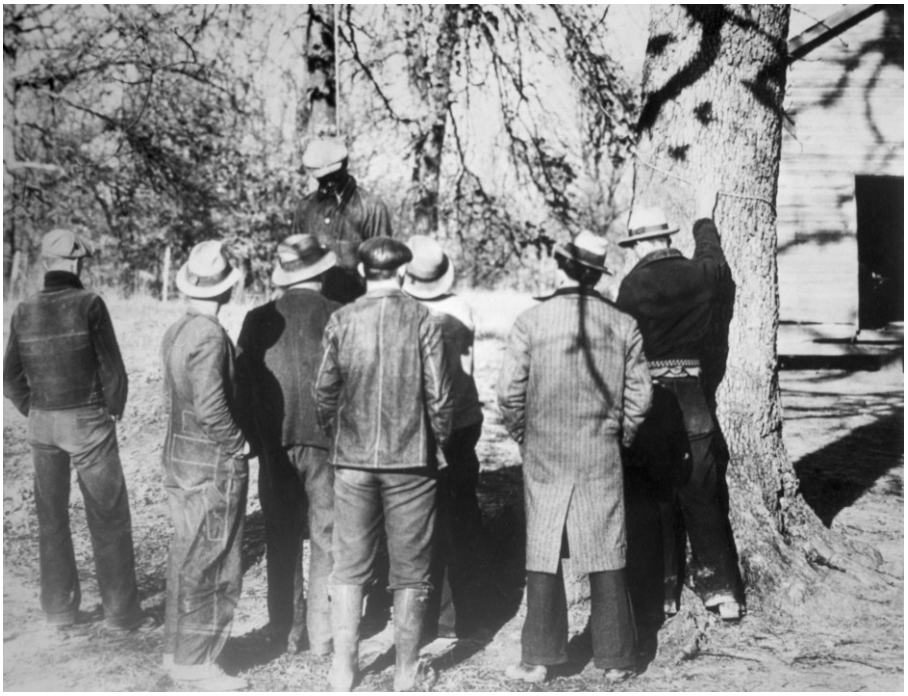

Figure 3.7 COLORED BOY LYNCHED BY MOB FOR SLAYING. Image Credit: Bettmann/CORBIS

racial, state, and extralegal violence serve as a more narrow, though dispersed, repertoire of images through which to see the "Death Ray" photograph, as opposed to an even more expansive repertoire of all the images one might readily associate with the "Death Ray" photograph (i.e. images related to science, circuses, bacteriology, etc.).[224]

[224] Ruby Tapia's work informs my discussion of dispersed images from ostensibly different genres comprising a single repertoire of violent images through which we can read historical resonances and significations that are otherwise lost in common critical approaches to images, as they are often bound by historical context and the frame of the image itself. In her articulation of the ephemeral, invisible, but nonetheless present relationship between lynching images and memorial photographs, Tapia writes: "If we linger at the intersection of visualized death and murder, if we interrogate not 'just' what memorial photography entails and/or lynching photography entails, but instead, for example *the racialized relationship between apparently different practices of death imagery in the same, and even different, historical time periods in the United States*, our sites of inquiry expand and our answers complicate. The material of this relationship is decidedly elusive, ephemeral even, but again, it is not that it is not there. This material meets and congeals in what Diana Taylor might call—because there is no official *archive* that

A second publicity photo of the "death ray" further underscores the racial anxieties reflected in and assuaged through the Sterilamp demonstration. According to Wood, white, middle-class men projected fears of bodily fragility and diminishment onto "the bodies of people lacking in social power: African Americans, the poor, or foreigners. The white male spectator in turn regained a sense of strength and authority through his objectifying gaze." It is easy enough to read excitement and empowerment in the faces of white boys in the image, "As the "Death Ray" Struck," even without Westinghouse's overdetermining caption that describes the boys as "enthralled." This description, attached by tape to the bottom of the publicity photograph before it went into circulation (the paper is visible at the bottom of the frame), flattens the diverse responses of the boys, a crowd that includes one black face that appears to have a different response than the rest. While some of the white faces express awe, excitement, or even indifference, the black face seems suspicious, puzzled, or even disgusted. Whichever emotion or thought we might ascribe to the black boy, it is clear that his response is different from the others. His suspicious is well-founded: the cinematic spectacle of the micro-execution positions him as the executed, not as a part of the white public protected from the "primitive" life forms in their "jitterbug realm" on-screen. This photograph powerfully exemplifies a characteristic of all photographs as "vehicles of identification and disavowal" that "provide a medium for imagining and contesting communities, for negotiating and transforming boundaries of inclusion and exclusion."[225]

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brings together, obviously and at once, all the pictures that lynch with all the pictures that covet—a racialized *repertoire* of death images in the United States," 151.

[225] Smith, "Evidence," 15.

Figure 3.8 As the "Death Ray" Struck. Image Credit: Detre Library and Archives, Sen. John Heinz History Center.

Had the Middletons, either in the magazine ads or the film, visited the Microvivarium, I might have had further evidence related to how Westinghouse imagined typical Americans would respond to and enjoy the exhibit. The Microvivarium is not portrayed in the Middleton film, but nonetheless, like the Time Capsule, it haunts the journey of the typical American family. The Microvivarium is not so absent from the film as it is *buried* in the film. Jim Treadway speaks of it in his very first lines on-screen, delivered to a couple of fairgoers who leave the scene as the Middleton family enters to

greet Jim: "Go through the Microvivarium to the Playground of Science." The line is apparently of no consequence; the first few words are barely audible as they fade in from beneath the upbeat soundtrack. The effect of this sound mixing is to place emphasis on Microvivarium, as it is the first word Treadway utters at full volume, even as he utters it to couple of insignificant extras that we never see again. The Middletons immediately enter the scene, as the extras exit, and no one mentions the Microvivarium in the rest of the film. In the script draft, the exhibit appears only once, after Jim and the Middletons share a meal together toward the end of the story:

> "We join Jim, Tom, and Bud at the "Microvivarium."
>
> Jim is explaining the Westinghouse "Sterilamp"--and telling them of its importance to the Food Industry and consumers.
>
> "When he get across the matter which we deem essential, the Grandmother, Jane, and Babs join them."[226]

The meaning of the phrase "the matter which we deem essential" is impossible to ascertain with any certainty, though I have tried here to show how Westinghouse's framing of the exhibit tapped into and reproduced racial anxieties and bodily anxieties in order to reinforce the value of its new technology in "preserving" public health. In the final version of the film, the Microvivarium is replaced with a scene that shows the Middletons, Mackaroff, and Treadway leaving a diner, where they've just enjoyed a meal. Thus it contains a remnant, though not a reference, to the work of the Sterilamp "and its importance to the Food Industry and consumers." Everyone leaves the diner smiling and invigorated; Bud exclaims that he could "go for chow like that all the time."

[226] "The Middleton Family. Fair Weather (tentative title)." Westinghouse Electric Corporation Records. Box 70 Folder 9.

Tom gently chides him, "If you do, you'll end up in a sideshow!" The fair, while an exceptional place and time, remains a place where self-regulation and the upkeep of the normative white, able, fit body is of paramount importance.

The eugenic dream of "breeding a better race" of healthy supermen, articulated by Westinghouse Chairman A.W. Robertson at the burial of the time capsule,[227] required not only positive and negative eugenics and their accompanying ideologies, but biocidal technologies that could eliminate bacterial and viral threats to the health of the white national body.[228] In order to promote and sell such technologies to industries and the broader American public through a World's Fair exhibit, Westinghouse had to find ways to spectacularize what appeared to be, simple, a long thin light bulb. Westinghouse used narratives of violence and racially-coded discourse to dramatize both threats to public health and the Sterilamp's power to protect public health. In doing so, Westinghouse tapped into fairgoers' sense of bodily, racial, and national vulnerability to convince the public of the important role Westinghouse technology would play in giving meaning to the "better" in "a better tomorrow."

I cannot help but wonder what the Middletons might have thought and said about the Microvivarium, how they would have received the "matter which we deem essential." While it is impossible to say whether fictional characters ever attended a public execution or lynching, it is certain that Mr. and Mrs. Middleton, if not Babs and Jim, would have remembered an event from less than 10 years before the Fair, when one of the most

[227] See the epigraph to this chapter.
[228] Even by the late 1940s, both civilian and military studies could not find conclusive evidence that airborne contagion was the predominant means of transmission for any disease. Research by the American Public Health Association in particular "raised serious questions about the public health phenomenon the Sterilamp was designed to contain." See Fitzgerald, *Prevention*, 152-153.

famous lynchings in history occurred in Marion, Indiana, a city less than 40 miles form Muncie, Indiana.[229] The lynching of Tom Smith, Abe Shipp, and James Cameron on August 7, 1930 garnered wide press coverage, and generated images that still circulate widely today. I say that the Middletons would have been aware of this lynching, not only because of this wide press coverage, but also because the lynching spectacle and drama began in Marion, but ended in Muncie. After Smith and Shipp died (Cameron survived) but while they still hung from ropes, the lynch mob and KKK members intimidated local law enforcement and undertakers and prevented the mutilated bodies from being embalmed and buried. A black pastor and mortician in Muncie heard about this, and convinced some of Muncie city leaders to accompany him to Marion, retrieve the bodies, and bring them back to be embalmed and receive a proper burial. When rumors circulated that white citizens of both Marion and Muncie were going to march on Johnson's funeral home and steal the bodies back, members of Johnson's congregation posted along his street and on the roof of his church with rifles, and managed to protect the corpses from the wrath of a second mob[230].

The images of Marion lynching might have constituted the repertoire of images in relation to which and through which the typical American family viewed the preservation of public health carried out with deadly effect on the screen in the Microvivarium. The

[229] The Middletons in the film never claim to be from Muncie, specifically, but do confirm that they are from Indiana, which strongly suggests the source of their name to be the Middletown studies based on Muncie, Indiana.

[230] Ashraf H.A. Rushdy, *The End of American Lynching* (Rutgers University Press, 2012), 73. Also see James Madison, *A Lynching in the Heartland: Race and Memory in America* (Palgrave MacMillan, 2003), 11, 64, 111-114. Madison thoroughly discusses how the people of Marion, Indiana, and Grant County more broadly, thought of their communities as "ordinary places." The story of the fight over the bodies of Smith and Shipp has been recently recirculated in mass media coverage of the church congregation's efforts to raise money for the preservation of their church, where these significant historical events occurred. For an example, see "Muncie church that stood against KKK needs help standing," *Fox News*, August 25, 2013, http://fox59.com/2013/08/25/muncie-church-that-stood-against-kkk-needs-help-standing/. Accessed January 1, 2014.

struggle in Muncie over the dead bodies of Smith and Shipp was a struggle about preservation--the preservation of whiteness achieved through the racial violence and mutilation of lynching; and the preservation of black bodies by embalming, which made the body into a counter-image, one that erased the marks, gashes, and other wounds that would have otherwise visually and viscerally registered the power of white supremacy in black bodily disfigurement. The preservation spectacles of the WTCC, the Middleton film, and the Microvivarium, worked to preserve whiteness no less than lynchings did, to preserve the American family, its health, the reproductive racial purity of its women, the strength of its men, and the corporate capitalist values it would transmit to its children who constituted its future.

Conclusion

"Man's chief concern is the preservation of this baggage while he lives, but his next worry is to live as long as he can. As one great thinker has said, even the most primitive of men, the crudest of savages, believed that 'any kind of existence was better than no existence'. So deeply does man appreciate the value of living long that this next concern was, and is, that the record of his having lived be everlasting. To achieve immortality in the record, in the materials in which he wrought, has been the desire of man throughout the ages that those who come after may know that he did not live in vain."

-Clark Wissler, "A New Way to Record History: Address by Dr. Clark Wissler, archaeologist, Dean of the Scientific Staff, American Museum of Natural History, New

York; Delivered on the occasion of the Deposit of the Westinghouse Time Capsule on the site of the Westinghouse Building, new York World's Fair 1939, Sept. 23, 1938"[231]

Leading anthropologist Clark Wissler's remarks above, delivered at the burial ceremony for the WTCC, reveal how the WTCC expressed an emerging preservation imperative being followed and promulgated by powerful American cultural institutions in the 1930s, such as the American Museum of Natural History. His remarks outline the primary features of the mummy complex a couple of decades before Andre Bazin named it. Unlike Bazin, however, he recognizes that something unique occurred in the 1930s, with the development of permanent preservation projects like the Crypt of Civilization and the WTCC--the photograph on its own could not supply men with an immortal existence, and so the photograph itself had to be subjected to preservative measures. In the case of the WTCC, microfilms were placed inside a nitrogen-filled glass tube, sealed with asbestos, then the glass tube was sealed inside its cupaloy "envelope."

The participation of Wissler in both the burial ceremony of the WTCC and its sealing-in ritual reflects the interrelated complex of anxieties about threats to media, eugenic whiteness, and a purified American culture figured through normal or average Americans. Besides being the head of the American Museum of Natural History, Wissler was a very prominent member of both the Galton Society and the American Eugenics Society; he presided over the exhibit section on "human racial differences" at the first International Congress of Eugenics in 1921, held at the AMNH, where the "Typical American Male" statue was first displayed. He also penned the foreword to *Middletown:*

[231] Westinghouse Museum Archives. Box 70. Folder "Time Capsule--Westinghouse Press Releases."

A Study in Modern American Culture.[232] Wissler's various activities offer not only a kind of anecdotal support to the connections I've been drawing in this chapter between the desire to preserve media and preserve the white national body, but also conjoin and reflect a set of broad anxieties afflicting subjects of the preservation complex, where the preservation of whiteness, of media, of a purified American culture against all threats fed into and amplified one another in an emergent, but tremendous, affective circuit.

Wissler's remarks at the burial ceremony in 1938, and his performance of the final sealing of the WTCC in 1940, helps illustrate the conditions of possibility for the preservation complex, as it emerged from the anxieties of an embattled white corporate and cultural elite in the 1930s, at the precise moment when these anxieties are being powerfully transmitted into the realm of American popular culture through the exhibits of the New York World's Fair and the fictional adventures of the Middleton family. At the sealing-in ritual, Wissler "climax[ed] the ceremonies when he turn[ed] a heated cauldron releasing 500 pounds of a compound of pitch to close the 50-foot well in which the Time Capsule rests."[233] The "compound" poured into the immortal well was a nonconductive, insoluble liquid made up of pitch (the same ancient material used to waterproof the walls of Egyptian tombs), mineral oil, and chlorinated diphenyl. Mineral oil was commonly used in large electrical equipment, such as industrial transformers and capacitors, in the

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[232] See Spiro, *Defending*, 319. Robert Staughton Lynd, co-author of *Middletown*, around the time that his first Middletown study was published, served as the permanent secretary to the Social Science Research Council. He was involved in media preservation efforts that precipitated the BOS studies (See Chapter 1 of this dissertation) that firmly established preservation science in the 1930s. Kenneth Carpenter references correspondence between Lynd and New York Public Library Reference Librarian Harry M. Lydenberg who, along with Robert Binkley, was instrumental in convincing the Carnegie Corporation to fund the BOS studies. Lynd wrote Lydenberg about the highly influential Joint Committee on Materials Research, led by future Director of the National Archives Solon J. Buck. See Carpenter, "Toward," 292.

[233] Westinghouse Press Release. "30,000 Science Students to Preserve Memory of the Time Capsule: Cupaloy Message to the People of A.D. to be Sealed In for 5,000 Years Tomorrow at High Noon Ceremonies." Westinghouse Museum Archives

early 20th century, but was flammable and so had begun to be replaced by chlorinated diphenyl[234] by the late 1930s. This compound would supposedly "protect the capsule against the effects of time." Like the circuit of preservation in the Crypt of Civilization, where new media preserve old media only to then be preserved by ancient media, the use of a combination of pitch and modern synthetic chemicals to protect the WTCC--itself an example of the superiority of modern technology over ancient--reflects the paradoxes of the preservation complex. The threat of time is the perennial preoccupation of the subject of the mummy complex; the introduction of toxic modern chemicals and technologies, and the scientific assurance that these measures will furnish permanence, or "immortality in the record" as Wissler calls it, reflects the emergence of the particular dilemmas and hopes that afflict the subject of the preservation complex.

The Heinz History Center's current display of the WTCC replica alongside reproductions of Middleton family ads and an article on the Microvivarium, as well as the

[234] Chlorinated diphenyls are now most commonly known as polychlorinated biphenyls (PCBs), a toxic substance banned in many countries unless used in a closed device that, ideally, prevents the substance from contaminating the environment. PCBs have also been used as "stabilizing additives in the manufacture of flexible PVC coatings for electrical wiring and electronic components to enhance the heat and fire resistance of the PVC." See Kaley, Carlisle, Siegel, Salinas (Oct 2006) "Health Concerns and Environmental Issue with PVC-Containing Building Materials in Green Buildings." Integrated Waste Management Board. California Environmental Protection Agency. http://www.calrecycle.ca.gov/Publications/Documents/GreenBuilding%5C43106016.pdf. In future work, I hope to elaborate more fully on the toxicity of preservative substances, from the carboxide used in Thomas Iiams's gas chamber for bookworms to the compound poured into the immortal well, and the toxicity of neurochemical releases that occur in subjects of the preservation complex in response to racialized threats to whiteness and the nation. Both are examples of toxic legacy that is passed on to future generations on whose behalf we constantly preserve history, whiteness, or whatever other idealized object being anxiously guarded both materially and psychically within the infrastructures of the preservation complex. For more on the toxic legacy of PCBs in particular, see Ellen Griffith Spears, *Baptized in PCBs: Race, Pollution, and Justice in an All-American Town* (Chapel Hill: University of North Carolina Press, 2014). In another example, the asbestos used to seal both the glass capsules in the Crypt of Civilization and the glass "crypt" in the WTCC provided a fireproof barrier resistant to heat and chemicals. This asbestos was manufactured by the Johns Manville company, which also provided the cedar-grain asbestos shingles that formed a protective barrier for the domestic space of FHA homes that housed typical families at the Fair. In both cases, the preservative substance constitutes a powerful toxin that elicits feelings of security from subjects, while introducing a toxin into the environment that will poison not only this generation of Americans, but many generations to come.

selection of The Middleton film for the National Film Registry in 2012, testify to the continued significance of these historical spectacles and artifacts to Americans' cultural self-understanding. As James Billington, Librarian of Congress, explained in a press release about the selection of the Middleton Family film, "the National Film Registry spotlights the importance of preserving America's unparalleled film heritage. [...] These films are not selected as the 'best' American films of all time, but rather as works of enduring importance to American culture. They reflect who we are as a people and as a nation."[235]

[235] See "2012 National Film Registry Picks in a League of Their Own."

Chapter 4: The Digital Afterlife of the Cold War: Iron Mountain Atomic Storage Corporation, The Bunker at Greenbrier, and Preservation Infrastructure

Introduction

"The refugees told him of the many important papers lost in bombings during World War II. Knaust thought of stories he'd read about a possible atomic attack on American cities. He thought of the mushroom pictures he'd seen in newspapers of an A-bomb blast. He thought of his own mushroom mines. One mine, which went 100 feet deep into the side of a mountain, would be ideal for a vault, he decided. That's how he came to start his new business 8 months ago. His customers include banks, department stores, insurance companies, and individuals. In the mine, Knaust has installed safe-deposit boxes similar to those found in a conventional bank vault. In these, some companies store original documents; others keep duplicate records on microfilm. The vault is used by many firms in many parts of the country."

--"Bombproof Caveman," *The American Magazine*, May 1952

The opening of a March 22, 1952 article in the *Saturday Evening Post* called "The Safest Place in the World" asks its mass of readers: "If an A-bomb should level your city,

how could life begin anew without bank records, deeds, vital papers of all kinds?"[236] The article describes a new business called the Iron Mountain Atomic Storage Company (IMASC). Owned and operated by Herman Knaust, known as the "Mushroom King" for his dominance in the mushroom-growing and canning market, IMASC began with an abandoned iron ore mine purchased by Knaust in 1936 for the purpose of growing mushrooms in its dark, damp recesses; when Knaust's mushroom business suffered due to competition in Europe and China after World War II, he sought new uses for the mine. After the Soviets tested their first atomic bomb in 1949, Knaust took the advice of Eastern European refugees he'd helped to emigrate to the United States: he started a business that would preserve corporate and state records, art treasures and heirlooms, and even provide shelter for corporate executives in a bombproof facility built inside a former mine.[237] The mine was perfectly located--125 miles from New York City, close enough for corporations to send and retrieve their records on a regular basis by mail and truck, and far enough from the "target city" of New York to make an atomic attack on the "bombproof" mine unlikely. IMASC met a major need of corporations during the Cold War, the need to preserve their vital records in impervious spaces of preservation to ensure their business continuity--the reconstruction of their business history, the re-building of their facilities and equipment, and the resumption of production as soon as possible after a nuclear attack.

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[236] Don Wharton, "The Safest Place in the World." *The Saturday Evening Post.* March 22, 1952, 138-140.
[237] Lowry, Cynthia, "Mine Serves as Bomb Shelter," *Avalanche*, Lubbock, Texas, June 15, 1952; also see Joshua Rothman, "The Many Lives of Iron Mountain," *The New Yorker.* October 23, 2013. http://www.newyorker.com/online/blogs/currency/2013/10/the-many-lives-of-iron-mountain.html. Accessed February 1 2014.

The other major force driving the creation of new underground spaces of preservation in the early Cold War was the federal government. From 1958-1962, secret construction took place at the Greenbrier Resort in White Sulphur Springs, WV, and resulted in an underground fallout shelter of reinforced steel and concrete to house members of Congress. The Bunker at Greenbrier was one of several facilities designed to preserve the continuity of government, maintain order, and ensure the survival of democracy in the wake of an atomic attack. While the Bunker was never used for its original purpose, as the only detonations of nuclear weapons on U.S. soil occurred through tests conducted by the U.S. government (over 900 bombs tested in all), the Bunker now serves an integral purpose in the maintenance of corporate business continuity.[238] When the federal government decommissioned the Bunker in 1996, it handed over control to CSX, the railroad corporation that owned the Greenbrier Resort. CSX turned the Bunker into a tourist attraction, complete with post-card souvenirs of formerly classified photographs and top-secret documents for everyone who takes the guided tour. CSX also converted nearly half of the Bunker's underground, reinforced space into a data center for its subsidiary CSX-IP, a secure data storage company. The spaces once meant to protect the bodies of Congressmen from radioactive contamination and post-nuclear chaos now stores vital information for a number of Fortune 500 companies.[239]

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[238] For more on the 904 bomb tests at the Nevada Test Site, see Joseph Masco, *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico* (Princeton University Press, 2006).

[239] See Susan Glaser. "Posh, historical Greenbrier Resort is at a crossroads as business travel slows." *The Plain Dealer* (Cleveland). March 13, 2009. Also see Robert S. Conte*, The History of the Greenbrier: America's Resort (2nd Edition)*. White Sulphur Springs: The Greenbrier, 2010. I took a tour of the Bunker, in which the tour guide mentioned that many of the clients of the data center were members of the Fortune 500.

In this chapter, I seek to account for why IMASC and the Bunker emerge when they do and take the shape that they do. What transformations do they reflect within the broader preservation complex? I argue that during the Cold War the preservation infrastructure of the United States both expanded and securitized dramatically. It expanded through the construction of facilities like IMASC, which repurposed remnants of previous modes of production and preservation infrastructure. It also expanded through the construction of new bombproof underground facilities like the Bunker at Greenbrier. Both IMASC and the Bunker constituted new spaces of preservation that made securitization a normalized component of media preservation. Both facilities had reinforced concrete, steel, and stone construction, constant surveillance by armed guards, backup power supplies and air filtration and conditioning systems that would work to preserve media at constant temperature and humidity levels as well as remove any fallout from the air inside the facility. These spaces were designed to preserve both media and the lives of corporate and state leaders, thus ensuring the continuity of operations for both corporate businesses and government institutions. The preservation of continuity in American business and government was a crucial aspect of national defense and security during the Cold War, as manufacturers dispersed their factories and warehouses.

In this chapter, I detail the forces that produced a new preservation infrastructure in United States during the Cold War, and highlight the productiveness of that preservation infrastructure, as it provides the material and imaginary conditions of possibility for desiring, building for, and believing in the possibility of permanent media preservation in the digital age. . Within the preservation complex, new spaces of preservation integrate the remnants, ruins, and hollows left behind by past modes of

production and preservation. The digital age is no exception. The mines-turned-data storage facilities of Iron Mountain, and the CSX-IP's data center now housed in the Bunker at Greenbrier, index the historically specific intensification of the preservation complex in the early Cold War. They also embody the logic by which the preservation complex transforms itself by repurposing infrastructural remnants to produce spaces of preservation customized to protect their specific media material from a matrix of perceived threats. The matrix of threats to media develops in deep relation to broad societal threats (i.e. Communism during the Cold War, terrorism and cyberterrorism in the post-9/11 period).[240] The preservation infrastructure built to protect media against those threats forms in deep relation to the responses of national security regimes to those threats (i.e. civil defense, industrial dispersion, and cybernetic defense planning in the Cold War; the War on Terror's re-investment in underground bunkers and invasive surveillance, massive data collection, and securitization in the digital age).

The desire to permanently preserve media, along with other crucial factors, contributed to the expansion of preservation infrastructure in the United States during the early Cold War. As was the case with the Crypt and the WTCC, discussed in my earlier chapters, the act of preservation does not merely maintain existing materials in their

[240] My understanding of threat and the matrix of threats assailing that nation, the race, the family, vital records, or some other objects, and how the threat matrices of the Cold War persist and morph into new shapes under the post-Cold War national security regime of counterterrorism draws heavily on Joseph Masco's "'Sensitive but Unclassified': Secrecy and the Counterterrorist State." *Public Culture* 22:3 (2010) pp. 433-463, and Brian Massumi's "The Future Birth of the Affective Fact: The Political Ontology of Threat" in *Digital and Other Virtualities: Renegotiating the Image.* Eds. Antony Bryant and Griselda Pollock (London and New York: I.B. Tauris, 2010). Masco argues that "the invention of the national security state after World War II transformed America into a new kind of secret society, one in which state power rests to an unprecedented degree precisely on the ability of officials to manage the public/secret divide through the mobilization of threat." He examines the way in which "the transformation of the United Staes from a countercommunist to a counterterrorist state formation has reconstituted and amplified this secrecy/threat matrix..." 433. I will directly engage and discuss Massumi's theorization of threat, affect, and actuality in my epilogue, where I will discuss the aesthetics of the preservation complex and propose an alternative aesthetics of decay.

current form, but transforms those materials, as well as the society whose culture is represented in those materials. In the case of the early Cold War, the desire to preserve media reflected and helped produce a new set of spaces of preservation, from corporate records storage facilities and underground vaults to federal bunkers to protect leaders, communications technology, and important documents from nuclear blasts and fallout. These production of these spaces of preservation is not entirely attributable to nuclear paranoia, containment culture, or other broad cultural forces that often account for cultural transformation in scholarly analyses of Cold War America.[241] Rather, the preservation infrastructure that emerges during the Cold War is an outgrowth not only of the advent of nuclear weaponry, but of racial and psychic anxieties and cultural conditions that pre-date the bomb, and even pre-date World War II. The expansion of preservation infrastructure reflects and contributes to a transformation within the preservation complex: the developing knowledge of preservation science, the ever-widening distribution of preservation imperatives, and the proliferating efforts of corporate, state, historical, and scientific interests to convince American citizen-subjects of the necessity of media preservation in guaranteeing national, familial, racial, and individual preservation.

[241] For more on containment culture, see Alan Nadel, *Containment Culture: American Narratives, Postmodernism, and the Atomic Age* (Duke University Press, 1995). On the politics of religious thought and ideological trends, see Stephen Whitfield, *The Culture of the Cold War, Second Edition*. (Baltimore and London: The Johns Hopkins University Press, 1996). For analyses re-assessing traditional scholarship on Cold War American culture see Peter J. Kuznick and James Gilbert, eds. *Rethinking Cold War Culture* (Washington and London: Smithsonian Institution Press, 2001).

Methodology: Preservation Infrastructure

Preservation infrastructure has existed in the United States since the development of the natural ice trade in the early 19th century, and has continually expanded since then. The expansion of railroad systems, innovations in food canning and preservation, the advent of arterial embalming during the Civil War, the widespread use of iceboxes in restaurants as well as private homes, all contributed to the development of preservation infrastructure. The natural ice trade generated a network of ice harvesting and cutting facilities, as well as ice storage warehouses through New England, especially up and down the Hudson River. Railroads required massive amounts of steel, which required iron ore, limestone, and coke of its production, as well as riprap and other mined materials, and cut paths through mountains and blasted tunnels through mountains as its tracks spread across the continent. These technological innovations, along with telegraphy and photography, re-shaped Americans' conceptualization and experience of time, leading to what Emerson called the "annihilation of time and space," a sense the distances had shortened between distant points in the world, and that the technologies of photography, embalming, and taxidermy could "freeze" or "suspend" time. Vast ruins and remnants remain of the manufacturing and transportation infrastructure created to support new widespread practices of preserving food and the dead by refrigerating them and/or transporting them more quickly.[242] These ruins and remnants later become

[242] For more on the emergence and expansion of preservation infrastructure, see Rebecca Solnit, *River of Shadows: Eadweard Muybridge and the Technological Wild West.* New York: Penguin, 2003; John Troyer, "Embalmed Vision," *Mortality* 12.1 (2007): 22-47; Daniel Calandro, "Hudson River Valley Icehouses and Ice Industry," Hudson Valley Institute, 2005; "Frederic Tudor—Ice King," *The Bulletin of the Business Historical Society* 4.4.38 (1932): 1-8; David G. Dickason, "The Nineteenth-Century Indo-American Ice Trade: An Hyperborean Epic," *Modern Asian Studies* 25.1 (1991): 53-89. A host of resources are also listed in Megan E. Springate's very useful "Ice House and Ice Industry Bibliography," April 4, 2002, digitalpresence.com/histarch/ice.html. Accessed March 1 2014.

resources for future expansions of preservation infrastructure in the Cold War and digital age.

I draw my understanding of infrastructure from the recent work of Lisa Parks, and other insights from the diverse field of media archaeology. In her essay, "Stuff You Can Kick: Toward a Theory of Media Infrastructures," she defines physical infrastructure as "the material sites and objects that are organized to produce a larger, dispersed yet integrated system for distributing material of value, whether water, electrical currents, or audiovisual signals."[243] She develops a "critical methodology for analyzing the significance of specific infrastructural sites and objects in relation to surrounding environmental, socio-economic, and geopolitical conditions."[244] The term infrastructure, as opposed to network, "emphasizes materiality and physicality and as such challenges us to consider the specific locations, installations, hardware, and processes through which audiovisual signals are trafficked." Parks' infrastructural approach applies just as readily to my consideration of Cold War preservation infrastructure, where the paper and microfilm vital records traveled in armored trucks along the infrastructural paths of highways, to infrastructural locations like IMASC. In the body of her essay, she analyzes not only contemporary cases, such the underground economy of DIY digital satellite dishes in Tehran, but historical ones, such as a mail-bag sorting room operated by U.S. Postal Service, to address the complexity of media infrastructures. Just as the mail-bag sorting room is an "infrastructural object" that is part of a "media infrastructure" (the

[243] Lisa Parks, "Stuff You Can Kick: Toward a Theory of Media Infrastructures," in David Theo Goldberg and Patrik Svensson, eds. *Humanities and the Digital. Cambridge*: MIT Press, forthcoming. 1.
[244] Parks, "Stuff," 1-2.

postal system),[245] IMASC and the Bunker are infrastructural objects that are parts of the preservation infrastructure.

Part of why these infrastructures are so difficult to analyze is because they are "difficult to visualize in [their] entirety within a single frame" and because they are densely layered. "Media infrastructues are not just a product of the most contemporary technological formations of the digital age; they should be thought about in an historical and intermediale sense. That is, media infrastructures demand a consideration of the ways that distribution processes have emerged, changed, and been layered upon one another over time, how they are part of a media archaeology."[246] Wolfgang Ernst uses a media archaeological approach to discuss a specific media object--a radio manufactured under the Nazi regime--to explain how a media object can exist as densely layered objects in which the historical division between the object's past and present dissolves:

> "From the media-archaeological viewpoint...the cultural life span of a medium is not the same as its operational life span: a radio built in Germany during the National Socialist regime...receives radio programs when operated today, since the stable technological infrastructure of broadcasting media is still in operation. There is no "historical" difference in the functioning of the apparatus now and then (and there will not be, until analogue radio is, finally, completely replaced by the digitized transmission of signals); rather, there is a media-archaeological short circuit between otherwise historically clearly separated times."[247]

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[245] Parks, "Stuff," 4.
[246] Parks, "Stuff," 5.
[247] Wolfgang Ernst, "Media Archaeography: Method and Machine versus History and Narrative of Media" *in Media Archaeology: Approaches, Applications, and Implications*, edited by Erkki Huhtamo and Jussi Parikka, (Berkeley, Los Angeles, London: University of California Press, 2011), 240. I am not as focused on the microphysical technological and mathematical processes and Ernst, and my tendency to trace

Similarly, infrastructure sites like IMASC and the Bunker, used during the Cold War to house microfilm and paper records, now used to preserve digital data, "short-circuit" the separation between their Cold War past and their digital present. Such spaces of preservation thickly index the many desires, fears, and anxieties that have shaped, and continue to shape, their production and re-production within the preservation complex.

My analysis of preservation infrastructure is, then, both historical and media archaeological: historical contextualization allows me to better describe what is an emergence particular to Cold War conditions, while media archaeological insights lead me to emphasize the way in which the remnants of the past do not simply persist into the present, they are present. The Bunker of the Cold War is no less a part of the present than the data center of the digital age that now occupies it; like the Nazi radio, it "operates" in the same way as a space of preservation. In his essay, "On the Archaeology of Imaginary Media," Eric Kluitenberg makes a point similar to Ernst's above, without dismissing the value of writing counterhistories of media in the way that Ernst tends to do. For Kluitenberg, media archaeology "should be seen primarily as a critique of progress, yet it is also *Zeitkritik*: it speaks to the present and critiques the present in examining its historical objects."[248] The Bunker fallout shelter and the CSX-IP data center might originate at different historical moments, but both are equally present within the current moment of the preservation complex, and thus both equally index the current conditions

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continuities and ruptures within the preservation complex would not accord with his general approach. I think that media history and media archaeology can be more compatible than he suggests, even if they are somewhat paradoxical, or even contradictory approaches. For more on Ernst's approach, see his essays in his collection ed. Jussi Parikka, Digital Memory and the Archive, Minneapolis: University of Minnesota Press, 2012. See especially "Archives in Transition: Dynamic Media Memories"; "Discontinuities: Does the Archive Become Metaphorical in Multimedia Space?" as well as Jussi Parikka's introduction to the volume "Archival Media Theory: An Introduction to Wolfgang Ernst's Media Archaeology."

[248] Eric Kluitenberg, "On the Archaeology of Imaginary Media" in *Media Archaeology*, 51.

that shape the desire to permanently preserve media, and together are suggestive of the kinds of material and discursive transformations that occur through successive iterations of the preservation imperative.

IMASC and the Discourse of Dispersion

The *Saturday Evening Post* superlatively referred to IMASC as the safest place in the world because the location, design, and operation of the facility embodied several powerful discourses circulating during the early Cold War, discourses that described the best ways to protect, defend, indeed, preserve the nation. IMASC preserved corporate memory and capitalism itself by storing records underground vaults located 125 miles away from the nearest "target area" (New York City), thus ensuring "business continuity" for corporations who would use their preserved records to revive their companies and continue to operate in the wake of an atomic attack. Beginning in the early 1950s, civil defense planners emphasized the importance of industrial dispersion for national security, a strategy in which manufacturers relocated their factories outside of densely populated urban zones demarcated as "target areas" by the federal government. Dispersal was meant to ensure that an atomic bomb could not incapacitate American industrial production, which was the basis of the nation's military strength. The logic of dispersal was driven by two main factors: 1) haunting from the bombings of Germany and Japan, and 2) dominant cultural visions of urban centers as spaces of otherness (i.e. immigrants, nonwhites, derelicts), as spaces of radioactive, racial, and national contamination.

The industrial dispersion strategy that was a significant part of national security policy and gave rise to facilities like IMASC were not simply the result of the Soviet's

acquiring atomic weapon technology and testing its first bomb in 1949. In "War Against the Center," Peter Galison explains how researchers at the United States Strategic Bombing Survey both analyzed German and Japanese infrastructure during World War II in order to locate the best bomb targets, and later, at the end of the war, analyzed the damage of U.S. bombing campaigns, interviewed survivors, and wrote reports about the destructive effects of bombings on both industrial production and human populations.[249] These researchers were haunted by these experiences on the ground, and could not help but imagine the same kind of devastation wreaked on American cities. Their reports were highly influential, and by 1951, President Truman made a speech that urged industrialists to disperse their production facilities so that no single bomb could strike a concentrated area of industrial production and severely lessen American economic and military strength. Galison called this haunting effect on Americans' understanding of their own infrastructure (which, ironically, had never been bombed) "bombsight mirroring": "Bombing the Axis economy and dispersing the American one were reflections of one another."[250]

The National Security Resources Board quickly transformed President Truman's imperative into simplified, graphic propaganda that disseminated and legitimated the logic of industrial dispersion to local communities. In a publication called *Is Your Plant a*

[249] Peter Galison, "War against the Center," *Grey Room*, 4 (Summer, 2001), 6-33.
[250] Galison, "War," 20. While Galison's analysis is very compelling and convincing traces the legacy of World War II bombing surveys on the transformation of American infrastructure, Tom Vanderbilt places this development in broader historical context by describing how aerial views have always been attended by militarized visions of destruction, afforded by the masterful vantage point from above a city. Vanderbilt traces something like a genealogy of bombsight mirroring and seeing cities as targets farther back, to the very first aerial views--the hot air balloon flights in Europe in the early 1800s. "As the means of comprehending the city as a whole improved, so too did the means for wholly destroying it. It is perhaps no surprise that the ability to visualize the Earth in a single image coincided with the presumed ability to destroy the Earth with one massive unleashing of weapons, or that both accomplishments were byproducts of the same endeavor." Vanderbilt, *Survival City*, 50.

Target? the NSRB urged local leaders to form committees that would identify likely "target areas" in their community and make plans for dispersing concentrations of industrial production facilities in areas on the fringe of their cities, effectively driving the suburbanization of cities.[251] As a crucial step in this process, communities were to create "dispersion reports" that mapped the areas most likely to be bombed. Galison argues that these "self-targeting analyses" translated the haunting of bombsight mirroring from the perceptual frames of USSBS officials and military leaders to the perceptual view of everyday Americans. Beyond appeals to patriotism and national duty, the NSRB also persuaded communities to create self-targeting maps, which were designed "not just to scare," by making them a required component in applications for "certificates of necessity" for industrial companies, which gave them tax breaks, and facilitated the approval of defense loans and the securing of defense contracts."[252] Throughout this process, which transformed the "architectures of infrastructure, computation, highways, and factories lay the remarkable practice of training Americans to see themselves as targets."[253]

IMASC's location also distanced it from threats emanating not from outside the nation, but from within, as the discourse of industrial dispersion and target/non-target areas took shape within a racialized spatial imaginary of the nation. In his book *Fallout Shelter: Designing for Civil Defense in the Cold War*, David Monteyne writes that civil defense planners, "like social reformers before them, viewed dense urban neighborhoods as spaces of unpredictable difference and nonconformity to the ideals of a white

[251] National Security Resources Board. *Is Your Plant a Target?* (Washington DC: US Government Printing Office, 1951).
[252] Galison, "War," 17, 20.
[253] Galison, "War," 30.

American republic. Typically, crowded, poor, derelict, multiethnic urban neighborhoods were destroyed in hypothetical attack scenarios."[254] Monteyne points to several different civil defense scenarios published in the 1950s, one in which two African American neighborhoods are destroyed by two separate bomb blasts, even as one of the blasts "strategically avoids the industrial corridor of Highland Park and the white working-class municipality of Hamtramck, pinpointing a small corner of the black ghetto bordering the two districts." In another scenario, which appeared in *Collier's* magazine, the reader follows a "tall distinguished grayhead" who encounters "intoxicated derelicts" as he walks toward what, in a flash, becomes ground zero of an atomic detonation. In Monteyne's view, "the derelicts that appear at the beginning of the article mark ground zero as a place of abjection; further paragraphs establish it as a place of racial difference. Our grayhead is buried under the rubble of, among other things, "the National Chinese Seaman's Union.""[255]

Monteyne's work suggests that Galison's elaboration of bombsight mirroring underplays the role of racial anxieties not only in contributing to the drive to disperse and suburbanize American cities, but in shaping what was likely to be imagined as a target in the first place.[256] Civil defense planners "were concerned to contain the assertion of any

[254] David Monteyne, *Fallout Shelter: Designing for Civil Defense in the Cold War* (Minneapolis and London: University of Minnesota Press, 2011), 6.
[255] Monteyne, *Fallout*, 7.
[256] Galison does not entire ignore other factors in driving dispersal but subordinates their level of importance to that of bombsight mirroring in re-shaping American infrastructure. He admits that "...economic, housing, and non-nuclear forces for the interstate were certainly among its powerful motors"; "other forces were already driving dispersal: postwar housing shortages for returning servicemen and their families, real estate prices, racial tension, and access to transport." 26, 30. "But the obsession with protection in space labeled and levered the process of dispersion, validated deurbanization as a patriotic duty, certified decentering national life as a bulwark of national survival, linked it with the Offices of Defense Mobilization, published through industrial journals, tied it to metropolitan planning processes, and paid for it with billions of tax rebates and zoning shortcuts." 30-31 Ultimately, Galison makes a compelling case for the powerful influence of bombsight mirroring, even if the role of racial tension in driving

politics of difference, such as racial or gender identities that might challenge the purity of the abstract citizen. In an imagination of urban disaster and suburban survival, the fear of the bomb and the fear of the racial other merged at ground zero." Industrial and urban dispersal were not designed to save everyone, and in fact accorded neatly with urban renewal campaigns that sought to re-imagine and re-shape urban spaces into tracts of uniform, dense, public housing projects and other residential zones that were easily surveilled and contained. In 1951, the mayor of Pittsburgh even gave a speech titled "We Do Not Want to Wait for Bombs to Clear Our Slums." Monteyne writes:

> "Racist real estate practices, racial covenants, and organized white resistance often restricted nonwhite populations to older, inner-city neighborhoods with declining building stock. Associated with difference, neglect, or abjection, inner cities were targeted as places in need of drastic change. In sum, urban targets made sense to civil defense planners for a multitude of reasons, few of them strategic. While civil defense planners strove for realism in their hypothetical attack scenarios, their political values structured their understanding of contemporary American "realities." [...] A white citizenry would survive on the fringes of the city where the effects of atomic bombs would be attenuated by distance from ground zero. Meanwhile, inner cities were places projected for the containment of nonwhite residents and other "sitting ducks" whose existence challenged the myth of a unified American identity in the 1950s. The unified America, the one to be preserved by civil defense preparations, was clearly

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dispersion remains underexamined. Monteyne's work, along with that of Kenneth Rose, compliments Galison's analysis nicely, rather than contradicting his conclusions.

> imagined as a nonurban place; in contrast, the effects of nuclear disaster could be contained within the city limits."[257]

I quote Monteyne at length here to suggest that the racial imaginary shaped the national spatial imaginary in which urban centers were abject spaces occupied by racial and national others, deemed ripe for atomic destruction, or at least the "creative destruction" of urban reform. Simultaneously this racial imaginary informed the narrative logic of nuclear apocalyptic scenarios, wherein the overwhelmingly white suburbs nearly always survived. This racial imaginary subtended discourses of dispersion that ostensibly aimed at ensuring the continuity of business and industrial production capacity in the wake of a national disaster, saving American lives, and strengthening national morale.[258]

The Design of IMASC

The design of IMASC, with its underground, airtight, temperature-controlled, bombproof vaults, both integrated the specifications of preservation science embodied in the BOS studies of the Depression era, and reflected a broader, emergent trend in the bombproofing of corporate and state records during the early Cold War. The BOS studies enumerated the threats to microfilm and paper records, from insects and mold to fire, humidity, dust, and sulfur dioxide pollution. Preservation practices of fumigation

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[257] Monteyne, *Fallout*, 11-12.

[258] For the most thorough analysis of the domestic space of the home and the nuclear family as primary sites of civil and national defense in the Cold War, see Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (Revised and Updated Edition) (New York: Basic Books, 2008). For more on American leaders' focus on dispersion and civil defense as strategies for maintaining strong national morale, see Guy Oakes, *The Imaginary War: Civil Defense and American Cold War Culture* (Oxford: Oxford University Press, 1994), especially Chapter 1: "National Security and National Morale," and Chapter 4: "The Nuclear Family." Civil defense propaganda often targeted the white nuclear family as the site to cultivate Cold Warriors, as the home became the front line of national defense, and government officials sought to turn families into "civil defense work units." Civil defense planners thought that "if civil defense could be effectively institutionalized on the microlevel of the family, then the problem of social disintegration and disorder on the macro-level would be solved." Oakes, *Imaginary*, 108.

(both open spaces of shelving and in vacuum chambers), air conditioning, blocking sunlight and increased use of flourescent lighting, purified libraries and archival spaces of threats. The BOS claimed that records were perennially vulnerable because they were regularly accessed and circulated, and therefore exposed to light, air, and human use. On the other hand, the Crypt and WTCC preserved records of American life protected not only from the threats enumerated in the BOS studies, but from the aerial bombings that threatened to destroy every fluorescent, air-conditioned, dustless library and archive space built under the influence of BOS specifications and an emergent preservation imperative. In order to be fully invulnerable, the artifacts in the Crypt and WTCC had to become completely inaccessible--it was the only way to ensure their permanence, to hermetically seal them off and bury them against all threats, including bombs. IMASC combines these two forms of permanent preservation logic to produce a new kind of records preservation practice--records that are both invulnerable to any threat, yet remain accessible. Not only were the records at IMASC accessible, they were vital, in all senses of the word: to the continuation of industrial production, government operation, and all manner of corporate operations, including banks, insurance firms, oil companies, and department stores.

The legacy of the BOS studies was that the durability of certain kinds of paper and microfilm were scientifically and firmly established for librarians, archivists, and historians. In the early information revolution of the late 19th century, as I discuss in Chapter 1, increased paperwork allowed for increased efficiency and effective corporate governance at a distance, as American businesses expanded geographically and increased in organizational complexity with the advent of railroads and wide-spread urbanization.

This expansion of American corporate structures removed a large part of the information required for daily operations and recorded it in paper documents, seen by management to be more reliable, permanent, as well as easily circulated and duplicated. By the 1910s, corporations and states relied upon paper records both because vital information was stored there, and thus the viability of their operations depended upon the durability of the paper. Immense anxieties about the impermanence of paper records then began to afflict corporate, state, and historical institutions, leading to the BOS studies and the emergence of a preservation science that guaranteed the permanence of paper and microfilm records of a specific material composition and stored according to the BOS's specifications.

By the early Cold War, archivists, historians, records managers, and businessmen expanded their focus from the environmental threats to records, such as air pollution and insects, to the fireproofing and bombproofing of records storage facilities and the creation of infrastructure that ensured records would be accessible in the wake of large-scale bombing, whether nuclear or otherwise. Arthur Kimberly, who figured prominently both in the execution and dissemination of the BOS studies, went on to serve as a member of the The National Fire Prevention Association's Committee on Protection of Records.[259] The National Fire Prevention Association (NFPA) provided definitive architectural and engineering specifications for vaults and records storage practices in the Cold War. The NFPA's members included a range of prominent manufacturers, utility and natural resource companies, underwriters, insurance firms, and professional organizations such as the American Institute of Architects. Founded in 1896, the NFPA worked "to promote

[259] A list of members of the Committee can be found on the inside cover *of Protection of Records: Consolidated Reports of the Committee on Protection of Records, 1947* (Boston: National Fire Protection Association International, 1947).

the science and improve the methods of fire protection and prevention" in manufacturing settings as well as residential buildings wired with electricity and filled with electrical appliances, piped with gas and lit by gas lamps, any of which components served as a source of devastating fires on a daily basis in the United States by the early 20th century, resulting in property damage, loss of life, and in many cases, the end of businesses. In 1922, the NFPA formed The Committee on Protection of Records after a fire at the general offices of the Burlington and Quincy Railway Company in Chicago destroyed the company's most important records. The Committee issued its first "Consolidated Report" of its research findings and recommendations in 1936, but even at that time its reports were based largely on "educated guess work," and "knowledge of the subject was still necessarily limited. conclusions were based on judgment rather than factual data."[260] Similar to the start of the BOS studies in the area of media permanence at a time when researchers lacked "definite facts," the Committee on Protection of Records sought to create a science of fire protection and prevention, and by their second Consolidated Report, issued in 1947 at the very beginning of the Cold War, they claimed to have succeeded.

The Committee on Protection of Records reflected the range of corporate interests that profited from the expansion of the preservation complex, with its spaces of preservation produced through architectures of reinforced concrete and steel, fire insulation and extinguishment, and the insurance policies that protected corporations financially against losses caused by fire and bombing. By 1949, the Committee on Protection was headed by the Chairman of Underwriters' Laboratories, and its members

[260] *Protection*, 4.

included S.H. Ingberg at the Bureau of Standards, representatives of safe manufacturers, architects, the Edison Electric Institute, New York State Public Records, special risk underwriters, Cook County Inspection Bureau, and railroad concerns. The Committee's membership also reflected the more general corporate reliance on the survival of paper records, as it included the National Association of Credit Men. As one "credit man" would put it at the time, records were "the life bloom of the savings and loan business."[261]

The Committee on Protection of Records (henceforth referred to as The Committee) gave a name to the non-monetary value of corporate records: "after-a-fire" value. The value was assessed by imagining the day "after a fire," as a business attempted to reconstruct its records, resume business, apply for funds from insurance companies, and comply with legal requirements, such as submitting reports to the IRS or Social Security Administration. The Committee offered four classifications for records based on how crucial they would be in reconstructing a business after a disaster: 1) Vital 2) Important 3) Useful 4) Non-essential.[262] Included in the category of vital records were "property plans, costs and appraisals; inventories of factory and office equipment; inventories of finished goods and goods in process; all original books of account and supporting papers; independent audit reports; tax returns, accounts receivable; accounts payable; engineering records (such as drawings and tracings); stock transfer and bond records; records required by law (such as social security records); charters; franchises; deeds; minutes of directors' meetings; major contracts; etc." Included in the second class,

[261] Walter H. Ward, "Records Protection Against Bombing: Your Storage Facilities," *Savings and Loan News*, May 1951, 26.
[262] *Protection*, 9-12.

"Important," were "minor contracts, customers' credit files, sales records, designs in process of development, records of experiments in progress, etc." The unique "after-a-fire" value was not a market value; it was not a value recognized by insurance companies; thus, "absolute preservation" was the only effective means of protecting these "irreplaceable" records against loss. Vital and important records "should have protection which will assure that the records will be preserved even if there is a complete burning-out of the section of the building in which the records are located, this for the reason that records classed as 'vital' cannot be assigned a monetary value and either are not insurable, or are not usually insured, or if insured can be replaced only after considerable delay or not at all, whereas, prompt restoration of the business requires that such records be available *immediately after a fire*--especially if the fire results in a complete burning-out of the building."[263]

The Committee reinforced the notion that vital records were constitutive of corporate life, more necessary to a business's operation even than its equipment and buildings. *Protection of Records* explains the difference in between the effects of loss of "tangible property" (i.e. equipments and buildings) and the "loss of records": "A burned building can be replaced even though there has been a real loss of wealth. But, if a record of which there is no copy extant is burned, *it is gone forever*. Nothing can tell us when a person was born or give us the details of a property transaction if the only records of such events are destroyed. Therefore, records call for absolute preservation."[264] *Protection of Records* frames records loss as the reason why fires are so disastrous to businesses, and notes that "innumerable businesses have been discontinued because of the

[263] *Protection*, 11.
[264] *Protection*, 6, my emphasis.

insurmountable task of replacing all organizational and operational records....The high mortality among firms suffering disastrous fires is due in no small measure to loss of records that formed the basis of the concern's tangible and intangible assets."[265] The records that deserved absolute preservation in order to prevent the death of a business were its "vital records," a term that originally referred to records detailing the births and deaths of individuals. The vital records of a corporation are those necessary to its continued existence; thus, in the Cold War, the preservation of records in spaces of preservation like IMASC preserved, literally, the life of corporations.

Corporations and state agencies who kept vital records at IMASC made extensive use of microfilm records. One article on IMASC points out how East River Savings Bank and Loan, like other IMASC customers, transported microfilm duplicates of its customers' account records in armored cars driven by gun-wielding guards, though the records would "in the main be just scraps of paper to thieves."[266] By 1951, department store Abercrombie and Fitch microfilmed its sales receipts and sent copies to IMASC by registered mail on a daily basis, with each shipment containing some 8,000 receipts.[267] As a part of industrial dispersion, many companies began to search for off-site storage for their records.[268] Corporate and state records were transported and stored under armed

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[265] *Protection*, 5, 6.
[266] Wharton, "Safest," 140.
[267] Wharton, "Safest."
[268] First National Bank of Boston "built a concrete and steel bunker in Pepperell, Massachusetts, to hold microfilms of its own records as well as the records of nine other banks leasing space. Entry to the vault at Pepperell was through a 16,000-ton door. In addition to storage space, the vault also contained a double filter to eliminate radioactive particles, and a shower where bankers could decontaminate themselves." Chase also had "emergency corporate headquarters." Standard Oil had alternate headquarters in Morristown, New Jersey, with "its own electric generator, artesian well, and a sprinkling system on the roof "to wash down accumulations of fallout in time of H-bomb attack." Numerous companies took the precaution of storing microfilmed records alternate locations, including Minnesota Mining and Manufacturing, International Harvester, Bell and Howell, International Business Machines, and the Ford Motor Company. The New York Stock Exchange was storing records in the Adirondacks, and even the

guards and constant surveillance because the continuity of corporate capitalism and the government of liberal democracy relied upon the survival of these microfilms. Within the preservation complex then, records took on a peculiar form of value. The corporate microfilms and paper records preserved at IMASC were both valueless, and, in another sense--as a collective archive underwriting the everyday financial, social, and institutional transactions of American life--priceless.

The Committee shaped the spaces of preservation within the emergent preservation infrastructure, such as IMASC, and offered detailed architectural and engineering standards for the practice of preserving corporate life. In the section of *Protection* called "Recommended Degree of Protection for Each Class of Record," the Committee suggested the same high level of protection for both vital and important records. A "standard" fire-resistive vault, or safe, or "record protection equipment having a fire rating comparable with the maximum fire hazard to which they are exposed" would be sufficient to protect Class 1 and Class 2 records.[269] In other sections, such as "Intensity, Duration, and Control of Exposure," "Specifications for Fire-Resistive Record Vaults," and "Specifications for Fire-Resistive File Rooms," the report elaborates the architectural and engineering features that constitute safe, secure, insulated spaces of preservation, features that would characterize IMASC. A 1956 UNESCO report, *Protection of Cultural Property in the Event of Armed Conflict*, called IMASC "an excellent general example of large-scale, rational organization," and illustrated the way in

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McGraw-Hill Publishing Company was renting a vault to store its vital records in a mine 125 miles outside New York." See Rose 120, citing various news articles from the 1950s.

[269] *Protection*, 11.

which IMASC's design and operation conformed to emergent discourses of media preservation and securitization.[270]

While microfilm had existed as long as daguerreotypy, it is only in the 1930s that its institutional use became so widespread that it became a routine medium for the duplication of paper vital records, and eventually became itself a medium of vital records.[271] An example of the emerging discourse of microfilm as vital corporate records is an April 1951 article in *National Safety News* called "Microfilm Safeguards Vital Records" describes a records preservation effort by the Ford Motor Company. Beginning in 1948, Ford microfilmed over 1,250,000 of its "vital designs and engineering tracings which would be essential in putting the company back into operation in the event of a major disaster."[272] Consistent with the broader tendencies of the preservation complex at this time, Ford placed negative copies of microfilms in "fireproof storage vaults in Dearborn while the positive copies are stored in bombproof underground vaults far

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[270] A. Noblecourt. Paris, UNESCO, 1958. 270

[271] For a history of the early uses of microfilm or microphotography in the mid-nineteenth century, See Frederic Luther, *Microfilm: A History, 1839-1900.* National Microfilm Association, 1959. On the development of a microfilming program at the National Archives and the leading role of Vernon D. Tate, see McCoy, *The National Archives: America's Ministry of Documents, 1934-1968.* Chapel Hill: University of North Carolina Press, 1978. 90-91; Also Richard Parmater, ed., *Communication Revolutions, Information Technology, and Libraries: Proceedings of the February 1, 1985 Symposium: Honoring Eugene B. Power and Vernon D. Tate* (The University of Michigan University Library and School of Library Science. Ann Arbor, 1987); Llewellyn W. Raney, ed. *Microphotography for Libraries.* (Chicago: American Library Association, 1936); Chapter 2 (untitled) of *Paper Knowledge: Toward a Media History of Documents* by Lisa Gitelman. Draft used courtesy of the author. (forthcoming from Duke University Press). For more on the transition from microfilming in the 1930s to the 1940s in the context of information technology development, see Vernon D. Tate, "From Binkley to Bush," *The American Archivist*, 10.3 (July 1947), 249-257. For more on the origins of University Microfilms, pioneers of microfilm preservation and publishing, see Eugene Barnum Power's autobiography, *The Power of One.* For more on the invention of the Check-o-graph machine used to microfilm bank records and the subsequent formation of the Recordak corporation by inventor George McCarthy and Eastman Kodak, see "Chapter 2: Service Quality" in *Dollars Through the Doors: A Pre-1930 history of Bank Marketing in America* (Westport: Greenwood Publishing Group, 1996).

[272] Ford Motor Company. "Microfilm Safeguards Vital Records." *National Safety News* 63 (April 1951): 85-86.

removed from the [Ford's River Rough plant]."[273] Up until the time of the microfilming, "many of engineering's 1,000,000 tracings, 50,000 of which are considered active, were stored in basements and other out-of-the-way places. They were subject to loss by fire, flood or other damage, and were taking up some 4,000 square feet of much needed floor space."[274]

Much like the BOS scientists whose findings were cited in a wide variety of professional journals, researchers at the National Records Management Council disseminated a preservation imperative that called for the construction of fireproof and bombproof vaults for corporate records similar to those of IMASC. The National Records Management Council (NRMC) provided influential guidance to corporate and state records managers on how to keep records organized, in order to aid historians writing the history of business, as well as to increase corporate efficiency, and ensure the swift reconstruction of business in the wake of a nuclear attack or other disaster. Founded in 1948, the NRMC consisted of representatives from business, government, archival and historical professions, and "emerged from and carried on the work of" the New York Commission on Business Records, the Society of American Archivists, the Business Historical Society, the American Historical Society, and the Economic History Association."[275] NRMC researchers published reports and articles in journals such as *The*

[273] Ford, "Microfilm," 85.
[274] Ford, "Microfilm," 85.
[275] The NRMC "published guidelines that set industry standards for filing systems, records centers, and engineering documents, and compiled the first index to Federal records retention requirements"; "sponsored the first conference on records management in 1950, which was held annually for about a decade"; its early clients included "the City of New York, E.I. DuPont de Nemours & Co., Bethlehem Steel, the Rockefeller Family, and the states of Rhode Island and Illinois." In 1957, the NRMC became Naremco Services, Inc., a management consultancy, which still exists today. See Naremco website's "About Us" page: http://www.naremco.com/aboutUs.asp. For more on the early work of the NRMC, see "Municipal Archives and Records of the City of New York." The American Archivist 16.4 (Oct 1953):

Business History Review, *The American Archivist*, and *Credit and Financial Management*, wherein they cited numerous instances of businesses that survived World War II because their records were properly preserved, though though bombs had heavily damaged or completely destroyed their factories and equipment. Even American businesses that suffered the minor fires that were rather routine in the first half of the 20th century sometimes had to close shop as a result of severe water damage caused by firefighters' hoses--while their buildings and equipment received light, or even no damage, their records were utterly destroyed, and thus they had no records of their accounts, of how much they owed suppliers or how much their clients owed them, no engineering drawings and blueprints, no financial records for tax purposes, etc., and consequently could not continue to operate.

In the October 1951 issue of *Credit and Financial Management*, Emmett J. Leahy, Director of the NRMC, and Robert W. Weil, published an article called "Will One Fire...or Bomb...Ruin Your Company?"[276] The authors conceptualize records as the vital organs of a business, a metaphor that resonates with concurrent discourses in cybernetics that sought to re-organize national transportation and communication infrastructures as a means of strengthening the national body against the possibility of "incapacitation."[277] The opening of the article reads:

311-320; *A Records Management Program for the State of Israel: Report Prepared by the National Records Management Council Under the Auspices of the U.S.A. Operations Mission to Israel. Tel-Aviv, 1955*; *TARGET: RED TAPE: A Staff Report to The Michigan Joint Legislative Committee on Reorganization of State Government* (Lansing: National Records Management Council, 1951); *Your Business Records: a Liability or an Asset?* (New York: National Records Management Council, 1949).

[276] Emmett J. Leahy and Robert Weil. "Will One Fire...or Bomb...Ruin Your Company*?" Credit and Financial Management*, October 1951, 7-8.

[277] See Reinhold Martin, *The Organizational Complex: Architecture, Media, and Corporate Space* (Cambridge and London: MIT Press, 2003).

> "Any business, whether in manufacturing, distribution or transportation, is very much like the human body. It can be badly mauled, have some of its components destroyed and yet survive. It can resume its normal functions after an interval. Under certain circumstances it may even become more efficient then before. But, as with the human body, there are certain vital organs absolutely necessary to existence. In business, one of these is vital records."

The NRMC's recommendations fit neatly with both the premises of industrial dispersion and the priorities of cybernetic planners, the latter often more concerned with interruptions of communication and transportation that with horrific losses of life that would be caused by an atomic attack. The NRMC's description of an ideal records center could easily describe IMASC: "It should be outside of a primary target area, close to good transportation and communication nets. It should be a fireproof structure with large open work areas suitable for records shelving."

Businessmen enfolded NFPA and NRMC recommendations into articles that encouraged industrial dispersion, such as "Records Protection Against Bombing," published in *Savings and Loan News* in October 1951.[278] The authors of this two part article, one a manager at Remington Rand, Inc., manufacturer of fireproof office equipment, and the other a manager at safe and vault construction company Diebold, Inc., had an obvious financial interest in the widespread adoption of industrial dispersion and fireproof vault construction as a corporate preservation practice. In this article and others like it, interests in national security, corporate business continuity, profit-making, and records preservation converge. In the opening paragraph of the two-part article, "Your

[278] Ward, "Records"; J.P. Paca, "Records Protection Against Bombing: Your Storage Facilities." *Savings and Loan News* (October 1951): 27-28.

Storage Facilities," Walter H. Ward, Manager of the Insulating Equipment Department at Remington Rand, reproduces the Committee on Protection of Records' emphasis on the irreplaceability of vital records and the necessity of their "absolute preservation." He writes that while buildings can be replaced "vital records of business operations are irreplaceable!"[279] While he does not directly cite the National Fire Protection Association or its committee on records, his recommendations are entirely consistent with theirs, including his four classifications for records: 1) Vital 2) Important 3) Useful 4) Unnecessary (the Committee's term for this fourth class was Non-essential). He cites instances of British companies' records surviving bombings and fires because they were stored in "fire-resistant, insulated vaults" even in the case of an atomic bomb attack.[280] Like the NFPA, he also endorses the Underwriters' Laboratories seal of approval as a kind of guarantee of the effectiveness of vaults and other fireproof equipment. In the end, however, Ward doubles back and admits that in war, atomic bomb attacks, and fires, there are no guarantees: "No equipment, of course, will withstand a direct hit of a block-buster or atomic bomb, but more than 95% of all damage to records in the past has resulted from fire rather than the explosion itself."[281] This consideration, on top of the fact that underground vaults might get buried under radioactive debris in an atomic attack, make "storing records out of town" in fireproof vaults an attractive idea. In combination with microfilming duplicates of vital records and a comprehensively organized records management program, such measures would allow for "the speedy reconstruction of your business" after an atomic attack.

[279] Ward, "Records," 26.
[280] Ward, "Records," 26.
[281] Ward, "Records," 27.

In the second part of the article, "Your Vault Facilities," J.P. Paca, Manager of Bank Sales Engineering at Diebold, Inc. parrots industrial dispersion's discourse of target areas. He points out that any vault located "within three miles of a prospective target," such as a military installation, oil refinery, power plant, or steel mill, should be "considered vulnerable to attack."[282] Paca outlines the kind of vault that "will preserve its contents from the effects of an atomic explosion."[283] Like Ward, Paca describes effective vaults only to then acknowledge that bombs at various heights of detonation make preservation impossible to guarantee. On the "remote possibility" that an a-bomb is detonated closer to, at, or below ground level (as opposed to the 2,000 ft. detonation altitude of the bombs dropped on Hiroshima and Nagasaki), and especially in the case that it penetrates the ground prior to detonation, "no vault located in the immediate vicinity, except one built deep below ground level or of very heavy reinforced concrete construction, could be expected to preserve its contents."[284] In order to offer a guarantee, ultimately, of preserving records, it is necessary to remove them from a "vulnerable" area or store them in heavily constructed vaults. Most businesses would not invest in such underground construction, so IMASC offered the most viable and affordable means to protect records in a vault that was bombproof and located far from "vulnerable" areas.

Both of these articles manifest a similar set of anxieties about national and corporate vulnerability figured through the vulnerability of paper and microfilm records. The logic of industrial dispersion that carved up space into target and non-target areas distributed vulnerability in uneven ways, so that records remaining in target areas had to

[282] Paca, "Vault," 27.
[283] Paca, "Vault," 28.
[284] Paca, "Vault," 28.

be buried deep underground in heavily reinforced vaults, or they had to be removed to non-target areas, such as IMASC, located 125 miles away from the nearest target area--New York City. Press coverage of IMASC and other facilities that embodied dispersal strategies helped to familiarize and legitimate the notion that there was indeed "safety in space," and that concentration was to be avoided at all costs, as some prominent civil defense planners claimed. The paradox of dispersal, in terms of records preservation, is that IMASC and other spaces of preservation produce new concentrations of vital records that did not exist prior to the production of this preservation infrastructure. IMASC and other spaces of preservation produced through spatial imaginary of industrial dispersion seem to skew that same imaginary by possibly creating an unprecedented concentration of vital records, and thus a new target area. In other words, it is possible that IMASC, in removing vital records from target areas and concentrating them in massive microfilm archives, itself creates and becomes a new target, leaving the anxieties driving the preservation complex ultimately unresolved, and even renewed through this unprecedented concentration of corporate and state records.

Media coverage of IMASC reveals an awareness that the division of space into target and non-target zones, in the end, cannot ultimately predict where bombs will fall. Knaust even addresses the possibility of a bomb falling right above IMASC, only to reinforce that such an attack "wouldn't even make a Geiger counter flicker here in the vaults."[285] While this is a vivid and witty illustration of the impregnability of IMASC, it doesn't really engage, though it seems to at first, with the full range of possibilities for nuclear attack, considered by Paca in his discussion of bombs detonating at or even

[285] Brian Dillon, "The Subterraneans," *frieze* 94 (October 2005). http://www.frieze.com/issue/print_article/the_subterraneans/. Accessed Dec 15 2011.

below ground level. The latter eventuality, not considered by Knaust in his interviews, would certainly cause more than Geiger counter to flicker, and depending on the strength of the bomb, might have caused severe structural damage to IMASC, or worse--atomic bombs detonated at or below ground level have caused large craters. The alternating confidence and uncertainty of Ward and Paca resolves in an awkward concluding statement by Ward, a sales-pitch that can only be read as a subject attempting to re-assure himself that none of the awful possibilities he just outlined are in fact possible: "When fire-resistant, insulated equipment is included in the records protection program, there is a definite assurance of the complete safety of your records and the continuance of your successful business." Coverage of IMASC in business literature was similarly a kind of advertisement. In the October 1951 issue of business magazine *The Office*, "Bombproof Records for Storage Built Into Iron Mountain" explained that IMASC's main entrance to its vault rooms was "guarded by a 27-ton Diebold round bank vault door with 4-movement time locks," and each individual vault featured Diebold vault room doors as well. Such descriptions lend IMASC the air of being "bombproof."[286]

Articles like those by Paca and Ward suggest, however, that "bombproof" was a cultural category that was always unstable, less the definitive status of a building or vault than category through which to read architectural, engineering, and infrastructural responses to the completely unpredictable and increasingly destructive power of atomic weaponry, and the proliferating sense of vulnerability it engendered in an American population all the more terrified precisely because it had never been bombed.[287] None of

[286] "Bombproof," 7-8.
[287] Jacques Derrida explores the terrorization of the American people both by nuclear bombings that never happened and by the possible future events signified by the events of 9/11, all the more terrible because

the media coverage of IMASC, whether in local outlets like the *Lubbock-Avalanche*, or widely read publications like the *Wall Street Journal* or *American Magazine*, question the bombproof effectiveness of IMASC's construction. Though the targets of Soviet bombs could not ultimately predicted, and the bombproofing of any structure could not be entirely guaranteed, the underground, air-conditioned, bombproof, fireproof vaults of IMASC embodied perfectly the recommendations of the BOS, the industrial dispersion guidelines of the National Security Resources Board, the NFPA, the NRMC, and the forwarding of corporate interests that aimed to profit from endorsing and building the emergent preservation infrastructure. Press coverage of the spectacularly built and securitized IMASC facility--*The Saturday Evening Post* called it "The Safest Place in the World"--thus served as the embodiment of a now fully validated preservation science, a

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they have not happened, cannot be predicted, and thus come from the future (avenir), the "to come" that necessarily cannot be expected and totally prepared for as opposed to the future (futur), which is the way we tend to imagine the future--the future anterior--as already having occurred, the future imagined as past. Derrida explains the psychic effects of these unthinkable events that never occurred in "No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives)." *diacritics* 14.2 (Summer 1984): 20-31. Richard Klein offers a helpful summation, analysis, and update of the Derrida article, placing its insights into conversations with the philosopher's later work on 9/11 and terrorism, "Knowledge of the Future: Future Fables." *diacritics* 38.1-2(spring-summer 2008): 173-179. In "The Future Birth of the Affective Fact," Massumi's analysis also helps to clarify how a sense of threat proliferates without having an actual referent: "Question: How could the nonexistence of what has not happened be more real than what is now observably over and done with? Threat is from the future. It is what might come next. Its eventual location and ultimate extent are undefined. Its nature is open-ended. It is not just that it is not: it is not in a way that is never over. We can never be done with it. Even if a clear and present danger materializes in the present, it is still not over. There is always the nagging potential of the next after being even worse, and of a still worse next again after that. The uncertainty of potential next is never consumed in any given event. There is always a remainder of uncertainty, an unconsummated surplus danger. The present is shadowed by a remaindered surplus of indeterminate potential for a next event running forward back to the future, self-renewing. Self-renewing menace potential is the future reality of threat. It could not be more real. Its run of futurity contains so much more, potentially, than anything that has already actually happened. Threat is not real in spite of its nonexistence. It is superlatively real, because of it," 79-80.

testament to the necessity of industrial dispersion, and a prototypical facility in the normalization of intense securitization as an integral procedure in media preservation.[288]

Data Bunkers

"*...every government ought to contain in itself the means of its own preservation*."

-Alexander Hamilton, *The Federalist Papers*[289]

While the federal government encouraged industrial dispersion to preserve corporations, it was also concerned with its own preservation, and at the beginning of the Cold War began building its own continuity of operations facilities to house government officials, records, and communication technology in the event of a nuclear attack. The top-secret bunker at the Greenbrier Resort is emblematic of this new network of government facilities, which the Office of Defense Mobilization called the "federal relocation arc."[290] The Bunker at Greenbrier (which I will refer to as The Bunker) was a completely underground fallout shelter for all members of Congress, built with reinforced steel and concrete, stocked with preserved food and water, and equipped with air conditioning and purification systems to both cycle air out of the hermetically-sealed space and remove any radioactive particles from incoming air. The Bunker had diesel generators to backup its electrical supply, a communications center so statesmen could deliver messages to the American public, and a large open room that would be filled with

[288] A 1958 UNESCO publication held up IMASC as "excellent general example of large-scale, rational organization." See André Noblecourt III. *Protection of Cultural Property in the Event of Armed Conflict* (Paris: UNESCO, 1958) (French original, 1956).

[289] No. 59. Concerning the Power of Congress to Regulate the Election of Members. Friday, February 22, 1788. 264. Penn State Electronic Classics Series Publication. Penn State University Press, 2001. Italics in original.

[290] These federal relocation centers--the ones that are known--were located in Pennsylvania, Virginia, West Virginia and North Carolina. See Robert S. Conte, *The History of the Greenbrier: America's Resort.* 194.

desks and chairs and become a workspace for Congressional aides in the event of a nuclear attack.[291] The federal government was a major force in the emergence of preservation infrastructure, both through its construction of a number of facilities like the Greenbrier for sheltering the President and military leaders, as well as through its ideological commitment to and financial incentivization of the construction of similar facilities for state, county, and local governments. Eventually, the government offered sub-federal authorities matching funds for the construction of Emergency Operating Centers--securitized locations from which officials would continue to rule their constituencies, allocate scarce resources, and enforce the social order in the wake of a nuclear attack.[292]

The Bunker at Greenbrier is emblematic not only of the expansion of preservation infrastructure during the Cold War, but also of transformations in preservation infrastructure in the digital age. The federal government decommissioned the Bunker in 1996, four years after investigative journalist Ted Gup exposed it through an article in US News,[293] and complete control of the Bunker reverted to CSX, the railroad corporation that owned the Greenbrier and the Bunker (the government had always leased it from CSX). The Bunker was never activated and used during the Cold War, and it is only in the digital age that its reinforced rooms have found a purpose integral to the daily operations of American life. Beyond it now being a tourist attraction, the Bunker is also a secure data center owned by railroad giant CSX, where a number of Fortune 500

[291] Beyond Robert S. Conte's history of the Greenbrier, I draw much information on The Bunker from the guided tour as well as souvenirs I received as a part of the tour, including a brochure called Project Greek Island, which summarized a large amount of the information presented on the tour.
[292] See Monteyne, *Fallout*, 211-212
[293] Ted Gup, "The Ultimate Congressional Hideaway," *The Washington Post*, May 31, 1992.

companies store digital records on servers in underground spaces originally meant to protect the bodies of Congressmen from radioactive contamination and the social disorder that Americans imagined would reign on the ground after an atomic attack. As a 2008 article in *The Economist* made clear, "Data centers are essential to nearly every industry and have become as vital to the functions of society as power stations are."[294]

I visited The Greenbrier Resort in March 2012 and took a tour of The Bunker; while the facility is no longer secret, it remains securitized in various ways, as it is now a part of the preservation infrastructure that ensures corporate continuity in the digital age. No photographs of The Bunker are allowed. Before I could join the tour, I had to turn in my cell phone, for which I received a receipt, so that I could retrieve it when the tour was over. According to my guide, the servers in the data center receive much of their information from satellite transmissions, and cell phones must be surrendered before entering the facility so that they do not interfere with these transmissions. The doors to the server rooms are not marked with signage, only numbers that are meaningless to tourists, though I assume they are codes for various corporate clients. The Fortune 500 creates billions of digital images per day in the form of pdfs, and federal legislation requires corporations to preserve a larger amount of their records and internal correspondence than ever before. The Bunker still has its 27-ton "blast door," but where endless stacks of C-rations once filled a long tunnel, only empty boxes and styrofoam padding for servers and monitors now litter the ground. The two decontamination showers still sit unused at the entrance, once stocked with medicated soap to remove radioactive particles, as does the "pathological waste incinerator," an oven with the

[294] "Down on the server farm," *The Economist*, May 22, 2008. http://www.economist.com/node/11413148

heating power to transform garbage to vapor and ash, and to cremate a corpse, if necessary.[295]

The Bunker, originally meant to preserve vital state documents and members of Congress, now preserves digital media, and thus reflects a broader trend within the preservation complex. Many other decommissioned, underground, Cold War bunkers have been recently re-purposed by state agencies and corporations. During the Cold War, Mount Pony in Culpeper, Virginia, was a Federal Reserve facility that housed $3 billion dollars in U.S. currency in shrink-wrapped cubes on wooden pallets, intended to replenish money supplies in the event that a large-scale nuclear attack destroyed a significant amount of currency.[296] Mount Pony no longer stores currency, but is now the site of the Library of Congress National Audiovisual Conservation Center (NAVCC), which serves as the nerve center of the Library's digitization and digital distribution activities, as well as the site where it stores the bulk of its audiovisual collections. Journalistic accounts of visits to the facility emphasize the scale of its collections and preservation efforts, as well as the infrastructural components that make such activities possible, the "miles of cable, which will send digital information" to a "separate backup in Manassas, Virginia" and "pipe different varieties of electronic media back to D.C. for public access"; an "electronic hub" that required "27,000 cables"; and "something like the worlds largest TiVo": 100 DVRs recording and archiving television shows. [18] Originally, when Hewlett-Packard heir David Packard approached Librarian of Congress James Billington about creating the National Audiovisual Conservation Center, they

[295] Gup, "Ultimate."
[296] David Sokol, "Coming Out of the Dark: A former Federal Reserve bunker protects a different kind of currency," *Greensource*, March 2009, http://greensource.construction.com/features/solutions/0903/0903_FederalReserveBunker.asp.

settled on a facility that had previously served as "an outpost for intercepting atomic attack." However, the discovery of a rare bird nesting in the ruins of the facility led to a group of environmentally-aware third graders to successfully lobby Billington not to use the facility, in order to preserve the bird. Similar to this atomic "outpost," Mount Pony, according to Billington, "was deserted when we got it."[297]

The preservation of media through digitization requires infrastructure, and, specifically, it requires spaces of preservation like NAVCC that securitize and preserve analog collections, much of which will likely never be digitized due to the infrastructural burden that comprehensive digitization projects would create. The NAVCC must be selective about what it digitizes, and even so, it already generates 3 to 5 petabytes of data per year. In a recent article, Ken Weissman, Supervisor of the Film Preservation Laboratory at the Library of Congress, contemplated the possible consequences of moving entirely to digitization as the means of preserving film, rather than continuing to perform film-to-film transfers.[298] In a series of calculations he calls "really, really scary," Weissman estimates that a typical archival scan of a color film results in about 128 MB per frame; with digital restoration data included, along with initial scans, each film comprises 48 TB. To digitize the 30,000 titles in the nitrate film collection alone would generate 1.44 exabytes of data. In order to protect the digitized images in a "deep archive," much of this data would need to be offloaded in a SAN or Storage Area Network. While pulling data out of the deep archive "depends upon the speed of the digital infrastructure," Weissman wrote that in 2011 moving even a single terabyte into

[297] Richard von Busack, "Cinema Saver," *metroactive*, September 5, 2007, http://www.metroactive.com/metro/09.05.07/film-restoration-0736.html, accessed January 10, 2010.
[298] Ken Weissman, "Film Preservation at the Library of Congress Packard Campus for Audio Visual Conservation," *AMIA Tech Review* 2 (October 2010).

the deep archive for post-processing would take between 3 to 5 hours. He deeply questions the feasibility of then migrating that data every five years (which would be required in order to prevent data loss through format obsolescence), and is astounded by the unsustainability of the general wisdom he's heard "at several conferences and meetings in the last couple of years where people are saying, 'No, no, no, no you want to have at least TWO backup copies.' On separate servers, separate geographic locations, the whole bit, because a single backup that you make might not be able to be restored. You want the second backup, just in case."

The above example is symptomatic of the way the psychic anxieties of subjects within the preservation complex continually expand the material infrastructure of the preservation complex. The expansion of Preservation infrastructure constantly struggles to keep up with the demands of our preservation complex, of our intensifying sense that we need to preserve national, corporate, and individual memories in media objects that always seem to decay more rapidly than our attachments to them. Digital media's ability to condense massive amounts of information satisfies this need while, simultaneously, the ephemerality and fragility exacerbates our anxieties, as the large-scale digitization of historical, cultural, corporate, and state archives in the past two decades renders media archives more vulnerable than ever to instantaneous, invisible, silent forms of destruction like hacking, viruses, and cyberterrorism.[299]

As difficult as it may be to fathom, the NAVCC is actually a rather modest site within the broader media preservation infrastructure that stores and distributes digital

[299] The new film, *Goodbye World* (2014), dramatizes these fears in a scenario where a mass text-- "Goodbye world"-- is delivered to millions of cell phones, and a cyber attack then knocks out communication networks, electrical grids, and returns the world to a pre-digital era. As might be expected, violence and savagery ensue.

images, a network that includes the data centers of large corporations like Facebook and Google. In the course of his attempt to estimate how many photos have ever been taken, Jonathan Good reported in 2011 that Facebook already had 140 billion photos in its collection, which is "over 10,000 times larger than the Library of Congress."[300] Of course, the clandestine digital image collections of the National Security Agency, Federal Bureau of Investigation, and Central Intelligence Agency, likely dwarf even Facebook's massive holdings, though it is impossible to precisely assess these rather significant sites in the media preservation infrastructure.[301] What is certain is that the vast majority of digital images reside in data centers, which, even though many do not reside in the ruins of Cold War bunkers, still bear the legacy of the Cold War in that they are often located in remote, "non-target areas," originally demarcated as such by civil defense planners trying to predict where Soviet bombs would strike and to pre-emptively disperse key industries and distribute infrastructure so as to render the nation less vulnerable to incapacitation.

In his book *Survival City*, Tom Vanderbilt illuminates the ways in which the digital age inherits and makes use of preservation infrastructure from the Cold War. He characterizes data centers as "contemporary incarnation[s] of the Cold War architectural ethos"; they are the "physical housing of websites" and provide "security, redundancy, and anonymity."[302] In Galison's view, the internet that relies upon these data centers for

[300] Jonathan Good, "1000memories blog" http://blog.1000memories.com/94-number-of-photos-ever-taken-digital-and-analog-in-shoebox.
[301] Peter Galison suggested in 2004 that "about five times as many pages are being added to the classified universe than are being brought to the storehouses of human learning, including all the books and journals on any subject in any language collected in the largest repositories on the planet." See his article, "Removing Knowledge," *Critical Inquiry* 31.1 (Autumn 2004): 229-243.
[302] Vanderbilt, *Survival*, 203. Writing of other locations, he says that "If Cold War facilities such as Site R and Mount Weather were meant to protect the enduring survival of a network of command and control--

its existence "grew directly out of fifteen years of longing for a world still standing after thermonuclear war."[303] It is now commonplace to point out the roots of internet technology in the military-industrial complex, but Galison is saying more than that: the internet, its imaginary and material infrastructures, grow out of *longing*, out of a desire to preserve. The preservation infrastructure of the Cold War (which was meant to preserve not only media and vital records, but bodies, communications technology, currency, pharmaceuticals, gold, and national art treasures) is now being integrated into the media preservation infrastructure of the digital age, and thus provides key conditions of possibility for the digital preservation of the records of the state, corporations, and individuals.

The Atchison Storage Facility, originally a limestone quarry, then a storage facility for perishable food, military tools, and surplus supplies during and after World War II, is now privately owned, and part of it being converted into Vivos, an underground resort (pre-apocalyptic use) and disaster shelter (post-apocalyptic use) for thousands of people who pay for lots on which to park mobile homes, a share of the preserved food supplies, and other basic services such as health care and armed protection from threats on "the other side of the door." Vivos shelters (the Atchison location is only one of several across the world) will not only preserve people and vital records, but it will include the Cryovault: "a depository of DNA and reproductive cells." The website combines apocalyptic warning with family resort sales pitch to market its product, a product that could only be created out of the remnants of Cold War

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providing a redundant 'back-up' if another element was destroyed--the data centers are similarly quasi-visible fortresses protecting a network that itself has no physical expression," 198-199.

[303] Galison, "War," *Grey Room* 4 (Summer 2001): 28.

infrastructure: “In addition to the Vivos survival shelters that will accommodate thousands of people around the world, Vivos is now preserving the "seeds" of humanity in the world's only nuclear blast-proof, underground cryovault built to survive the next life-extinction event. The Vivos Cryovault expands your opportunity to be a part of the next genesis. Join us in the Vivos Cryovault gene pool!”[304]

IMASC has also undergone changes that reflect expansions and intensifications within the preservation complex since the early Cold War. A Boston-based secure records storage company bought out IMASC in the 1970s, renamed it Iron Mountain, Inc., and has expanded it to become the largest company of its kind in the world. In its Boyers, Pennsylvania facility, it houses paper and microfilm records for government agencies like the U.S. Patent Office and corporations like Nationwide Insurance, as well as digital records backups for numerous companies, such as Marriott Hotels, in unmanned “lights-out” server rooms that would restore a company’s data in the event that corporate servers were destroyed or failed, and thus ensure business continuity not only in the wake of a large-scale disaster, but in the case of a failure of digital hard drives, a now routine disaster within the preservation complex. On a tour of the Boyers facility, I rode in a golf cart past a number of unmarked vaults, some of which the Iron Mountain representative identified for me, and others which she did not. One she pointed out holds the master recordings of Stephen Spielberg’s interviews of Shoah survivors. Another, which I was allowed to enter, contained masters of all of HBO’s productions. Another contained a hodgepodge collection of giant video reels of Boston symphony performances, as well as microfilmed dissertations owned by ProQuest. Yet another

[304] On the history of the “Atchison Caves” see Thomas J. Slattery, “The Atchison Storage Facility,” *Army Sustainment Magazine* (May/June 1999). For more on Vivos shelters, visit terravivos.com.

refrigerated vault held towering file cabinets of Nationwide Insurance customers' policies on microfiche.

IMASC and the Bunker, like other spaces of preservation, with their reinforced construction, and securitization evoke the existence of a formidable set of threats. This is the magic of preservation infrastructure: during the Cold War, its reinforced, bombproof spaces seemed to certify their own necessity; during the digital age, that preservation infrastructure now *is* necessary to the corporate, political, and social continuity of American life. The fireproof steel-and-concrete vaults of Iron Mountain and the Bunker were never actually necessary during the Cold War that produced them - they prepared America against the threat of Soviet bombs that never arrived. Now, in the digital age, nearly every transaction - whether political, financial, or social - relies upon preservation infrastructure, upon the data centers and related elements embedded in the material and imaginary remnants and ruins of the Cold War. The so-called 'cloud' does not exist immaterially in the air above our heads but resides very materially in these remote, reinforced, underground, transcendent spaces of preservation within a vast media preservation infrastructure that grew out of hauntings of destruction, fears of radioactive contamination, and has now been re-purposed to reflect our current fears, hopes, and persistent, impossible desires for permanent media invulnerable to the forces of (cyber)terrorism, natural disasters, and the indomitable force of decay that inheres in all media.[305]

[305] For more on the materiality of the cloud and its physical location in a proliferating network of data centers, see Paul T. Jaeger, Jimmy Lin, Justin M. Grimes, and Shannon N. Simmons. "Where is the cloud? Geography, economics, environment, and jurisdiction in cloud computing," *First Monday* 14.5 (May 4 2009), http://journals.uic.edu/ojs/index.php/fm/article/view/2456/2171. Also cited in Parks, "Stuff." For an explanation of the continuities between intelligence gathering practices of the FBI in the Cold War and War

The preservation infrastructure will continue to expand into the hollow underground caverns and abandoned bunkers of previous modes of production and national security regimes as long as digital information is generated as prolifically and exponentially as is currently the case. A recent article that commends the NAVCC on its "green" architectural principles forecasts a haunting direction for this seemingly inevitable expansion: "With the recent announcement that the detention center at Guantanamo Bay and various related 'black areas' will close imminently, perhaps these mistaken monuments can find similarly hopeful uses as the [NAVCC]'s former bunker - and be adapted with equal skill."[306] Such a conversion would not be entirely unprecedented, at least in the realm of the American cultural imaginary in the Cold War and War on Terror, two periods increasingly blending and short-circuiting their historical separation through their material embeddedness in media preservation infrastructure. For instance, in Eugene Burdick and Harvey Wheeler's 1962 novel, *Fail-Safe*, a character predicts that the most likely survivors of a nuclear apocalypse would be insurance file clerks in fireproof vaults and "the most hardened of convicts, those in solitary confinement."[307]

In the conversion of Guantánamo into a media preservation site, the mediating function of the penal architecture would no longer contain the threat of terrorists but instead keep that threat on the outside of the fortified space. This flexibility of sites within the media preservation infrastructure - their ability to mediate threats from inside

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on Terror, see Athan Theoharis, *Abuse of Power: How Cold War Surveillance and Secrecy Policy Shaped the Response to 9/11.* Philadelphia: Temple University Press, 2011.

[306] Sokol, "Coming," http://greensource.construction.com/features/solutions/0903/0903_FederalReserveBunker.asp.

[307] Eugene Burdick and Harvey Wheeler, *Fail-Safe* (Hopewell: ECCO, 1999, reprint edition; originally published 1962), 122.

and/or outside their securitized spaces - facilitates their continual repurposing according to new media preservation requirements, against new threats, within a shifting set of geopolitical tensions. If the cells of Guantánamo Bay ever do become the vaults of a data center, we will be witnessing not a radically unprecedented development, but a continuation and intensification of an ongoing process that converts residual spaces - left behind by previous modes of production and abandoned by previous national security regimes - originally meant to preserve bodies into spaces that preserve data. The stone walls, underground roadways, blast doors, and observation towers of the media preservation infrastructure are indifferent to what they protect, and what threats they protect those contents from. Digital media materially rely for their existence and preservation upon not only hard drives and cables where ones and zeroes flicker and pulse, but also the bombproof architectures that house this hardware, the ruined monuments of Cold War bunkers that shelter the flickering image-worlds of the digital age.

Chapter 5: Digitizing Racial Violence:

Lynching and the Bettmann/CORBIS Archive

Introduction

Bill Gates built the Corbis Film Preservation Facility (CFPF) to permanently preserve and digitize the images in the Bettmann Archive, which he acquired in 1995. At first, his intention was to digitize the entire collection in order to preserve them, but after several months of digitizing--which required selecting, scanning, and editing images--only 200,000 thousand images had been digitized, and meanwhile the other 11 million images in the Bettmann were deteriorating further. At that rate, it would have taken 25 years to digitize the entire collection, by which point many negatives would have decayed beyond recognition. Corbis then laid off most of its digitization team, and began planning to build the CFPF, which would preserve the Bettmann Archive in a securitized, refrigerated vault at Iron Mountain in Boyers, PA (IMB).[308] Completed in 2002, the CFPF's vault stabilizes decaying images and thus allows for the continued digitization of the Bettmann Archive, and will, according to Corbis consultant Henry Wilhelm, preserve the Bettmann for 10,000 to 15,000 years--permanently.[309] As a securitized, underground,

[308] Sarah Boxer, "A Century's Photo History Destined for Life in a Mine." *New York Times*. April 15, 2001.

[309] Henry Wilhelm, et al., "High-Security, Sub-Zero cold Storage For the PERMANENT Preservation of the Corbis-Bettmann Archive Photography Collection," in *IS&T's 2004 Archiving Conference*, 122-127. Springfield: The Society for Imaging Science & Technology, 2004.

the CFPF is in many ways the culmination of the fantasy of permanent preservation within the preservation complex. It combines the logic of the time capsule--permanent media preservation in an impervious housing--with the securitized access to media engineered during the Cold War in facilities like IMASC. The CFPF's digitization of analog images intensifies the preservation complex even further, by seemingly freeing up the securitized images to circulate widely and easily anywhere in the world, even as their analog originals remain in one of the most highly securitized, and least accessible media preservation facilities in the world.

How does the securitization, selection, editing, classifying, and databasing involved in digitization affect the meanings of images in the Bettmann? In this chapter, I analyze both digital and analog images from the Bettmann Archive to illuminate the way in which digitization and databasing generates new critical reading possibilities while simultaneously obscuring historical images that are not digitized. Digitization foregrounds certain images within the broader archive, and the securitization of the non-digitized images renders them nearly inaccessible and thus less likely to circulate. I visited the CFPF and analyzed analog images that have not been digitized, in order to restore a fuller view to the Bettmann's overall representation of a specific historical topic--lynching. Based on the range of images of racial violence I encountered, I concluded that visual culture scholars tend to classify images as lynching images according to a rather strict definition. I argue that a more expansive definition of lynching, lynching images, and racial violence helps to illuminate the pervasiveness of racial violence perpetrated in the name of white supremacy in the Jim Crow era. My argument unfolds through an analysis of images that, unlike those typically understood to

be lynching images in visual culture scholarship, do not center around a brutalized black corpse. I historically contextualize images of racial violence that destabilize popular notions of what constitutes a lynching image to argue that even mainstream lynching images served as threats of white intraracial violence toward whites who might challenge white supremacy and patriarchy.

Visual culture scholars define lynching narrowly as spectacular mass mob violence whose effects of threat and empowerment were divided along racial lines. Visual culture scholars tend to follow this strict definition, which then guides the delimiting of the archive of images they engage as lynching images--those depicting or referring to interracial, white-on-black, extralegal violence.[310] Leigh Raiford writes that the "reality and threat of lynching--lynching as both concrete act and shared narrative--worked to hold African Americans in their (subordinate) place and to help imagine and construct a unified white identity."[311] As a result, they limit the kinds of images that are considered lynching images, and ignore the fact of intraracial white violence, which suggests that lynching violence posed a threat not only to blacks but to whites as well, and that the reception of lynching images was far more than simply a moment of "constructing a unified white identity." The limited definition of lynching creates a lynching archive comprised of images that center around a black body, often a corpse, in various states of mutilation and disfigurement, from castrated genitals and lacerated limbs to charred torsos smoldering on pyres, surrounded by a white crowd, or white faces

[310] For a representative work that engages a wide variety of media and artworks, from photography to paintings, sculptures, and installations, but nonetheless reinforced the strict definition that delimits the lynching image archive, see Dora Apel, *Imagery of Lynching*.
[311] Leigh Raiford, *Imprisoned in a Luminous Glare: Photography and the African American Freedom Struggle* (Chapel Hill: University of North Carolina Press, 2011), 36.

staring into the camera. This limited archive excises images of lynchings that were nonlethal, such as floggings and beatings perpetrated by white supremacist groups like the KKK against both blacks and whites during the Jim Crow era. These ignored images remind us that whites were also threatened by white supremacist violence.

I illuminate the range of potential historical significations of lynching images for whites who were subject to white supremacist violence and terror, and who felt threatened by white supremacist organizations like the KKK. I contend that visual culture scholars often misread lynching images by asserting that these images function as threats strictly to blacks and not to whites, while failing to sufficiently theorize threat as an affective fact and embodied experience. Threat does not function as neatly as visual culture analyses often lead us to believe, even if those circulating or displaying lynching images intended their threats to mind the color line. Much like the human beings, white and black, who were subjected to the white supremacist violence that repetitively attempted to re-establish the psychic and social divide of Jim Crow, threat tends to cross socially constructed lines as it reproduces itself. Lynching images were one kind of threat that circulated in environment brimming with threats and prohibitions--any claims about how these images functioned *as threat* must take that broader environment, including white supremacist violence and threats directed at whites, into account in order to more accurately assess the historical significations of lynching images and to understand the complexities of the history of racial violence, our understanding of which frames the circulation of lynching images and the occurrence of lynchings today.

Visual culture scholars' limited definition of lynching and lynching images allows them to ignore this broader archive of intraracial white violence, which leads them to

misread the way lynching images of black bodies functioned as they circulated. Visual culture scholars consistently assert that lynching images with black corpses at the center--what I will call mainstream lynching images for the remainder of this chapter--functioned as threats to blacks who might challenge white supremacy, and invitations to whites to identify with the mastery and racial domination of African Americans, thus bonding the imagined community of whiteness together through a shared experience of dehumanizing and abjecting the "dead black other." These scholars point out instances where lynching images were sold, displayed, and traded, with the intention of reproducing and disseminating this threat to blacks and affirmation to whites. But establishing the intended purpose of the dissemination of lynching images does not simultaneously establish how they were received, and certainly does not establish that a stark bifurcation obtained in the felt sense of threat experienced by witnesses of lynching and lynching images. In other words, visual cultures scholars too rigidly construct the way in which lynchings and lynching images proliferated a sense of threat, as they claim that lynchings functioned rather neatly along racial lines--as threats to blacks strictly, on the one side, and conversely, as events and images through which white racial selves and collectives cohered.

In this chapter, I use an expanded definition of lynching that includes nonlethal forms of punishment, like flogging, and places particular emphasis on instances and images of intraracial white violence, as opposed to mainstream lynching images. Historians have long debated the origins of the term "lynching," and the definition of lynching has been highly contentious at various moments, from the late 19th century when the research and writings of Ida B. Wells deeply influenced the narrowing of the

definition of lynching--the one now embraced by visual culture scholars--to the late 20th century, when the dragging and decapitation of James Byrd in Jasper, Texas provoked widespread contention around whether or not Byrd's murder constituted a hate crime, or a lynching, or both.[312] Wells' narrow and specific definition of lynching was important for mobilizing support for an antilynching movement aimed at saving black lives, and freeing black men and women from the terrorism and threat of lynching. Wells' work clarified the way in which vigilante violence disproportionately victimized often innocent black men, an important point at a time when other women advocated an increase in the lynching of black men, or, in the cases of many prominent white progressives and suffragists, only hesitantly condemned lynching, or condemned it only because the barbaric and gruesome nature of lynching degraded the whites who comprised the mob, thus foreclosing the possibility of the undeveloped and immature Negro ever improving himself by following the example of whites. My definition of lynching in this chapter allows me to engage an understudied aspect of racial violence carried out in order to preserve white supremacy.

[312] The recent death of another African American male, Albert Wright, in November 2013, also in Jasper, Texas, is also sparking conversations about the legacy of racial violence in the United States and law enforcement agencies' complicity in such atrocities. The coroner ruled that Wright's death was accidental, and that his cut throat, missing ear, teeth, and tongue, were the result of animal activity after Wright expired. Investigators hired by Wright's family though that the condition of the body suggested Wright's death was a homicide, and that he was tortured. See Mia De Graaf. "FBI to investigate mysterious death of physiotherapist who vanished and turned up three weeks later in place that police had already searched." *Mail Online*. February 4 2014. http://www.dailymail.co.uk/news/article-2551458/FBI-investigate-mysterious-death-physiotherapist-vanished-turned-three-weeks-later-place-police-searched.html. Also see Deboah Feyerick. "Family wants answers in man's mysterious death in Texas." *CNN*. http://www.cnn.com/2014/01/14/us/texas-mysterious-death/. January 17, 2014. The Facebook page "Justice for Albert Wright" is also a source of constant updates in both media coverage and public perceptions of the case. https://www.facebook.com/events/1437488956486838/?source=1.

The Legal Lynching of Rainey Bethea

The digital archive of Bettmann/CORBIS contains four images of the lynching of Rainey Bethea in 1936, which offer an example of how digitization opens up new critical reading possibilities. Visual culture studies do not examine images of Bethea's lynching, which is commonly discussed in popular culture as the last legal public execution in the United States.[313] In the strict definition of lynching offered that guides visual culture studies of lynching photography, Bethea's hanging doesn't qualify because he was convicted of rape by a jury, and the execution was carried out by the state. In "The Evidence of Lynching Photographs," Smith offers a mainstream definition of lynching that informs much of the visual culture work on lynching images: "Lynching is defined as murder committed by a mob of three or more." In her book *Imprisoned in a Luminous Glare: Photography and the African American Freedom Struggle*, Leigh Raiford follows Smith's lead by focusing on white-on-black extralegal violence, remarking that "the history of lynching in the United States is a long and brutal one," only to circumscribe her definition tightly around the years between 1882 to 1930, which she calls the "apex" of lynching in America, and highlight the fact that 88 percent of the three thousand lynching victims were African Americans.[314] In contrast, the digital archive firmly establishes Bethea's hanging as a lynching by associating it closely with mainstream lynching images. The digital archive offers an image location tool, a hyperlink that reads "More Images Like This" or "Similar Images." Clicking on the "Similar Images"

[313] See Renee Montagne, "The Last Public Execution in America," *NPR Morning Edition*, May 1 2001. http://www.npr.org/programs/morning/features/2001/apr/010430.execution.html; Associated Press. "Nation's last public execution, 75 years ago, still haunts town," *Fox News*, August 12, 2011. http://www.foxnews.com/us/2011/08/12/after-75-years-last-public-hanging-haunts-city/.
[314] Raiford. *Imprisoned*, 36.

hyperlink for hanging generates an array of lynching images ranked by relevance. The first two are lynching images that fit Smith's definition, one of a lynching "of an African American man named MacMannus" in Minneapolis, Minnesota in 1882, the other a photograph of the lynched corpses of three African Americans in Duluth, Minnesota in 1920. Within the first 20 results are also lynching images of Leo Frank, as well as the much-analyzed photograph of Jesse Washington's burnt corpse hanging from a tree in Waco, Texas in 1916.

Contrary to visual culture scholars, historians have long identified lynchings like Bethea's as falling under the category of "legal lynchings." By 1930, national anti-lynching efforts by the NAACP and other organizations led to a decline in the number of lynchings recorded each year, but this was partially due to the way that lynchings were defined as illegal or extralegal events, with lynching statistics not taking into account the increased rate of state executions in this period. In *Racial Violence in Kentucky, 1865-1940: Lynchings, Mob Rule, and "Legal Lynchings*," George C. Wright points out that "Whites manipulated the legal system, ensuring that the vast majority of blacks accused of rape or murder received the death penalty, the same punishment meted out by the lynch mob."[315] Bethea, suspected of the murder and rape of a white woman, was only tried for rape by prosecutors precisely because it was punishable by hanging (which local officials could decide to make private or public), while murder was a capital offense that required the use of the electric chair. Only black men were executed for rape.[316] The jury that decided Bethea's case deliberated for five minutes before returning with a guilty

[315] George C. Wright, *Racial Violence in Kentucky, 1865-1940: Lynchings, Mob Rule, and "Legal Lynchings*" (Baton Rouge and London: Louisiana State University Press, 1990), 12.
[316] Amy Louise Wood. *Lynching and Spectacle: Witnessing Racial Violence in America, 1890-1940* (University of North Carolina Press, 2009), 276n29.

verdict. Wright cites Arthur Roper who describes how "peace officers and leading citizens often [made] promises which virtually preclude[d] impartial court procedure" in an effort to "prevent a lynching, or to prevent further mob outbreaks after a lynching." A death sentence issued and carried out within the legal system under such circumstance is thus a "legal lynching."[317]

At the same time that digitization opens up new critical reading possibilities, it also forecloses others by selecting a small fraction of the analog images for inclusion in the digital archive. As of now, only 250,000 of the 11 million images in the Bettmann Archive have been digitized. The analog archive thus undergoes redaction through digitization, which produces a different representation of historical events.[318] Corbis' selection of images to preserve through digitization "based not only on commercial potential but also their historic significance."[319] This valuation has a recursive effect, as digitized images are then more accessible, are used more often, and thus come to

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[317] Quoted in Wright, *Racial*, 12. Thomas J. Keil and Gennaro F. Vito question what they call Wright's "substitution hypothesis"--the idea that legal executions replaced lynchings that would have occurred illegally. On the contrary, Keil and Gennaro argue that state executions of blacks and actually spurred an increase in extralegal lynchings. "Executions of either blacks or whites served to precipitate forms of collective action that led to lynching. Perhaps, Kentuckians took their cues from the legal authorities, sponsoring what Bowers and Pierce (1980) call 'villain identification' (p. 483). If the state can execute persons in the name of justice, why shouldn't they eliminate their enemies? In part, legal executions stimulated the actions of lynch mobs because of the manner in which executions were conducted. Many, if not most, of the Kentucky executions during this period [1909-1926] were conducted in public," 64. I agree with Keil and Gennaro that legal lynchings did not effectively substitute for extralegal lynchings, as Wright implies. Instead, as extralegal lynchings and legal lynchings has more of supplemental relationship, where state executions after 1934, such as Bethea's, continued "the repression that lynching clearly represented" 65. See Thomas J. Keil and Gennaro F. Vito, "Lynching and the Death Penalty in Kentucky, 1866-1934: Substitution or Supplement?" *Journal of Ethnicity in Criminal Justice* 7 (2009): 53-68.

[318] It is important to note that Corbis clients can request to use images from the analog archive, even if the clients do not visit the archive themselves. Corbis archivists search through the analog archive to locate images to meet the clients' needs. However, the analog images remain far less accessible than those in the digital archive, even if the Bettmann Archive was always private, as Corbis maintains. I am not arguing that the Bettmann should be more accessible; rather I am interested in accurately assessing the effects of digitization and preservation on the meaning of images and the production and reproduction of history.

[319] "Corbis' Film Preservation Facility at Iron Mountain & the Bettmann Archive: Frequently Asked Questions, Updated April 2013." After arranging my visit, my host at Corbis sent this document to me via email.

authoritatively represent the figures and events they depict. Journalist Sarah Boxer aptly describes the recursive effects of digitizing and making broadly available only 2 percent of the total images in the Bettmann: "Corbis's most popular photographs — say, the picture of John F. Kennedy Jr. saluting his father's coffin — will become ever more popular. Even now, Mr. Johnston [chief historian and archivist at Corbis] said, 'the same stuff is seen over and over again.' Of all the pictures that Corbis owns, he said, 'only a small amount have ever been used for stories — a tiny percentage.' And the more pictures are requested, the more they are requested. Visual history is doomed to repeat itself."[320] Thus the preservation of the Bettmann Archive is a productive process that recursively reshapes both representations of the archive itself and the overall appearance of American cultural memory, reinvesting specific images with value and iconicity while rendering analog images less likely to circulate. Thus digitization as a preservation practice contributes to the production of the very historical and commercial value, supposedly located in the images, that make images candidates for preservation in the first place.

Digitization, guided by this corporate imperative, also privileges certain images in the circulation of visual evidence about specific historical topics, such as lynching, and specific historical events, such as the lynching of Rainey Bethea. In contrast to the digital archive available widely on the internet, in order to access the analog archive of lynching images that have not been selected for digitization, one must not only visit a remote location, but successfully traverse the extensive security measures of the preservation infrastructure. Once inside the analog archive, I found an image in the "HANGING,

[320] Sarah Boxer, "A Century's Photo History Destined for Life in a Mine," *New York Times*. April 15, 2001.

LYNCHING" folder that offers quite a different view of the Bethea lynching than the four in the digital archive. Before analyzing the analog image, however, I want to describe the process entailed in accessing this highly securitized image, in order to convey the contradictions of digitization, in that it makes some images widely available, while making others difficult to access. The lengthy process of gaining access to the CFPF highlights the way in which the preservation complex has expanded over the course of the 20th century, the way Cold War infrastructures and security measures now routinely inform both analog and digital image preservation, and the way these extensive securitization and preservation measures contribute to the production of a streamlined and limited digital version of the Bettmann Archive. A few years ago, I attempted to contact several different representatives at Corbis, and left message for each one. Several months ago, I was contacted by Ann Hartman, the Senior Manager at the CFPF. I described my research project and, as requested, submitted a letter from my dissertation adviser vouching for my ability to carry out archival research. In less than a week, I scheduled my visit, and Hartman sent me extensive instructions about how to plan for my visit.

Corbis added my name to Iron Mountain's list of approved guests for the week of my visit. As instructed by my host at Corbis, I arrived at Iron Mountain, pulled off of the main road and parked my car on the left, entered the front office, showed two forms of identification and traded my driver's license for an ID badge, which I was to turn in at the end of the day.[321] Behind the glass of the security office sat an attendant, and behind her

[321] The document I received from Corbis, "Directions and Lodging--Corbis Film Preservation Facility (FPF) located at Iron Mountain" contained helpful driving directions and other information, as well as very clear, firm language about how to conduct myself according to the security protocols of Iron Mountain. It

was a row of very large, semi-automatic rifles - Iron Mountain has a security rating of 4 (the White House and the Pentagon are rated at 5).[322] Once I had acquired my badge, I returned to my car to wait for my host to drive out of the facility. I then followed her through security, where an armed guard searched her car, then mine, and directed me to proceed. The entrance into the belly of the mountain is only wide enough for one vehicle, so a traffic light system prevents cars from exiting and entering at the same time. After several minutes of winding slowly through the caverns of the former limestone mine, passing vaults containing Warner Brothers classics, the backup archive of everything HBO has produced, all of Stephen Spielberg's interviews with Holocaust survivors, the records of the U.S. Patent Office, and plenty of unmarked vaults, we reached the parking spaces outside the CFPF. No pictures are allowed until you are inside the CFPF office, thus I do not have photographs of the outside or the inside of the Iron Mountain facility, only the CFPF office, with its stone walls, temperature-controlled caverns, its heavily securitized underground space where thousands of images are digitized. When I had to go to the restroom, which was down the road from the Corbis office, I had to be accompanied by a Corbis employee.

Once inside the CFPF, past the "vehicle check point" and armed security guard, I was able to access analog images that Corbis has not digitized and made broadly available. One of these images, "Waiting for Dawn and Death," depicts only the crowd at the Bethea lynching, and highlights the way in which digitization redacts the photography

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included phrases like the following: "Enter the Iron Moutnain site and stop at the 'Welcome to Iron Mountain" sign. Proceed cautiously toward the LEFT and park on LEFT in parking spaces along the left side of the driveway. Exit your vehicle and proceed to the gray block Security building on the left." As well as "After completing registration, the Iron Mountain guard will contact Corbis that you have arrived. They will instruct you to return to your vehicle. Please remain in your vehicle and a Corbis employee will drive to your car and ask you to follow them. Follow the Corbis vehicle and proceed to the vehicle check point."

[322] On a tour of Iron Mountain, my guide informed me about the security rating of the facility.

archives it preserves, thereby limiting the historical information the archive offers about a specific event. “Waiting” resides in the “24DPF-Hanging, Lynching PHOTOS ONLY”

Figure 5.1 “Waiting for Dawn and Death.” Bettmann/CORBIS.

file in the analog archive. Visual culture scholars do not usually consider photographs that do not feature corpses or their burnt remains to be lynching photographs,[323] nut the analog archive places this photograph of leisure, commerce, and enjoyment within a stack of images of racial violence, torture, mutilation, castration, and cremation. This image captures, in its closer framing of the crowd, suggests the multiple kinds of responses to the lynching event. Mass media outlets reported that the Bethea lynching had been a carnival atmosphere, with vendors selling soda and hot dogs and popcorn, with "hanging parties" welcoming out-of-town guests that carried on into the night.[324] Other witnesses, even to this day, claim that it was pretty subdued overall and that journalists depicted a jovial scene to enhance the drama of their narratives. This photograph contains a range of responses, the smiles on the young faces of those buying soda, the older men standing in the back looking on, a few eyes gazing at the camera, others closed, seemingly asleep. The caption's narrative plays out in tension with these diverse responses, in its oversimplifying claim that "the crowd of 20,000 that gathered to cheer the public hanging of Rainey Bethea, Negro slayer of a white woman, eagerly awaited the dawn and hour of execution."

"Waiting" is no less a lynching image than "Hanging of Rainey Bethea," a digitized image that shows the black-hooded body of Bethea hanging from the the long rope and noose, already having dropped through the trap door of the tall platform. Lynchings were not only ritualistic killings that enacted a multi-stage narrative of torture,

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[323] For a representative archive of lynching images that typify those analyzed in visual culture scholarship, see the very influential book (based on an exhibition), *Without Sanctuary: Lynching Photography in America*.

[324] Lawrence Meir Friedman. *American Law in the 20th Century* (New Haven: Yale University Press, 2002). Also see Wright, *Racial*, 256-258.

death, and mutilation, but were community events that brought multiple generations, both genders, spectators and vendors together for multiple purposes, as this image, if not its caption, reflects. At the center of the image is not a black body, but a bottle of dark soda being passed from one of the soda vendors to the smiling recipient, foregrounding the commercial transactions that indeed attended the event. Grace Elizabeth Hale elaborates on the function of lynching spectacles in reinforcing racial hierarchies as a consumer culture developed in the late 19th and early 20th century in the South, and threatened to democratize publics through the politics of consumption. The new consumer culture promised that anyone of any race can buy what they want if they have the money, no matter their race. White supremacists in the Jim Crow South perceived this promise as a threat to the racial and economic domination that previously characterized social relations there. The element that relates this "Waiting" to mainstream lynching images is the gaze of the boy in overalls. His face is difficult to read, as is that of an older man in the background on the left side of the image. Are these the stares of warning that defiantly, silently proclaim their pride in punishing one who has threatened their race, their women, and their way of life? Might these also be, or instead, stares of wondering why someone is shining a flashlight on them, or why someone is taking a photograph of so mundane a scene, not stares at all but glances, of faint curiosity, of mild boredom. In any case, these stares are counterbalanced by the rest of the gazes of subjects in the photograph, the majority of which do not look at the camera, and none of which can tell us precisely where to look off-frame for the lynching. Based on the stance of the men in the background, and the direction faced by the seated people at the center, it would seem to be happening to the right. But the faces visible in the deep background are also facing the

camera, which suggest the lynching might be happening right behind us. But again, the lynching is not just the body dropping through the trap door, it is what we see in "Waiting"--it is happening all around us.

The analog archive's classification of "Waiting" as a lynching image challenges visual culture scholars' definitions of a lynching image not only because it does not contain a brutalized black body, but also because it depicts several members of the white crowd or mob at close range. In *A Spectacular Secret: Lynching in American Life and Literature*, Jacqueline Goldsby analyzes an image of the crowd gathering for the lynching of Henry Smith in 1893, called "Avengers of Little Myrtle Vance, and the Villain brought to Justice," taken by photographer J.L Mertins from the rooftop of a building overlooking the town square. In Goldsby's view, the photograph "captures modernity in action as a public sphere comes into visible being at the start of the twentieth century," and is thus depicts the mob "not so much as an entity *per se*" but "as a process of movement, flux, and action."[325] While both focus on the crowd at the lynching, all of the faces "Avengers" are far-away, impossible to read within the shadows of the crowd, which makes "Avengers" a quite different image from "Waiting." Yet the extant interest of scholars' in images like "Avengers" where there is no brutalized black body, or the body is so near the vanishing point that the marks of violence on it cannot be perceived (as is the case in "Little Myrtle Vance Avenged"),[326] suggests that the inclusion of "Waiting" in an expanded archive of lynching would be a logical way to extend that archive's breadth. "Waiting" contains the close view of faces of the mob that appears in many lynching photos but lacks the black body that accompanies them; "Waiting" shows a view of the

[325] Goldsby, *Spectacular*, 240-241.
[326] Goldsby, *Spectacular*, 14.

crowd as well, not as "a process of movement" but as an entity. "Waiting" thus points to expanded possibilities for reading the varied motives and experiences of mob members, their performances in photographic portraits, and how these performances might be read as something other than, or more than, simply issuing threats to African Americans.

The fact that "Hanging" and "Waiting" were taken at a state-performed execution, or legal lynching, also challenges visual culture scholars' narrow definition of lynching and lynching images as centrally concerning the murder of African Americans at the hands of white vigilante mobs. Historically, lynching has also referred to nonlethal, intraracial violence, such as flogging, and tar and feathering, and other forms of mutilation, where whites have perpetrated violence against one another to preserve white supremacy, the purity of white womanhood, and white patriarchy. In *Popular Justice*, Manfred Berg notes that the term "lynching" probably goes back to Virginia in the late 18th century, and mostly referred to nonlethal forms of corporal punishment.[327] He describes floggings and hangings of white abolitionists and other whites accused of inciting slave insurrections in the antebellum South.[328] Lerone Bennett discusses the long history of white intraracial violence in his analysis of the establishment of racial hierarchies in the colonial period. Such practices form the prehistory of white intraracial violence in the Jim Crow era. Goldsby recognizes the diversity of violent practices--lethal and nonlethal, from hanging to flogging and tar and feathering--that the term "lynching" has variously referred to, only mark a distinction between forms of lynching prior to the the Civil War and the "modern" form of lynching that emerged during Reconstruction. In Goldsby's view, "the near-exclusive targeting of African American people for

[327] Manfred Berg, *Popular Justice: A History of Lynching in America* (Lanham: Ivan R. Dee, 2011), 4.
[328] Berg, *Popular*, 36.

punishment for white vigilante mobs" constituted the "racialization of lynching" after the Civil War.[329] She acknowledges that Klan violence between 1867 and 1871 functioned not only to intimidate African Americans but also to "oust northern Republicans from leadership positions across the [South],"[330] but does not analyze take intraracial white violence into account when reading the effects of lynching images.

Other lynching images in the Bettmann Archive suggest that an expanded conception of lynching images might productively destabilize current scholarly understandings of white mobs, lynchings, racial violence, and threat. In "Frustrated Lynch Mob," a group of about 10 or 15 apparently white men fill the frame; again, there is tension between the image and the narrative of its caption, as not all of the men in the mob appear to be "frustrated." The mob attempted to break into the courthouse and take E.K. Harris, and African American man accused of assaulting a 14 year old white girl. Tennessee Governor Hill McAllister ordered the National Guard to suppress the mob and the soldiers did so successfully, killing four men and wounding six by gunshot or bayonet. On the left side, three faces nearly cheek to cheek suggest that the men on the outside are pushing their way in to try and be in the picture. At the center is the G.L. Gibson, father of the 14-year old victim; he holds a gun in his right hand, pointed in the air. The few boys on the right do not look directly into the camera but up and to the right, as does an older mustachioed man whose face looks shocked by what he sees, or perhaps by the hand reaching around from behind and touching his ribs, that hand belonging to a man who is looking at his ear and seems to be saying something, perhaps whispering into

[329] Goldsby, *Spectacular*, 17.
[330] Goldsby, *Spectacular*, 16.

it. This space between the ear and the mouth of these two men is actually the focal center of the photograph, as all of the other faces, including that of Gibson, are at least slightly

Figure 5.2 Frustrated Lynch Mob. Image Credit: Bettmann/CORBIS

out of focus. I consider this a lynching image, though no one was lynched in Shelbyville that night, because it recalls the fact that lynchings were not only events of ritualized violence and threat, but places where intraracial struggles occurred within white communities over the power to dispense justice, over whether that power should reside in

the hands of government officials or in the hands of citizens, or in some combination of the two.

The fact that lynching serves as significant site of contention and fracture within white communities--both the local ones and the broader national one--should be considered more fully by visual culture scholars as we produce and reproduce critical interpretive frameworks for analyzing images of racial violence, especially because lynch mobs threatened whites with violence as they cut a path to their victim, or, as in the case of Shelbyville, expressed their frustration at their failure to do so. The National Guard wounded six people in the mob by bayonet or gunshot as they attempted to take Harris. After the judge presiding over the case declared a mistrial, The National Guard soldiers dressed E.K. Harris in one of their uniforms, "his face covered with a gas-mask," and then he was "rushed out of the building and into an automobile driven by General Ballew" to Nashville.[331] Instead of riding in the back of a car to the scaffold or some other site of mutilation and death, a General drove him to a safe location, which underscores how this would-be lynching event pinned black men between federal authority and local assertions of rights to vigilante justice. After the troops left the scene, the mob set fire to the Shelbyville Courthouse and to "four trucks belonging to the militia," which triggered a group of prominent local businessmen to hold "a mass-meeting" and launch "a movement to establish a vigilante committee to preserve law and order and prevent further outbreaks of racial hatred after the troops left."

In the case of Shelbyville, then, the preservation of white womanhood, white supremacy, and white male dominance, butts violently up against the "preservation of

[331] "Nation Cheers as Tennessee Prevents Lynching," *Literary Digest*, December 29, 1934, 6.

law and order," as a vigilante group forms to fight against vigilantes. Supposedly the mob "came from the rural sections of the country and from near-by counties," and the townspeople of Shelbyville "were helpless against the invasion."[332] This account, like many accounts of Klan floggings in the South, presents the violence of lynch mobs as the act of an outside presence, a foreign invasion of lawless whites threatening the stability of

[332] "Nation," 6. Corbis' "Similar Images" feature also places "Frustrated Lynch Mob" squarely within the lynching image archive, as the first page of image results--and therefore those considered the most relevant--contain some of the most widely circulated lynching images, which are also those most often analyzed by visual culture scholars. The first page includes the lynching of Leo Frank (Marietta, GA) in 1915, of Jesse Washington in 1916, of Lloyd Warner in 1933 (St. Joseph, MO), Thomas Shipp and Abram Smith in 1930 (Marion, Indiana), the Duluth lynching of 3. The significance of frustrated mobs in the history of lynching remains an understudied and under-theorized archive of evidence within the broader history of racial violence. Frustrated mobs often foreground the event of lynching as a site of white intraracial, intracommunal violence and fracture, see the attempted lynchings in Putnam County, Florida in the 1920s. Billy Townsend recounts the history of lynchings and attempted lynchings in the county in his *Tampa Bay Times* article "Ku Klux Klan Met Its Match in Putnam County in the 1920s" (Oct 19, 2012), which I quote extensively below. In 1923, Florida had the highest number of lynchings of any state. It was also home to the town of Palatka, where Peter Hagan was elected Sherrif in 1916, which Townsend describes as an "oasis of racial tolerance": the city commission had two black members, which was unheard of in the South at that time; black leaders ran the town's only hospital; the movie theater refused to show Birth of a Nation "out of respect for its black customers." Hagan foiled two lynch mobs' attempts to take his prisoners during the "Red Summer" of 1919. In the first, Hagan's black prisoner had killed a white train conductor; after Hagan repelled the mob, the case went onto the Supreme Court where the killing was ruled "self-defense" and the conviction was overturned. The frustrated mob, which came from outside of Palatka, beat an elderly black preacher before leaving town. In 1923, when Hagan hit a lynch mob member over the head with his pistol and shut and locked the door to the jail, the "frustrated vigilantes poured bullets through the door of the jail, where the Hagan family lived. One tore through Hagan's hand" and the rest of the shots "sprayed plaster dust on Hagan's wife's face and pierced the befroom where their ailing daughter and her son slept." By 1917, two of Peter's brothers, who were also cops, were killed by black men, but after one of the failed lynching attempts in 1919, Hagan stated in the local newspaper that "there will be no repetition of this affair, and any effort on the part of outsiders to come here and create disorder and engender ill-feeling between the two races will be met with force sufficient to stop it where it begins....We have determined to see that the colored people of this town and country get the protection to which they are entitled, and that no hoodlums can come here and cowardly attack old and innocent colored men without having justice meted out to them for their offense."

On the broader context of intraracial white violence, which I address later in the paper, Townsend notes that in the "years after World War I, Florida was still a loosely policed frontier state. White Protestant mobs staged regular lynchings and beatings to intimidate black voters, drinkers and anyone else they felt threatened the social order." After Hagan's lost his re-election bid in 1925, "the Florida Klan essentially took over Putnam County....Virtually every weekend, vigilantes kidnapped men and women, black and white, and flogged them with straps or chains as punishment for some transgression. Most of the time, the raids and abductions revolved around drinking. The Klan considered enforcement of Prohibition part of its larger mission to police social, sexual and religious mores. Klansmen castrated a prominent Catholic priest at the University of Florida and then dumped him bleeding on the steps of his church. They flogged women they thought might be having affairs. Between 1924 and 1928, Klan mobs carried out as many as 80 of these nonfatal punishments in Putnam County."

a white community aligned with the virtues of due process and the rule of law. A Washington *Star* article even suggested that the mob's burning of "the very hall of justice" expressed its "possession by a criminal impulse more shocking and more menacing than the crime that inflames its passions."[333] In other words, a black man raping a white girl was not as "shocking and menacing" as the impulse that threatened the white community with fracture and the institution of law and order with chaos.

The analog archive also contains other images that have not been digitized, and that challenge mainstream understandings not only of a lynching image, but of what constitutes a lynching. In one photograph of a full page engraving from *Leslie's Illustrated Newspaper*, May 16, 1868, a black mob lynch burns two blacks at the stake in retaliation for robbing and murdering a white man and his family.[334] In another engraving, a mob of white mothers flogging a white man, whom they had tied to a tree, in retaliation for his assault of one of their daughters. These images of a black mob executing black criminals and of crowd of white women inflicting a nonlethal lynching on a white male inform my expanded definition of lynching. I draw upon lynching's long-standing and varied historical definitions; it includes nonlethal forms of punishment inflicted on a person by a group of a few or more people.

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[333] "National," 6

[334] It is unclear whether this event actually happened or happened in the way that *Leslie's* suggests. Nonetheless, it offers a lynching image that indexes antebellum white anxieties about the possible lapse of Negro's further into barbarism, and the possible outbreak of insurrectionist violence that would result. See Joshua Brown, *Beyond the Lines: Pictorial Reporting, Everyday Life, and the Crisis of Gilded Age America* (Berkeley and Los Angeles: University of California Press, 2006), 125-126.

Figure 5.3 A Frightful Scene Near Omega's Landing, Mississippi. Bettmann/CORBIS

Figure 5.4. "Female Lynchers." Undated. Bettmann/CORBIS

One image in the digital archive of Corbis reflects the pervasiveness of both nonlethal lynching and white intraracial violence. The image shows Michigan minister Oren Van Loon's back, the letters "KKK" branded into it. Intrarracial violence was a threat not only in the Jim Crow South and not only to those who directly opposed the KKK and white supremacy. Van Loon's photo reflects, in ways that mainstream lynching images do not, the intraracial violence that was integral to white supremacist terror and dominance. Van Loon was not an anti-racist agitator, and had even allowed the KKK to hold meetings in his church. Van Loon had criticized secret societies and the practice of cross-burning, but not the "100% Americanism" ideology, nor inter- and intra-racial violence of the KKK.[335] Van Loon's case illustrates an important aspect of white supremacist violence, its thorough-going paranoia about any challenge to white male dominance and the terrorist organizations who took it upon themselves to preserve it. In a way, the case of Van Loon illustrates this even more powerfully than that of the three Civil Rights workers murdered decades later in Mississippi--we might expect violence to come to the three workers. Van Loon's criticism of the Klan, on the other hand, did not challenge the white supremacy at the heart of the Klan's project, yet they still drugged and kidnapped him, tortured and branded him as both a punishment and a warning to other whites who might challenge the Klan, not just in terms of racial ideology, but in terms of their patriarchal dominance that entitled them to do, in their view, whatever they wanted to do.[336] At the hospital, police guarded his room, in case the Klan planned to

[335] JoEllen McNergney Vinyard, *Right in Michigan's Grassroots: From the KKK to the Michigan Militia* (Ann Arbor: University of Michigan Press), 2012. 78.
[336] For more details on his abduction and hospitalization, see "Branded Pastor Leaves the Hospital." *Gettysburg Times*, July 15 1924, and "Memory of Branded Pastor Still Blank," *The Naples Record*, July 16, 1924.

torment the pastor further. Van Loon claimed to not remember anything about the incident. His hair, which had been gray before his abduction and 11-day ordeal, had turned white.

In the early and mid-1920s, the Klan, "not infrequently," targeted whites, "Protestants and females who were considered 'immoral' or 'traitors' to their race or

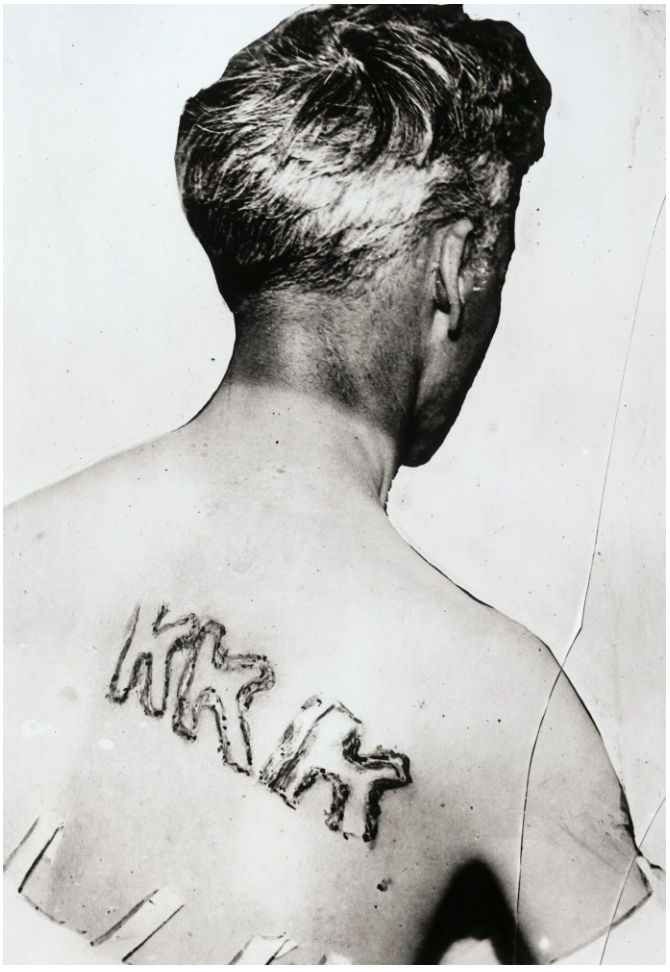

Figure 5.5. Kidnapped Minister Bearing Klu Klux Klan Brand. July 15, 1924. Bettmann/CORBIS

gender," including an Alabama divorcee, "flogged for the 'crime' of remarrying then given a jar of Vaseline for her wounds."[337] The Klan attacked other adults for "immorality and failure to go to church," and even lashed girls for "riding in automobiles with young men."[338] The Bettmann Archive's KKK folder, amazingly, contains no images of physical violence, beyond the image of Van Loon, but does contain one image of "James A. Colescott, Imperial Wizard of the Ku Klux Klan" as he reads a newspaper story about his subpoena to appear before a grand jury investigating a rash of floggings in East Point, GA. in the photo, the headline of the front page is legible: "Ku Klux Chief Is Called by Grand Jurors For Questioning in Flogging Probe Here." The investigation of the floggings in East Point began after the flogging and death of Ike Gaston, a white barber. According to an oral history interview with Daniel Duke, the principle investigator for the grand jury, Gaston was "a drinker and he drank and he didn't look after his family but was a likeable fellow."[339] The KKK "decided to discipline him for not looking after his family. So they carried him out there on March 3, 1940, I think. So the next morning they found his body partially frozen, it was cold, with this big whip with the Klan thing carved on it with cleats on it." A few reporters, along with Captain Jordan from the county police force and a detective, began investigating the case. The coroner on

[337] The Southern Poverty Law Center, *Ku Klux Klan: A History of Racism and Violence*, 6th Edition (Montgomery: The Southern Poverty Law Center, 2011), 20.
[338] Southern Poverty Law Center, *Klan*, 20.
[339] "Oral History Interview with Daniel Duke, August 22, 1990." Interview A-0366. Southern Oral History Program Collection (#4007) in the Southern Oral History Program Collection, Southern Historical Collection, Wilson Library, University of North Carolina at Chapel Hill. http://docsouth.unc.edu/sohp/A-0366/excerpts/excerpt_3082.html#fulltext. Accessed March 10 2014. For more on the floggings and violence at this time, including a case where the KKK killed two people in a local Atlanta lovers' lane, see Wyn Craig Wade, *The Fiery Cross: The Ku Klux Klan in America* (Oxford and New York: Oxford University Press, 1987), 263-267. Wade mistakenly reports that Gaston was black, based on an erroneous news report around the time of Gaston's murder, an error corrected by Daniel Duke in his oral history interview.

the Gaston case, Paul Donahue, held a hearing for anyone who had been flogged. Duke recounts:

> "Of course, the press and all the papers were there. The Constitution and The Journal were separate papers then and The Atlanta Georgian. They had their cameras and they had everything there. Donahue put out a call that anybody that had been flogged to come to that hearing. Two or three people showed up. A fellow named Young, I'll always remember him because I was asking the questions and of course, they had the evidence of the KKK with the whip there and the pictures of Ike Gaston where they showed he had been beaten so severely, dead, they took it of his body. They put Young up there. Young said, "I was flogged with this whip." How do you know, Mr. Young? He said, "I can pull my britches down and I can show you the cleat marks." So he pulled his pants down right there and the cameras got him. They had a picture in the paper of his back end with those cleat marks. So that cut the thing loose."

As people continued to come forward, it became clear that flogging had affected a number of whites, not just Gaston and Young, and it is very likely that more were affected than came forward.

The local press invited anyone who had suffered a flogging to come to Duke and tell him about it. He recalled: "Well, they came in, a few blacks came but most of them were white. Several whites came and they would be almost defiant and they'd say, 'we don't believe you're going to do anything, we've done been down here.'" The Klan captured one man while visiting a girlfriend that was also romantically involved with a member of the Klan, so "one Sunday afternoon and they grabbed him and they darn near

killed him." He told Duke that when he went to the courthouse to report the beating, the officer taking his report "was in on the flogging," that he "recognized his voice, he was a tall man." Duke investigated the man's claims and found them to be accurate: "I called and wanted to know who was on that desk down there... He fit the description. We wound up indicting three or four deputy sheriffs. We sent three of them to the penitentiary." In his memoir of his infiltration of the Georgia Klan, *The Klan Unmasked*, ethnographer and activist Stetson Kennedy describes his first meeting on the "flog squad" that carried out the attacks in East Point. Though their most recent flogging had been a black man who had the habit of "jostling" white women at the bus stop, all of their upcoming targets were white men from the North who came south to do union organizing.[340] Such attacks on union organizers were not uncommon amongst white supremacist organizations. In November 1917, the Knights of Liberty kidnapped and assaulted 16 members of the International Workers of the World (IWW), an incident that became known as "The Tulsa Outrage." The black-robed Knights lined the "Wobblies" up at gunpoint, lashed their backs with a hemp rope one-by-one, "then applied hot tar and feathers from a slit pillow."[341]

The images of Van Loon's brand and the Imperial Wizard holding the newspaper point to the pervasiveness of intraracial violence in the era of Jim Crow, and represent a larger archive of historical material that has been virtually ignored in many histories of racial violence, in particular scholarly literature on lynching images. In 1950, Tabor City,

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[340] See Chapter Six, "I Work My Way Into the Flog Squad" in *The Klan Unmasked* (Tuscaloosa: The University of Alabama Press, 1990), 95-105. His memoir was originally published under the title *I Rode with the Ku Klux Klan* in 1942.

[341] Nigel Anthony Sellars, *Oil, Wheat, & Wobblies: The Industrial Workers of the World in Oklahoma, 1905-1930* (Norman: University of Oklahoma Press), 1998. 108.

North Carolina experienced over dozen terror attacks. In one instance, the Klan kidnapped a white man and woman, forced them "to bend over a car fender," then beat them "with a machine belt nailed to a pick handle. Between blows, the victims were made to pray, and listen to sermons and hymn singing from the Klansmen."[342] An August 11, 1952 *Time* article reports a rash of floggings by the KKK in Columbus County, N.C. in 1951.[343] The first victim was a 38 year old black woman--they gagged her with her slip, "tied her legs plow lines and beat her with sticks and gun butts" for the vague offense of "running around with white men." But the overwhelming majority of victims in this instance were white--10 out of 13--punished for varied crimes as defined by the Klan, such as "not attending church regularly, cursing near women," or "drinking too much."

The subjection of whites to intraracial violence proliferated a feeling of threat amongst whites in areas with a strong Klan presence. Intraracial violence and the threat-environment it created has a historical legacy that, like interracial violence, stretches back to the tense days of the mid-19th century, and beyond. The 1920s Indiana Klan had predecessors in the whitecappers that would flog women sadistically from the 1850s to 1889, leaving their victims nearly dead for sexually impropriety.[344] Other predecessor organizations that inflicted intraracial violence were the Know-Nothings, and the Horse Thief Detective Association, whose members were recruited when the Klan first organized in Indiana. The Indiana Klan's calling card in the Roaring Twenties placed

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[342] "Crackdown on the Klan," *Time*, February 25, 1952.
[343] "A Flogging for the Klan." *Time*, August 11, 1952. For more on the longer history of KKK floggings as a nonlethal form of lynching, threat, and social control, see Michael Newton. *The Ku Klux Klan in Mississippi: A History* (Jefferson: McFarland & Company: 2010), 27-34, 60-61, 83-86, 106, 151.
[344] Kathleen M. Blee, *Women and the Klan: Racism and Gender in the 1920s* (Berkeley, Los Angeles, and London: University of California Press, 1991), 179.

little emphasis on racial dominance or the specific threat of black men to white womanhood: "Remember, every criminal, every gambler, every thug, every libertine, every girl ruiner, every home wrecker, every wife beater, every dopepeddler, every shyster lawyer, every K of C [Knight of Columbus], every white slaver, every brothel madame, every Rome-controlled newspaper--is fighting the KKK."[345] Blee details how threats in the form of a letter or visit from Klansmen were highly effective, so much so that "physical attacks on offending persons were less common" there, because the Klan, nationally, had such a reputation for violence.[346] One white resident in Warren, Indiana, recounted that "in spite of no record of violence there was a general feeling of fear, mystery, and power associated with the Warren Klan. Young girls were warned never to get into a car with men--especially men wearing white hoods!'"[347] In other words, the threats issued in Indiana gathered their force from a legacy of violent organization that victimized whites in the past, and from white supremacist violence in other places. The fact that KKK members and white supremacists perpetrated and threatened violence against whites means that the threat-environment in which lynching photographs circulated was one where whites would have also seen themselves as subject to the threat of intraracial, white supremacist violence, not just witnesses to it or participants in it.

The above, short genealogy of intraracial violence in Indiana, much of which qualifies as lynching according to a broader definition that includes nonlethal flogging and beatings, recasts the interpretive frame for lynching images and their threat-effects. In "The Evidence of Lynching Photographs," Smith offers a typical mainstream

[345] Blee, *Women,* 180.
[346] Blee, *Women,* 80.
[347] Blee, *Women,* 81.

definition of lynching that informs much of the visual culture work on lynching images: "Lynching is defined as murder committed by a mob of three or more. In the United States, however, lynching has practiced and understood primarliy as a racialized and racist crime; the majority of lynching victims hve been men and women of color, and the largest number of them have been African American men. Their murderes have been predominantly white men, women, and hcildren, often unmasked, and sometimes number in the thousands."[348] Such a definition immediately excises the image of Van Loon and the deadly flogging of Ike Gaston, as well as the countless nonlethal beatings perpetrated against whites, from the lynching archive. The passive voice and absence of a citation in Smith's definition of lynching ("Lynching is defined as...") betrays a lack of critical historical framing of the contentious politics of such definitions. Two books reviewed by Williams in "Reconsidering the Lynching Archive" remind scholars to attend "to what gets highlighted and obscured in the processes of historical production and reproduction."[349] Rushdy shows how anti-lynching activists critiqued U.S. moral character--in response, conservative patriots narrowed the definition of what could be called a lynching. They were anti-lynching crusades like the leader Jessie Ames' Association of Southern Women for the Prevention of Lynching."[350] In her book review, Williams says that Arellano and Rushdy frame their research narrowly. On Rushdy, scholars might want to know more about "discourse of complicity" in non-black cases of lunching, and how non-black lynch victims fell from lynching discourse and/or are absent from "end-of-lynching" discourse, "slipping from collective memory into the footnotes of

[348] Smith, "Evidence," 15.
[349] Kidada E. Williams, "Reconsidering the Lynching Archive," *Reviews in American History* 41.3 (September 2013): 503.
[350] Williams, "Reconsidering," 503-504.

history."[351] Oren Van Loon, appearing nowhere in major works on lynching is one of the cases that have slipped into "the footnotes of history."

Smith's assertion of a narrow definition of lynching underwrites a streamlined analysis of lynching images' effects as they circulated in newspaper stories, on postcards, and other printed materials. "With the spectacle of lynching, the display of the mutilated body, and the circulation of lynching photographs, white supremacists sent different messages to white and African American viewers. The spectacle and the images of its aftermath instructed African Americans in the power of whites to manipulate and control the law, demonstrating that African Americans could not depend on legal structures for protection; they were vulnerable to the whims of the white mob. Lynched bodies were sometimes left in black neighborhoods, and lynching photographs and postcards were sent to prominent African Americans, warning them to "stay in their place.""[352] There is sufficient evidence that white supremacists used lynching images to *send* different images to black and white viewers, but this evidence does not also mean that the images were *received* according to white supremacists' intentions. Marion Beitler's lynching image of Shipp and Smith in Marion, Indiana, is one of the most, if not the most widely circulated lynching image of all time, and is the central object of Smith's analysis. If anything, the long history of intraracial white violence and its threat-effects in Indiana suggests that many whites felt threatened by the KKK, and that the lynching image of the dead black bodies of Shipp and Smith would have heightened this sense of threat, not simply reinforced a sense of white mastery and invulnerability. The Klan presence in Marion was powerful enough to intimidate the local police, who were white, as well as

[351] Williams, "Reconsidering," 506.
[352] Smith, "Evidence," 23-24.

undertakers, so that no one could remove the bodies immediately after the lynching in order to be prepared for burial (as I discussed in chapter 3). It took a black minister from nearby Muncie, with the protection of Muncie law enforcement, traveling to Marion to recover the bodies.

In her analysis of a lynching postcard depicting the burnt corpse of Jesse Washington, Shawn Michelle Smith conclusions both typify visual culture scholars' analyses of lynching images, but also raise other interpretive possibilities that remained unexplored. She describes the white faces of the crowd: "These white men and boys (and at least one woman) face the viewer with steady, unflinching gazes, as if daring challengers to defy them."[353]Though she does not classify the "challengers" as either black or white or both, she maintains a racial division in her interpretation of the effects of the "unflinching gazes" of the mob. For Smith, lynching photographs were "terrifying sites of racial identification for African American men and women, sites which can finally become catalysts for antiracist action."[354] The white eyes seem thus to issue a threat given weight by the charred black body at the center of the image, a threat that seems, according to this analytic, to self-evidently direct itself at black people.

But the white eyes simultaneously work to accomplish other tasks in Smith's reading, as they direct their gaze at whites as well, not as threat, but as an invitation to white self-consolidation and the fortification of the racial bonds and bounds of imagined white community. Smith suggests that as the white eyes in the images might look toward other white eyes, lynching photographs also functioned "as sites of white supremacist

[353] Shawn Michelle Smith, *Photography on the Color Line: W.E.B. DuBois, Race, and Visual Culture* (Durham and London: Duke University Press, 2004), 126.
[354] Smith, *Photography,* 121.

identification." She analyzes a postcard of the lynching of Jesse Washington, which has written on the back a message from "Joe" to his mother: "This is the barbecue we had last night. My picture is on the left with a cross over it. Your sone [sic] Joe."[355] Joe's gaze, as one of the many in the crowd, serves as a threat to black men who would challenge white supremacy. But Smith reads the note on the back in a way that suggests it is also a tender gaze directed at his mother: "Joe looks directly out at the camera, perhaps anticipating the eyes of his mother. This particular postcard, then, with sender looking out at projected receiver, marks directly the ways in which postcards construct community." So, the same gaze that functions as threat for blacks is an invitation to community for whites, in general, as well as a gaze directed specifically at one white person in particular: Joe's mother. Smith writes:

> "Joe has put himself in the picture; standing in as representative of his larger community, he connects them to this scene. He is small in a visual frame dominated by the grotesque figure of Jesse Washington's corpse, burnt almost beyond recognizable human form. As his mother looks at Joe, the corpse will hang between them. Thus, as the postcard is offered as a link between them, so, too, is the black body. The gap of space and time that separates white mother and son will be sutured over the dead body of an African American man; sentimental white familial bonds will be reinforced through black death."[356]

Based on the flexibility and multifaceted work of the gaze implied by Smith, however, the very excess of lynching violence depicted in photograph, as well as the frequent repetition of lynching rituals in the Jim Crow era, suggests that the dead body of a black

[355] Smith, *Photography*, 122.
[356] Smith, *Photography*, 122, 125.

man, and the photograph of it, failed to suture white familial bonds effectively. The dead black body marks not only a path of connection but a point of rupture between mother and son, an insurmountable distance, as the black body convokes a white community of faces whose uniformity diminishes the ideal mother's "natural" ability to recognize her own son: Joe marked the space above his head with a cross to make himself more easily identified. The bond is persistently made and unmade by the violence in the image, for if the white gaze functions as threat *and* invitation to identification, then there is always a surplus of each in the other. As Smith says, the "unflinching gazes" are aimed at their "challengers." Each white person was a potential challenger of white supremacy, and thus lynchings and lynching images also issued a threat to whites. If lynchings helped bind white communities together, perhaps they did so through not only the abjection of the black other and the performance of racial mastery, but also through their common vulnerability to white supremacist violence.

When we consider the pervasiveness of intraracial white violence, including the lynching images of lynched whites in the seminal book *Without Sanctuary* (images that Smith ignores), then the postcard of Jesse Washington necessarily functions as a threat of violence to anyone, of any race, that challenges white supremacy.[357] Terrorist violence directed against black men in the preservation of whiteness did not occur in a vacuum, but in an environment where black men and women, white men and women, experienced violence meant to maintain white racial purity and morality, as I detailed above in my

[357] Undoubtedly, the threat, when carried out, looked different in the case of whites and blacks, as whites were not generally subject intraracial violence that involved the same kind of ritualistic sexual mutilation that black men were, and white women were sometimes afforded treatment that black women were not, even when being punished for behavior that diminished the purity of their own womanhood. In many cases of floggings, for instance, Klansmen would give a white woman salve to put on her back when the flogging was done. However, there are oft-ignored instances of sexual mutilation of whites. In one case, the Florida Klan castrated a prominent Catholic Priest and left him on the steps of a church. See note 325 above.

analysis of KKK floggings and the branding of Oren Van Loon. Furthermore, as Leon Litwack points out and Smith even reiterates, some whites saw lynching and lynching images as elements that did not consolidate but threatened to disintegrate the imagined white community, as lynching rituals indexed or seemed to portend "the destabilization of the social order and the descent of their region into barbarism."[358] Smith reads the covering of the wounds on black bodies in lynching images as efforts to limit the visual "evidence of white savagery in minutia."[359] She cites Litwack to reinforce her point, and proceeds to examine how the appropriation of lynching images by Ida B. Wells and the NAACP contested "the rhetoric of white civilization and black barbarism" and "provided opposing evidence of white savagery" by documenting "white atrocities."

The fact that some whites perceived lynching photographs as indexes of the possible disintegration of white civilization destabilizes Smith's claim that lynching images only served to bind whites together in community. In such receptions of lynching images by whites, the mob--emblem of lawlessness and chaos--functions as threat to the white viewer and a self-destructive threat to itself, in which case the prized ideal of white womanhood would certainly be ravaged by a citizenry that had reverted to barbarism. As one Southern minister remarked in 1907, quoted by both Litwack and Smith: "The greater peril at this hour where outbreak and lawlessness are at the surface is not that the negro will lose his skin, but that the Anglo-Saxon will lose his soul."[360] According to Sandra Gunning, social reformer Jane Addams, like the Southern minister, "did not reject the image of the black beast," yet attacked lynching on the basis that it "degraded white

[358] Leon Litwack, "Hellhounds," in *Without Sanctuary*, 22.
[359] Smith, *Photography*, 127.
[360] Smith, *Photography*, 127-128.

participants and enforced a disregard for legitimate institutions of law."[361] This means that some whites received lynching images as documents of a practice that struck out at a very real black bestiality, while threatening to collapse the dividing line between black subhumanity and white civilization. In Frantz Fanon's terms, lynching threatened to destabilize the "racial epidermal schema" that condensed black being in the surface of the body, while granting the ontological privilege of interiority, and the possession of a soul and intellect to whites as marks of their civilization and superiority. Through such an interpretive frame that imagines the collapse of this schema, the primitiveness of Jesse Washington and the barbarism embodied in his scorched black corpse do not stand in symbolic opposition to the white mob. Rather the black figure at the center of the lynching image becomes the potential destiny and doom of degraded whites, and so Washington's body threatens to represent not just all black people but all white people--the entire mob, as well as all white viewers of the image. The burnt body of Washington, then, becomes a kind of black hole at the center of the photograph, which whites would fall through irretrievably into the dark night of barbarism, effecting the end of civilization. Criticism of lynchings by whites along these lines thus suggests a diversity of ways that whites viewed lynching images, as representations that did not index the consolidation of white community, but threatened it with disintegration.

If the black corpse in lynching images signals the preservation of white civilization it also necessarily evokes the inverse, the possibility of the degradation of white civilization and the triumph of the barbarism and bestiality that lynching supposedly protects against. Whites viewing the postcards would have looked into the

[361] Sandra Gunning. *Race, Rape, and Lynching: The Red Record of American Literature* (New York and Oxford: Oxford University Press, 1996), 109.

gazes of the mob and seen both issues of threat and invitations to identification, always both, each one attempting to undo the other, never successful, the white intracommunal bond Smith sees being forged there never actually fully formed. White supremacy rendered all, black and white, men and women, subject to spontaneous violence, albeit different forms of violence and to different degrees. Visual culture analyses of lynching images should begin to take into account the diversity of lynchings that occurred, to view images through expanded definitions of lynching that would include nonlethal and intraracial violence, and generate new critical frameworks that can grapple with the deep instability of lynching photographs as historical evidence--an instability whose significations cannot be wholly determined and fixed by the context in which the image is deployed--and the unwieldiness of threat, rather than continuing to segregate the threat-effects of lynching photographs strictly along racial lines.

Even in a recent scholarly article that seeks to expand our view of the diversity of racial violence in the Jim Crow era, white subjectivity is oversimplified and intraracial violence is ignored. In "Resolving the Paradox of Our Lynching Fixation: Reconsidering Racialized Violence in the American South after Slavery," Kidada E. Williams importantly points out the way in which our "fascination with the physicality of lynching or visual, statistical, and print representations of the practice does not help us understand how endemic and varied racial violence was, how people experienced it, and ultimately how horrible it was for victims, their families and descendants."[362] She argues that such a

[362] Kidada E. Williams, "Resolving the Paradox of Our Lynching Fixation: Reconsidering Racialized Violence in the American South after Slavery," in *Lynching Reconsidered: New Perspectives in the Study of Mob Violence*, ed. William D. Carrigan, (London and New York: Routledge, 2008), 99. One work that does much to address the gap in historical understandings pointed out here is Koritha Mitchell, *Living with Lynching: African American Lynching, Plays, Performance, and Citizenship*, *1890-1930* (Urbana, Chicago, and Springfield: University of Illinois Press, 2011).

fascination is partially the result of an "intense interest in the extralegal and spectacular components of mob violence by women and men of [the Jim Crow era]," an interest that effectively excluded much discussion of the "more ordinary, individual and private forms of violence that white southerners had used to subjugate African Americans since emancipation." Even in this illuminating analysis, where she lists off several obscure cases of floggings and beatings of African Americans for challenging white supremacy, she never explores "the more ordinary, private forms" of intraracial violence that would help her to more powerfully demonstrate "how endemic and varied racial violence was." In a footnote on ordinary, nonspectacular instances of violence, Williams reinforces an oversimplified view of white subjectivity in the Jim Crow era: "When I use terms such as 'whites' or 'southern whites', I do so recognizing that they never constituted a racial monolith. I use 'whites,' and 'southern whites,' and 'white supremacists' here for lack of a better descriptor to refer to those white women and men of the South who used violence to dominate and punish black women, men and children."[363] The problem here is not the lack of a better descriptor, but the failure to recognize that the subjugation of African Americans and the bolstering of white supremacy was accomplished not only through pervasive violence and threats of violence (both spectacular and ordinary) against blacks, but against whites as well.

When we assume that interracial violence was the only form that preserved white supremacy, we only scrape the surface of Jim Crow's overall archive of violence, one that includes images of Oren Van Loon's shoulder branded with KKK, not as a mark of allegiance, but as threat and warning to other whites, or texts like the oral history account

[363] Williams, "Resolving," 117n6.

of the flogging and murder of Ike Gaston, one of many floggings of whites in East Point, Georgia. Nonlethal lynchings like Oren Van Loon's are highly similar to those suffered by blacks at the hands of the KKK, such as that of Felton Turner, abducted by four white youth in Houston, Texas, in 1960, forced into a car, tied to a tree, flogged about 50 times with a chain. While Felton pretended to be unconscious in an effort to avoid being killed, his assailants carved KKK into the skin on his belly, in two different places.[364] Such similarities in nonlethal interracial and intraracial lynchings suggest a different structure of violent dominance than the one analyzed neatly in visual culture scholarship, where lynching is defined as a fatal attack and threat to blacks, enacted by whites who assert their social, racial, economic, and sexual mastery of African Americans through the lynching ritual. These racially segregated analyses of violence--its threat-effects and affects--skews our historical conception of visualities in the Jim Crow era, as visual culture scholars tend to focus on the way the deployment of lynching images in different contexts for different purposes points to their semiotic instability, rather than engage the full complexity of white subjectivity in the historical moment of the images' production within the broader context of both interracial and intraracial violence. As Dora Apel points out in her analysis of a 1936 lynching image of Lint Shaw, a black man, the lynching was an example of order of the day in the "New South, using racial violence and the threat of violence to structure a segregated culture and economy in order to prevent race mixing."[365] If interracial violence functioned thus, and I agree that it did, then it is

[364] "Flog and Carve KKK on Negro in Texas Because of Protests." *Jet Magazine*, March 24, 1960. I also found a newspaper fragment that has been digitized, but was unable to locate the original publication in which it appears, in which a white man bears the letters KKK carved into his chest.
[365] Apel, *Imagery*, 43.

important to consider intraracial violence that punished transgressions of the color line by whites as well.

Preserving Segregation, Digitizing Lynching

As is clear from the discussion of Rainey Bethea's lynching images above, digitization generates new contexts for images, new intertextual relationships as they are re-classified with tags and keywords in digital databases, and thus new critical reading possibilities. Each "keyword" search produces an array of images, in which new juxtapositions suggest new kinds of relationships between images that would normally be separated by folder in the analog archive. In a way, it was the digitization of the Bettmann Archive that inspired this dissertation, in that it both raised the question of when the fantasy and practice of permanent media preservation emerged, and suggested simultaneously the operation of a preservation complex that manifested across cultural domains in efforts to preserve media, bodies, races, food, health, nations, among other material and symbolic objects. The moment that inspired me to investigate the emergence of a preservation complex was an image search in the Corbis database. I searched for images of "preservation" from the Bettmann Archive, and it returned 55 results. The images blurred the artificial line between the material and the symbolic, the literal and metaphorical, as they deployed the concept of preservation across a wide range of cultural domains, from the preservation of segregation under Jim Crow, to the preservation of endangered species in the fledgling environmentalist movement in the 1970s, to the preservation of the peace after World War II described in a caption for an image of German soldiers.

These images highlight how preservation mediates the negotiation of conflicts by positioning a vulnerable, threatened object in need of protection, thus justifying the act of preservation and rendering its mediations invisible. In one image, pioneering embalmer Thomas Holmes stands over a dead soldier and injects him with preservative fluids during the U.S. Civil War, which not only preserved a dead body but contributed to the production of the modern corpse as an industrialized consumer product, as well as an entirely new visuality that structured the way we see death.[366] In another, Thomas Iiams uses his fumigation chamber to kill book-worms and their larvae and thus preserve rare books and manuscripts, thus contributing to the production of preservation science and reinforcing an emergent preservation imperative amongst librarians, archivists, and other managers of historical records. In yet another, Thornwell Jacobs looks down at his hands where he holds the last micro-book to be sealed and placed inside the Crypt of Civilization, a portrait of a white baby visible on the wall behind him. The Crypt materialized the fantasy of permanent media preservation and reproduced a particular conception of civilization that inhered in white, Anglo-Saxon, eugenically fit bodies (see Chapter 2).[367]

Preservation as a concept is so powerful because it obscures its own productive and reproductive effects. In preservation discourse, preservation is the maintenance of an existing object or of existing conditions. It is simply an act of protecting what exists against threat or change. But the images of "preservation" in the digital archive attest to

[366] On the modern corpse as industrial consumer product and the new visuality of death produced by preservation technologies like the railroad, embalming, and photography, see John Troyer, "Embalmed Vision," *Mortality* 12.1 (February 2007): 22-47.
[367] See Chapter 1 for more on the emergence of preservation science in the 1930s. See Chapter 2 for more on the Crypt of Civilization and its relation to desires to protect and preserve a eugenic white race.

the intense political and ideological stakes at the heart of preservation practices and the concept of preservation itself. One of the preservation images is the title page of Darwin's 1859 classic includes the now nearly forgotten subtitle, *On the Origin of Species by Means of Natural Selection, or The Preservation of Favoured Races in the Struggle for Life*. *Origin*, possibly more than any other contemporary text, helped to embed race as a natural characteristic in biological bodies, and did so by naturalizing it as that which is preserved through generations of reproduction in the long view of evolution. In a nearby image, a child crouches inside a tunnel that leads from her family's basement bomb shelter to an escape hatch in her backyard; her father built it for "the preservation of himself and his family." The shelter was a part of an expanding preservation infrastructure that normalized securitization as a means of preserving both bodies and media.[368] Jimmy Carter delivers a speech at the dedication of a new J. Edgar Hoover FBI headquarters, and remarks that the true monument would be the "preservation of the law." In the analog archive, these images are not located near each other, and would take an archivist much longer to collect, since there is no general folder in the Bettmann, or even broad category called "preservation." The digital archive conjoins subsets of images in ways that suggest linkages between preservation practices that the analog archive conceives of as unrelated to one another.

Digitization produces not only new critical reading possibilities, but a highly dynamic digital archive that generates these new possibilities almost constantly. In the three years since I first performed this search, the array of "preservation" images has

[368] In Chapter 3, I discuss the expansion of the preservation infrastructure through efforts to preserve media and bodies in the United States, in government, corporate, and private facilities such as family bomb shelters.

changed, as Corbis digitizes and tags more images, and changes the tags of already digitized images. A few months ago, two images from the desegregation struggles in the Jim Crow south appeared. The first is a shot from below of an "effigy of a Negro" hanging from the facade of Mansfield High School in Mansfield, Texas. As a mob of four hundred white desegregation protesters swarmed the school, armed with guns and signs bearing racial slurs and threats, the governor sent in a group of Texas Rangers to "preserve the peace." The preservation of the peace meant the preservation of the status quo, of segregation--no black children registered at Mansfield High where effigies hanged from both the school facade and the flagpole, and Mansfield schools did not integrate until 1965. The second image shows Alabama State Represenative Albert Boutwell and his wife watching a group of tabulation machines spit out rolls of paper. Mrs. Boutwell smiles as she sees that an overwhelming majority of voters have approved the Freedom of Choice Amendment, introduced in the legislature by her husband, which preserves segregation in Alabama schools against the mandate of Brown v. Board of Education, issued a couple of years prior. In the case of desegregation, the term "preserving the peace" obscures the process of reproducing the status quo through violence and the threat of violence. Gov. Allan Shivers sent in Texas Rangers to preserve the peace, according to the Negro effigy image. He deployed the Rangers, not to ensure that black children entered the school without violent reprisal, but to ensure that they did not, to ensure that segregation was upheld. The preservation of the peace and the preservation of segregation are, in this case, one in the same; both refer equally to the preservation of white supremacy, the racial category of whiteness, and the integrity of the

Figure 5.6 Effigy Hanging on Mansfield High School in Texas. Bettmann/CORBIS

white body. The preservation of whiteness required the preservation of institutional racial boundaries between black and white bodies in sites like schools and restaurants.

The effigy hung from Mansfield High was the third effigy hung that week (see Corbis caption), and only one of several spectacular performances of intimidation in

Mansfield during the desegregation struggle of 1956. Segregationists hung another effigy from a flagpole outside the school, and another one in the center of town, the surrogate body burned and splashed with red paint, bearing signs that read "THIS NEGRO TRIED TO ENTER A WHITE SCHOOL" and message written on its legs: "THIS WOULD BE A TERRIBLE WAY TO DIE." In addition to these effigies, desegregation protesters brandished guns, prevented cars from entering town if their passengers were deemed sympathetic to integration, threatened the Mansfield sheriff, and parked a car covered in white scrawl near the entrance of Mansfield High in August, as student registration began. "ANY NEGRO SEEN IN A MANSFIELD SCHOOL WILL BE OUR NEXT EFFIGY," the trunk of the car read, suggesting both the space in the automobile where a black child might be secreted on their way to being lynched and burned, and cross-referencing the several effigies hung in various locations on and near Mansfield High.

This extension of the sense of threat from actual lynchings through the effigy and cars constitutes what Brian Massumi calls "the mass affective production of felt threat-potential," which "engulfs the (f)actuality of the comparatively small number of incidents where danger materialized. They blend together in a shared atmosphere of fear."[369] In other words, though no living blacks were lynched in Mansfield during in the decade of desegregation battles that began in 1955, the threat of lynching and the actual lynchings that had occurred elsewhere in the U.S. up to that point produced an affective economy that desegregation protesters modulated through the public performance of threats. This threat environment engulfed not only blacks, but whites, as well, although certainly

[369] Massumi, Brian, "The Future Birth of the Affective Fact: The Political Ontology of Threat" in *Digital and Other Virtualities: Renegotiating the Image*, eds. Antony Bryant and Griselda Pollock (London and New York: I.B. Tauris, 2010), 87.

differently. Similar to the way in which the terror-inducing "alerts" of the Bush regime "modulate[d] felt qualities infusing a life-environment," the effigies and cars displayed in Mansfield infused the life-environment with threat, enhanced it by cross-referencing the actual mutilations and lynchings of black bodies in the past ("This negro tried to enter a white school") and simultaneously positioning the effigy as a "self-renewing threat from the future" ("This would be a horrible way to die"; the trunk of the car's "Any Negro seen in a Mansfield school today *will be* our next effigy").

Effigies were a form of lynching, of interracial and intraracial violence that served to threaten both blacks and whites whites who dared challenge Jim Crow's racial divisions. In March 1960, white author John Howard Griffith was lynched in effigy from a traffic light at the intersection of Main and Broad Streets in Mansfield, TX, his hometown. The lynching occurred in response to his publication of the first in a series of articles on his experience as a black man in the South--Griffith used drugs, creams, and tanning to darken his skin, then spent months in walking and hitchhiking through Mississippi and a few other southern states. (He would later expand into the best-selling memoir, *Black Like Me*, published in 1961). The effigy's face was painted half white, half black, and was left at the Mansfield dumping grounds, under a sign that read "$25. FINE FOR DUMPING DEAD ANIMALS." Griffith and members of his family also received death threats in the mail and eventually moved to Mexico for a time out of fear for their lives.[370]

I searched the keyword "Mansfield" in the digital archive and within a minute found another image from the Mansfield desegregation struggles: a car covered in racial

[370] G. Scott Thomas, *A New World to be Won: John Kennedy, Richard Nixon, and the Tumultuous Year of 1960* (Santa Barbara: ABC-CLIO, 2011), 84.

threats written in white chalk or paint, parked in front of the entrance of Mansfield High School. I looked in every folder in the analog archive that I thought might contain images of racial violence, but did not find this image in the week I spent at the CFPF. Several of the statements covering the car also indexed the deeply interwoven racial and sexual anxieties contorted white male masculinity into a subject position preserved through

Figure 5.7 Protesting Desegregation. Bettmann/CORBIS.

institutional racial segregation and violent control, emasculation, mutilation, and commodification through lynching.The car in the photograph reflect these racial and sexual anxieties in statements like “DOWN WITH THE BLACK ADULTRESS”; “OUR

GIRLS STILL PREFERS [sic] WHITE HUSBANDS." Other messages were rather straightforward, from "WE DON'T LIKE NEGROES" to "NEGROES BEWARE," and at least one addressed segregation directly, if grandly and ungrammatically, "WE DON'T ALLOW NO NEGRO TO CROSS THE LINE OF THE GREAT DIVIDE." Finally, "Bounty $200 a Doz For Nigger Ears" on the door of the vehicle, a 14 year old boy, along with the car's driver staring directly into the camera, literally standing behind the message, evoking the gaze of the lynch mob depicted so prolifically in the repertoire of American lynching photography. Harvey Young theorizes the ears, toes, bits of bone, and even grass and fence railing where a body was burned, taken from by mobs at lynching as "souvenirs," some of which were kept in homes and displayed, traded, or sold. Young writes that while "Lynching objectified the body. Lynching souvenirs commodified it."[371] Young cites Pfeiffer's classic study *Rough Justice* in pointing out that lynchings "sought to 'preserve order,' that is to uphold the hierarchical prerogatives of the dominant residents in the locality."[372]

The offer of $200 for the ears of six people is a meant to terrorize, but it also, perhaps most disturbingly, indexes an actual economy that circulated and sold black body parts as lynching souvenirs, a practice that functioned to preserve order as much as the lynching spectacle itself, thus extending the life of the lynching event in a way similar to lynching photographs. Indeed, the car covered in warnings is a lynching photograph that depicts a set of messages that draw their power from actual lynchings, effigies, lynching photographs, and the sense of threat they help to proliferate, though no black bodies--

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[371] Harvey Young, "The Black Body as Souvenir in American Lynching," *Theater Journal* 57.4 (2005): 647.
[372] Michael J. Pfeifer, *Rough Justice: Lynching and American Society, 1874-1947* (Chicago: University of Illinois Press, 2004), 4.

lynched, burned, or otherwise--appear within the frame of the photograph. Just as the pretext of suspicion of rape or assault or murder rendered the lynched black man guilty and thus deserving of punishment within lynchings' supporting narratives, the $200 is offered as a "bounty," a term that imputes criminality the "nigger" whose ears would be harvested and sold. More specifically a bounty is a term used in cases where the criminal has escaped or eluded the grasp of the law, poses a threat to the community, and must be captured either by official law enforcement or by vigilantes. The bounty for the ears is essentially payment for a lynching, as the ears function synecdochically to imply that a lynching would have already occurred by the time the ears would be taken as lynching souvenirs. In its deeper historical resonance, the bounty offered aligns with the common practice of "cropping"--cutting a notch into, cutting off part, or all of a slave's ear as a punishment for running away. Abolitionist Thomas Dwight Weld thoroughly documented the practice through a list of advertisements for runaway slaves taken from newspapers published in the years 1837-1839. One slave, Randall, could be identified because he had "one ear cropped," a "negro Jim Black" had "a piece cut out of each ear," another's left ear was "bit off." It is unclear whether or not the ear was bit off by a dog, as many of the advertisements attest to their employment as tools of torture and mutilation, or by another human.[373]

[373] Thomas Dwight Weld, *American Slavery As It Is: Testimony of a Thousand Witnesses* (New York: American Anti-Slavery Society, 1839), 83. Weld also testifies to seeing a letter that Lewis Tappan, co-founder of the American Anti-Slavery Society and lawyer who spearheaded the freeing of illegally imported African slaves in the famous Amistad case, received from a "Thomas Oglethorpe of Montgomery, Alabama." With the letter was "a negro's ear cut off close to the head," sent to Mr. Tappan as a "specimen" that Oglethorpe "desired him to add to his collection." Harriet A. Washington discusses the similarity between the rite of passage for white medical students dissecting black bodies, posing with them for photographs, and circulating the photographs or postcards made from them. See *Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present* (New

If, as is commonly asserted in visual culture scholarship, lynching postcards extended the reach of the lynching spectacle's power to threaten black communities and constituted the imagined community of whiteness, then effigies and threats scrawled on cars also extended the lynching spectacle' threat-effects, I argue, to both black and white subjects during Jim Crow. The vast majority of people who would have received messages of racial terror such as lynching spectacles and lynching photographs were white, as was the case in Mansfield, a town of 1500, with 600 white children in the school district and less than 100 blacks in it. Photographs show only white children and white adults looking at the car. It is possible that no or very few blacks saw the effigy in front of Mansfield High, or the car covered in threats, as a mob of 400 whites swarmed the school where the car was parked and no black children registered at the white school that year. This is not to say that this car would not have functioned as a serious threat to blacks, for it certainly would have. A common form of lynching in Texas, historically, was "dragging," a practice that preceded the invention of automobiles. The most famous case was Jesse Washington in Waco in 1916, until the dragging lynching of James Byrd in Jasper, Texas in 1998. In *The End of American Lynching*, Rushdy describes the history of dragging as a form of lynching, as one that preceded the invention of the automobile. "Ester King, an activist in the Houston black community, recalls that his grandmother would relate how "the favorite way of lynching" when she was growing up was 'to drag Black folks from behind a horse or a wagon or a buggy.'f35"[374]

York and London: Doubleday, 2006), 135-137. She cites John Harley Warner and James M. Edmonson, *Dissection: Photographs of a Rite of Passage in American Medicine, 1880-1930* (New York: Blast, 2009).

[374] Rushdy, *End*, 140. Rushdy cites other examples to put James Byrd killing in perspective as a lynching and a hate crime. "James Byrd, then, was a victim of a specific kind of crime that followed a historical pattern and was modeled on American precedents and local practices. […] a crime that was directly a product of the belies and motives of the white supremacists who wished to perform this event as a

Digitization of the Bettmann reflects the broader digitization of historical photography archives and the databasing of those archives through search engines like Google, that also facilitate finding relevant historical images quickly. I performed a Google image search for "Mansfield Texas segregation car" and located a photograph of the rear of the car shown in the Corbis' "Protesting Desegregation" image. Another image of the car shows, again, only whites in the photograph, with two young white girls reading the messages on the rear of the car. As Blee explains, the car was a sight of intense policing by the Klan, as it "aimed at curbing the sexual temptations of young men and women." Cars allowed "young people a measure of privacy away from the watchful eyes of parents and other adults. Both gave young people a chance to indulge in liquor and sex."[375] The messages on the car were received by both blacks and whites; each message functions doubly, but as an assertion of white patriarchal supremacy in both cases, and as threat in both cases. The phrase on the hood, seemingly directed at blacks, "Our Women Still Prefers White Husbands," is also a racial sexual prohibition implicitly directed at the young white girls who read it. In conjunction with this prohibition, then, the threats ostensibly directed at blacks, which promise to turn any Negro who enters a white school into "our next effigy" and offer a $200 bounty for "a dozen nigger ears," become observe threats to whites would challenge the contours of the power structure and overall threat environment delineated by the various phrases on the car. The effigy and death threats directed at white writer John Howard Griffith in Mansfield attest to the

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celebration of and a recruitment device for their white supremacy. James Byrd was the victim of a lynching," 141. Rushdy's work is exceptional amongst his contemporaries in the way he explores the politics of defining lynchings and how such limited or expansive definitions shape our ability to see or remain blind to continuities in the history of racial violence. See especially 139-141.

[375] Blee, *Women*, 85.

flexibility of white supremacist violence as it historically, always and simultaneously, was expressed in both interracial and intraracial forms to preserve whiteness and segregation.

Visual culture scholars' too-strict definition of lynching, as well as their overlooking of intraracial violence, obscures the full range of historical significations and threat-effects of lynchings and lynching images. The images in the analog and digital archives suggest that a re-envisioning of the history of lynching and racial violence is in order, a re-envisioning for which this chapter will hopefully serve as a provocation and prolegomenon. Of course, the other main point of this chapter has been to show that this re-envisioning is already ongoing, through the digitization and digital distribution of lynching images by companies like Corbis. This wave of digitization, made possible by the refrigeration and securitization of analog images, has both helped to open new critical reading possibilities and contributed to the reproduction of an overly narrow definition of lynching in scholarship on racial violence, while simultaneously effecting an as-yet unexamined proliferation of lynching imagery. With the advent of digital reproduction and distribution, more lynching images circulate in the world today than ever before. While the era of lynching may have, for the most, part ended, the era of lynching images, has seemingly only just begun.

Epilogue: The Future of Preservation

For his "Last Pictures" project, Trevor Paglen created a silicon disc micro-etched with 100 images, encased in gold. In 2012, he launched the disc into outer space on the communications satellite EchoStar XVI, where he claims it will orbit the earth for up to five billion years. In Paglen's view, space satellites, not the Great Pyramid or any other earthly structure, will be the longest-lasting traces of human civilization.[376] Paglen's project reflects a broad circuit of preservation, at the societal level, in the "late" digital age. I call our moment the late digital age to reflect the fact that American subjects are increasingly aware of the ephemerality of digital media, even as we intensify our investments in digital media preservation. In the late digital age, preservationists are seeking increasingly to counter the ephemerality of digital media by returning to residual media formats, like microfilm, and even ancient media formats like etching, in order to create durable backups of digital media. Other examples of this circuit of preservation include: the M-Disc, a compact disc that records digital data within a layer of synthetic rock; the Rosetta Disk, a stone disk laser-etched with texts written in the world's endangered languages; and Lukas Rosenthaler's proposal to microfilm digital files' 1s and 0s as a series of light and dark dots.[377] These projects, while exceptional in their

[376] Trevor Paglen. *The Last Pictures* (Berkeley, Los Angeles, and London: CreativeTime/The University of California Press, 2012), xiii.
[377] Lukas Rosenthaler, "Digital Archiving Tomorrow--A Foresight." *Archiving 2005* Conference Proceedings. Society for Imaging Science and Technology, 2005.

technological sophistication, reflect broad structures of feeling in relation to digital media--our simultaneous hope in their promises of dematerialization (and safety from loss), and our terror before the swiftness with which digital information is erased, lost, or rendered obsolete.

Figure 6.1 The Last Pictures. Image Credit: CreativeTime.

While Paglen's circuit of preservation resembles that in the Crypt of Civilization, Paglen, unlike the time capsule creators of the 1930s, does not mean for his images to be discovered, and certainly does not mean for these images to communicate something essential about what it means to be human, or American. On the contrary, Paglen's

project is revolutionary because it is the first permanent preservation project whose aim is to assert the ultimate impossibility of permanent preservation on earth, whether in Egyptian tombs or modern time capsules, or underground bombproof data storage facilities. Paglen situates his project in an astronomical time scale, and claims that his last pictures will still be here several billion years from now, when the sun swells exponentially and consumes the earth. Paglen intends that we who are living now look at his last pictures; he published a book that reproduces the 100 pictures with the hope that they could spark conversations about human behavior and its effects on the environment, the threat of nuclear weapons, and other issues touched upon in the images. As Paglen says in a promotional video for the project:

> "The Last Pictures is a document of this historical moment but it's not meant to be a representation of humanity. It's not supposed to speak for everybody. It's a very particular kind of document. One person's impressions about what the world might look like at this particular moment. And in a way that's all we can ask out of art. What I want out of art [are] things that help us see who we are now. And the best I can hope for is that this project will give us a way that we can actually look at ourselves."[378]

In his book about the project, *The Last Pictures*, Paglen points out that humanity now produces more images than ever, and that these images, the vast majority of them digital, are more ephemeral than ever. Older media like hieroglyphics in pyramids and cave paintings and even albumen prints still look good while "a chromogenic print from the 1970s has already faded, and a Zip drive from the late 1990s has become

[378] "Project Video." http://creativetime.org/projects/the-last-pictures/videos/. Accessed March 15, 2014.

unreadable."[379] He also cites Jonathan Good's research project and accompanying blog called "How Many Photos Have Been Taken?" to point out that by 2011 Facebook's servers already held 140 billion images—that is ten times the number in the collection of the Library of Congress. When you count the smaller, but still formidable collections of Flickr and other image sites, not to mention the unascertainable but certainly astronomical number of digital images stored on the NSA, FBI, and CIA servers, it is easy to imagine that the number of digital images stored on earth number in the trillions. Yet these images, for all that they document and represent, are incredibly ephemeral, as they must be migrated to new data formats every three to five years to prevent loss through obsolescence; digital images are subject to material decay since, at the end of the day, they are still material and must be stored on hard drives that are subject to bit rot. As we all know probably all too well, hard drives, from time to time, fail, are erased, fall into toilets or other bodies of water, burn up in fires, are erased by magnets, are run over by cars, in short, they're subject to the same natural and man-made disasters as paper and film, though we repeatedly tell ourselves that they are not.

Finally, digital images are ephemeral because they materialize through the mobilization of enormous amounts of natural resources, as they require electricity, electrical grids, and the generation of electricity through hydropower or the burning of fossil fuels which themselves must be extracted constantly. In a word, digital images require a massive, very material, infrastructure to exist. A photograph printed on paper can last centuries, if stored in friendly environmental conditions, whereas the collapse or

[379] Paglen, *Last*, xiii.

malfunction of the highly contingent and ultimately unsustainable energy infrastructures that rely on petroleum would threaten the digital image with extinction.

Paglen's etching of an image archive in a highly durable material reflects, albeit in a spectacular and extreme form, the way we tend to respond to the ephemerality of digital images. In a similar project, the Long Now Foundation has created the Rosetta Disk, using a similar micro-etching laser technology.[380] The Rosetta Disk preserves texts written in a number of endangered human languages by micro-etching them in titanium. The prototype disk is stored underground at a Smithsonian museum in Washington, D.C. On the level of consumer technology, a company called Milleniata has marketed a DVD-like preservation tool called the M-Disc. The tagline for the website reads: "YOUR LIFE. ENGRAVED IN STONE. 1,000-YEAR STORAGE SOLUTION."[381] While a typical CD or DVD stores information in dyes that degrade into unreadability in 10 or 20 years at most, the M-Disc etches digital files in a layer of synthetic rock embedded in the disc. Even cloud storage services, which rely upon a discourse of immateriality to convince clients of the safety of their data, have begun to traffic in images of impervious, stone-like media objects that will withstand the ravages of time. The online backup service Carbonite takes its name from a mythological, indestructible substance, best known as the material in which Han Solo was frozen in the Star Wars film, *The Empire Strikes Back* (1980).[382] Such products demonstrate our ambivalence before our deep and increasing investment in digital technology, as our financial and social transactions increasingly rely

[380] See "Disk: Concept." http://rosettaproject.org/disk/concept/.
[381] "What is M-Disc?" http://www.mdisc.com/what-is-mdisc/.
[382] See http://www.carbonite.com/.

upon stored digital information. We backup paper and microfilm files by digitizing them; we backup digital information by etching it or filming it.

But how widespread are these practices, really? How much does the work of Paglen and the Long Now Foundation, as well as these several consumer products really reflect our broader condition vis-a-vis our anxieties about the fragility of digital information? Many librarians and archivists are deeply concerned about long-term digital preservation, where "digital preservation" is defined as the practice of preserving that which is digital, rather than simply digitizing analog information (a far simpler affair).[383] As of yet, there is no authoritative, satisfactory answer to the dilemma of digital ephemeraility, though several proposals and practices indicate the reverse trend I'm tracing here. Lukas Rosenthaler, head of Imaging Lab at the University of Basel, proposes microfilming the 1s and 0s of digital files, along with metadata, such as the provenance of the image, and even a thumbnail analog image, to aid in the reconstruction of the digital image later. Ten years ago, Kodak took out a patent for archival microfilming of digital files. But these are not only theoretical proposals. At one of the largest secure records storage facilities in the world, the Iron Mountain Digital Studio offers digitization services, but also create microfilm versions of pdf files for archival purposes.[384]

In a more ironic register, The Ohio State University will submit this dissertation, against my will, to media preservation giant ProQuest. Universities in the U.S. almost

[383] For the details of this debate, see Paul Conway "Preservation in the Age of Google: Digitization, Digital Preservation, and Dilemmas." *The Library Quarterly* 80.1 (January 2010): 61-79.
[384] Stephen Chapman. "Microfilm: A Preservation Technology for the 21st Century?" Archiving 2005 Conference Proceedings. Society for Imaging Science and Technology, 2005. I visited the Iron Mountain Digital Studio in October 2013.

universally send their doctoral graduates dissertations to ProQuest, who publishes them and sells them to Amazon and other third parties, makes them available to university libraries, or makes them freely available, unless the graduate opts out of these automatic procedures. I have opted out of making my dissertation available in any format, but I still have to pay a $20 microfilming fee, as the pdf I submit will be both backed up in its digital form in ProQuest's "online vault" and in a microfilm made from the pdf, which will be sent to Iron Mountain for "an extra layer of protection."[385]

The most infamous case of digital preservation discourse's ability to reveal both our hope in the power of new media to preserve and our anxiety before its failing is the Apple Time Capsule, a wifi external hard drive that automatically backed up the user's computer. So many Apple Time Capsules failed that one customer launched a website called the Apple Time Capsule Memorial Register, where he invited other users to list the serial number of their failed device.[386] After 2500 registered, they closed the site. Nonetheless, even in the face of such failures, the time capsule remains a potent symbolic figure for the digital age, as we attempt to re-affirm the solidity and durability of digital information. In 2013, the Apple company doubled-down and released a new-and-improved product, the Airport Time Capsule. Apple's product description on their website encourages us to "back up a lifetime's worth of memories with AirPort Time Capsule," and assures us that once we have bought this product, we "never have to worry about losing anything important again."[387]

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[385] "ProQuest Dissertation Publishing Preservation." http://www.proquest.com/products-services/dissertations/publishing-preservation.html. Accessed April 1 2014.
[386] See http://timecapsuledead.org/. For an example of news coverage of this digital dilemma, see Charles Arthur and Sebastian E. Payne. "Apple Finally Admits Problems with Time Capsule and Offers Replacement." *The Guardian*. July 12, 2010.
[387] http://www.apple.com/airport-time-capsule/.

Paglen's Last Pictures project paradoxically re-affirms the hope for permanent preservation embodied in the Crypt of Civilization and the Time Capsule, while negating the possibility of permanent preservation on earth by reminding us that in 4 or 5 billion years, the sun will expand into a red dwarf and vaporize the earth and everything on it and in it, including the Great Pyramids, the Crypt of Civilization, the Bunker at Greenbrier, Iron Mountain, the Corbis Film Preservation Facility, every time capsule, every data center, every underground, bombproof records storage facility. The only permanent preservation that might occur will be achieved in outer space. In the same way that the Crypt of Civilization's underground vault architecture forecasted the bombproof media storage bunkers of the Cold War, Paglen's last pictures might forecast the future shape of media preservation infrastructure. Whether or not this forecasting turns out to be correct, *Last Pictures* is, in any case, not only a highly unique public artwork and sophisticated preservation project, but also a symptom of the anxieties provoked by the ephemerality of digital media. The grand claims of Apple, the publicity for Carbonite and cloud storage services, heighten this anxiety through the constant circulation of a contradiction in the conceptualization of digital media: on the one hand, digital files are in the cloud, implying that they are immaterial and thus not susceptible to decay and destruction; on the other hand, digital files are stored in symbolic online "vaults," in Carbonite lock boxes, or in impervious time capsules that are very material but can stand up to the ravages of time.

Paglen's project re-casts time itself by preserving his images in a space where time and decay do not so rapidly affect media materials. He thus seems to escape the contradictions of the digital age, but I suggest that his interstellar project is a symptom of

those contradictions, and a reflection of a long-standing American narrative of space as the next frontier, after the closing of the American frontier in the 1890s.[388] In a recent promotional video for Iron Mountain, the corporation narrates its history through a combination of slideshow, dramatized footage, and CGI animation. Iron Mountain is the largest secure records storage company in the world, a company that is increasingly investing in data center development and secure digital data storage. At the beginning of the video, Iron Mountain is founded amidst Cold War fears of a nuclear attack. The video then fast forwards through several decades of Iron Mountain's history, as it moved from paper and microfilm storage into warehousing magnetic tape and digital media. The video concludes with a vision of Iron Mountain's future, where a spaceship takes off vertically from the behind the office building of Iron Mountain--France, cruises easily into outer space, and docks at a space station alongside several other similar vessels, delivering digital backups to that space imagined to be beyond decay, where we the last pictures orbit unseen.

The media preservation space ship and space station scenario is just one of many dreams born out of the preservation complex, one that renews our faith in the unsustainable notion that we can preserve what we want to preserve forever, that sustains our belief that though war, racial violence, and the preemptive wrath of human fears might ravage the Earth and the people on it, our planet revolves through an unending space beyond time, beyond decay. In the dreams of the preservation complex, the universe beyond earth becomes a space of preservation *par excellence*. Paglen's *Last Pictures* might not be the last pictures at all, but the first set of pictures signaling what is

[388] For more on this master narrative, see Kilgore, *Astrofuturism*.

to come from within the grand designs generated by the preservation complex. When Thornwell Jacobs created the Crypt, he imagined it would be the only record of modern civilization that would survive until the year 8113. He did not imagine that others would imitate his effort, did not foresee the WTCC, data bunkers, the Corbis Film Preservation Facility, and Paglen's last pictures. In his attempt to preserve an archive against oblivion, Jacobs produced new kinds of preserved objects and preservation technologies, and inspired more projects like the Crypt. If this study of the preservation complex has revealed anything, it is that our grandest efforts to preserve often proliferate the desire to preserve as much as they might assuage our anxieties about media loss.

References

"2012 National Film Registry Picks in a League of Their Own." Library of Congress News Release, December 19, 2012. Accessed April 23, 2013. http://www.loc.gov/today/pr/2012/12-226.html.

"A Flogging for the Klan." *Time*, August 11, 1952.

Allen, James. *Without Sanctuary: Lynching Photography in America*. Santa Fe: Twin Palms Publishers, 2000.

Amato, Joseph. *Dust: A History of the Small and Invisible*. Berkeley and London: University of California Press, 2000.

"Americana Crypt to Await 8113 A.D: Oglethorpe University Plans a Cache to Be Opened When 20th Century is Ancient Era." *New York Times*. April 16, 1937. ProQuest Historical Newspapers: The *New York Times* (1851-2009) with Index (1851-1993). p. 25.

"America's 'Average Man,'" *The Cornell Daily Sun*, October 27, 1927

Apel, Dora. *Imagery of Lynching: Black Men, White Women, and the Mob*. New Brunswick, London: Rutgers University Press, 2004.

Apel, Dora and Shawn Michelle Smith, eds. *Lynching Photographs*. Berkeley and London: University of California Press, 2008.

Arnold, Matthew. *Culture and Anarchy*. 1869.

Arthur, Charles and Sebastian E. Payne. "Apple Finally Admits Problems with Time Capsule and Offers Replacement." *The Guardian* Technology Blog. July 12, 2010. http://www.theguardian.com/technology/blog/2010/jul/12/apple-time-capsule-recall-replace-fault. Accessed January 5, 2014.

"A Typically Average Couple," *Utica Observer-Dispatch*, April 25, 1935.

Auerbach, Jonathan and Lisa Gitelman. "Microfilm, Containment, and the Cold War." *American Literary History* 19.3 (2007): 745-768.

"America's 'Average Man,'" *The Cornell Daily Sun*, October 27, 1927.

Baker, Nicholson. *Double Fold: Libraries and the Assault on Paper*. New York: Random House, 2001.
Bazin, André. "The Ontology of the Photographic Image." In *What is Cinema? Vol 1*. Trans. Hugh Gray. Berkeley and Los Angeles: University of California Press, 1967.

Berg, Manfred. *Popular Justice: A History of Lynching in America*. Lanham: Ivan R. Dee, 2011.

Binkley, Robert C. "Do the Records of Science Face Ruin?" *Scientific American* (January 1929)

Black, Edwin. *War Against the Weak: Eugenics and America's Campaign to Create a Master Race.* New York and London: Four Walls Eight Windows/Turnaround, 2003.

Blee, Kathleen M. *Women and the Klan: Racism and Gender in the 1920s*. Berkeley, Los Angeles, and London: University of California Press, 1991.

Boothman, Barry E.C. "A Theme Worthy of Epic Treatment: N.S.B. Gras and the Emergence of American Business History," *Journal of Macromarketing*, 21.1 (June 2001): 61-73.

Boxer, Sarah. "A Century's Photo History Destined for Life in a Mine." *New York Times*. April 15, 2001.

"Branded Pastor Leaves the Hospital." *Gettysburg Times*. July 15, 1924.

Brown, Joshua. *Beyond the Lines: Pictorial Reporting, Everyday Life, and the Crisis of Gilded Age America*. Berkeley and Los Angeles: University of California Press, 2006.

Buck, Solon J. "The National Archives and the Advancement of Science," *Science* 83.2156 (April 24, 1936): 379-385.

Burton, John O. "Permanence Studies of Current Commercial Book Papers," *Bureau of Standards Journal of Research* 7.3 (1931): 429-439.

Cady, Susan. *Machine Tool of Management: A History of Microfilm Technology*. Ph.D. Dissertation. Lehigh University, 1994.

Cardozo, Karen and Banu Subramaniam. "Assembling Asian/American Naturecultures: Orientalism and Invited Invasions." *Journal of Asian American Studies* 16.1 (Feb 2013):1-23.

Carpenter, Kenneth. "Toward a New Cultural Design: The American Council of Learned Societies, the Social Science Research Council, and Libraries in the 1930s," in *Institutions of Reading: The Social Life of Libraries in the United States*, edited by Thomas Augst and Kenneth Carpenter, 283-309. Amherst: University of Massachusetts Press, 2007.

Chandler, Jr., Alfred D. *The Visible Hand: The Managerial Revolution in American Business.* Cambridge and London: Harvard University Press, 1977.

Chapman, Stephen. "Microfilm: A Preservation Technology for the 21st Century?" *Archiving 2005*. Washington D.C.: Society for Imaging Science and Technology, 2005.

Chun, Wendy. "Race and/as Techology; or, How to Do Things to Race." *Camera Obscura* 70.24.1 (2009): 6-35.
--*Programmed Visions: Software and Memory*. Cambridge and London: MIT Press, 2011.

Coffey, Mary K. "The American Adonis: A Natural History of the 'Average American' (Man), 1921-32." In *Popular Eugenics: National Efficiency and American Mass Culture in the 1930s*, edited by Susan Currell and Christina Cogdell, 185-216. Athens: Ohio University Press, 2006.

Cogdell, Christina. *Eugenic Design: Streamlining America in the 1930s.* Philadelphia: University of Pennsylvania Press, 2004.

Colla, Elliot. *Conflicted Antiquities: Egyptology, Egyptomania, Egyptian Modernity*. Durham and London: Duke University Press, 2007.

Conant, Jennet. *Tuxedo Park: A Wall Street Tycoon and the Secret Palace of Science that Changed the Course of World War II*. New York: Simon & Schuster, 2002.

Connor, R.D.W. "The National Archives: Objectives and Practices," *Bulletin of the American Library Association* 30.8 (August 1936): 592-593.
----. "Our National Archives," *Minnesota History* 17.2 (March 1936): 2

Conte, Robert S. *The History of the Greenbrier: America's Resort (2nd Edition)*. White Sulphur Springs: Trans Allegheny Books, 2011.

Conway, Paul. "Preservation in the Age of Google: Digitization, Digital Preservation, and Dilemmas." *The Library Quarterly* 80.1 (January 2010): 61-79.
"Corbis' Film Preservation Facility at Iron Mountain & the Bettmann Archive: Frequently Asked Questions, Updated April 2013."

"Crackdown on the Klan." *Time*. February 25, 1952.

De Graaf, Mia. "FBI to investigate mysterious death of physiotherapist who vanished and turned up three weeks later in place that police had already searched." *Mail Online*. February 4 2014. http://www.dailymail.co.uk/news/article-2551458/FBI-investigate-mysterious-death-physiotherapist-vanished-turned-three-weeks-later-place-police-searched.html.

DeMarinis, Paul. "Erased Dots and Rotten Dashes, or How to Wire Your Head for a Preservation." In *Media Archaeology: Approaches, Applications, and Implications*, edited by Errki Huhtamo and Jussi Parikka, 211-238. Berkeley, Los Angeles, and London: University of California Press, 2011.

"Directions and Lodging--Corbis Film Preservation Facility (FPF) located at Iron Mountain."

Durrans, Brian. "Posterity and Paradox: some uses of time capsules." In *Contemporary Futures: Perspectives from Social Anthropology*, edited by Sandra Wallman, 51-67. London and New York: Routledge, 1992.

Edwards, Gawain (G. Edward Pendray). *The Earth-Tube*. New York: Appleton and Company, 1929.

Ernst, Wolfgang. "Media Archaeography: Method and Machine versus History and Narrative of Media." In *Media Archaeology: Approaches, Applications, and Implications*, edited by Erkki Huhtamo and Jussi Parikka, 239-255. Berkeley, Los Angeles, and London: University of California Press, 2011.

Ernst, Wolfgang. "Archives in Transition: Dynamic Media Memories." In *Digital Memory and the Archive*, edited by Jussi Parikka, 95-101. Minneapolis: University of Minnesota Press, 2012.

--"Discontinuities: Does the Archive Become Metaphorical in Multimedia Space?" In *Digital Memory and the Archive*, edited by Jussi Parikka, 113-146. Minneapolis: University of Minnesota Press, 2012.

Evans, C. Wyatt. *The Legend of John Wilkes Booth: Myth, Memory, & a Mummy*. Lawrence: University Press of Kansas, 2004.

Fanon, Frantz. *Black Skin, White Masks*. New York: Grove Press, 1952.
--*The Wretched of the Earth*. New York: Grove Press, 1963.

Feyerick, Deborah. "Family wants answers in man's mysterious death in Texas." *CNN*. http://www.cnn.com/2014/01/14/us/texas-mysterious-death/. January 17, 2014.

Fitzgerald, Gerard J. *From Prevention to Infection: Intramural Aerobiology, Biomedical Technology, and the Origins of Biological Warfare Research in the United States, 1910-1955*. PhD. Diss, Carnegie Mellon University, 2003.

"Flog and Carve KKK on Negro in Texas Because of Protests." *Jet Magazine*, March 24, 1960.

"For the Year 8113 A.D." *New York Times.* April 20, 1937. ProQuest Historical Newspapers: The New York Times (1851-2009) with Index (1851-1993). p. 24.

Ford Motor Company. "Microfilm Safeguards Vital Records." *National Safety News* Vol 63 April 1951. pp 85-86.

Friedman, Lawrence Meir. *American Law in the 20th Century*. New Haven: Yale University Press, 2002.

Galison, Peter. "War against the Center." *Grey Room* 4 (Summer, 2001): 6-33.

Gilkeson, John S. *Anthropologists and the Rediscovery of America, 1886-1965* (Cambridge and New York: Cambridge University Press, 2010)

Glaser, Susan. "Posh, historical Greenbrier Resort is at a crossroads as business travel slows." *The Plain Dealer* (Cleveland). March 13, 2009.

Goldsby, Jacqueline. *A Spectacular Secret: Lynching in American Life and Literature*. Chicago: University of Chicago Press, 2006.

Gunning, Sandra. *Race, Rape, and Lynching: The Red Record of American Literature*. New York and Oxford: Oxford University Press, 1996.

Harmetz, Aljean. *The Making of the Wizard of Oz: Movie Magic and Studio Power in the Prime of MGM*. Hyperion, 1998.

Hartman, Saidiya. *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America*. New York and Oxford: Oxford University Press, 1997.
Heide, Lars. *Punched-Card Systems and the Early Information Explosion, 1880-1945.* Baltimore: Johns Hopkins University Press, 2009.

Hesseldahl, Arik. "How to Preserve Photos For 500 Years." *Forbes*, April 14, 2005. Accessed August 31, 2012. http://www.forbes.com/2005/04/14/cx_ah_0414photo.html.

Hill, John R. and C.G. Weber. "Stability of Motion Picture Films as Determined by Accelerated Aging," *Journal of the Society of Motion Picture Engineers* 27.6 (December 1936): 677-690.

Holland, Sharon. *Raising the Dead: Readings of Death and (Black) Subjectivity*. Durham and London: Duke University Press, 2000.

Holmes, Oliver Wendell. "The Evaluation and Preservation of Business Archives," *The American Archivist* 1.4 (October 1938): 171-185.

Hudson, Paul Stephen. "The 'Archaeological Duty' of Thornwell Jacobs: The Oglethorpe Atlanta Crypt of Civilization Time Capsule." *The Georgia Historical Quarterly* 75.1 (Spring 1991): 121-138.
--"'The End of the World--And After"': The Cosmic History Millenarianism of Thornwell Jacobs." *The Georgia Historical Quarterly*, 82.3 (Fall 1998): 594-607.

Iiams, Thomas M. "The Preservation of Rare Books and Manuscripts in the Huntington Library," *Library Quarterly* 2.4 (October 1932): 374-386.

Igo, Sarah E. *The Averaged American: Surveys, Citizens, and the Making of a Mass Public.* Cambridge and London: Harvard University Press, 2007.

Jacobs, Thornwell. "Greetings to the Inhabitants of the World in the Year A.D. 8113: Recorded and Placed in the Crypt" in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat* (Atlanta: The Westminster Publishers, 1945), 906-911.

-- “TODAY--TOMORROW: Archeology in A.D. 8113,” *Scientific American*, November 1936, 260-261.
-- “Address at the Closing of the Crypt of Civilization” in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat*. Atlanta: The Westminster Publishers, 1945.
-- “This Perilous Year: A REPORT ON THE STATE OF THE PEOPLE OF THE UNION: The contents of this pamphlet comprise an address made by Dr. Thornwell Jacobs, President of Oglethorpe University, before the Committee of One Hundred at Miami Beach, Florida, January 28, 1936” in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat*. Atlanta: The Westminster Publishers, 1945.
-- “What Will the World Be Like in 8113?: When the Crypt at Oglethorpe University is Opened” in *Step Down, Dr. Jacobs: The Autobiography of an Autocrat*. Atlanta: The Westminster Publishers, 1945.
-- “The Prophet on Parnassus.” In *Step Down, Dr. Jacobs: The Autobiography of an Autocrat*. Atlanta: The Westminster Publishers, 1945.

Jarrell, T.D., et al. “Deterioration of Paper as Indicated by Gas Chamber Tests.” in *Technical Bulletin* 605. Washington, D.C.: U.S. Dept. of Agriculture, 1938.

Jarvis, William E. “Modern Time Capsules: Symbolic Repositories of Civilization.” *Libraries & Culture*, Vol 27, No 3 (Summer 1992): 279-295.
--. “Do Not Open Until 8113 AD: The Oglethorpe Crypt and Other Time Capsules.” *World Fair*. 5.1 (Winter 1985): 1-4.
-- “The Time Capsule as a Way for the Future to Acquire Popular Culture Items,” in *Popular Culture and Acquisitions*, edited by Allen Ellis, 33-46. Binghamton: Haworth Press, 1992.
--. *Time Capsules: A Cultural History*. Jefferson and London: McFarland & Company, Inc., 2003.

Johnson, Victoria E. *Heartland TV: Primetime Television and the Struggle for U.S. Identity*, New York: NYU Press, 2008

Kaley, Carlisle, et al. “Health Concerns and Environmental Issue with PVC-Containing Building Materials in Green Buildings.” Integrated Waste Management Board. California Environmental Protection Agency, 2006. http://www.calrecycle.ca.gov/Publications/Documents/GreenBuilding%5C43106016.pdf. Accessed October 1, 2013.

Katznelson, Ira. *Fear Itself: The New Deal and the Origins of Our Time.* New York and London: Liveright, 2013.

Keil, Thomas J. and Gennaro F. Vito. "Lynching and the Death Penalty in Kentucky, 1866-1934: Substitution or Supplement?" *Journal of Ethnicity in Criminal Justice* 7 (2009): 53-68.

Kennedy, Stetson. *The Klan Unmasked*. Tuscaloosa: The University of Alabama Press, 1990.

Kilgore, De Witt Douglas. *Astrofuturism: Science, Race, and Visions of Utopia in Space*. Philadelphia: University of Pennsylvania Press, 2003.

Kimberly, Arthur E. "Deteriorative effect of sulphur dioxide upon paper in an atmosphere of constant humidity and temperature," *Bureau of Standards Journal of Research* 8.158 (1932).
--"The Preservation of Records in Vital Statistics," *Vital Statistics—Special Reports* 3.33 (August 5 1937): 153-160.
--"Repair and Preservation of Manuscripts in the National Archives," *The American Archivist* 1.3 (July 1938): 111-117.

Kimberly, Arthur E. and A.L. Emley. "A Study of the Deterioration of Book Papers in Libraries," in *Bureau of Standards Miscellaneous Publication* 140 (1933).

Kimberly, Arthur E. and J.F.G. Hicks, Jr., "A Survey of the Storage Conditions in Libraries Relative to the Preservation of Records," in *Bureau of Standards Miscellaneous Publication* 128 (1931).

Kimberly, Arthur E. and B.W. Scribner. "Summary Report of National Bureau of Standards Research on Preservation of Records," in *Bureau of Standards Miscellaneous Publication* 144 (May 9, 1934).

Kline, Wendy. "A New Deal for the Child: Ann Cooper Hewitt and Sterilization in the 1930s." In *Popular Eugenics: National Efficiency and American Mass Culture in the 1930s*, edited by Susan Currell and Elizabeth Cogdell, 17-43. Athens: Ohio University Press, 2006.

Kluitenberg, Eric. "On the Archaeology of Imaginary Media." In *Media Archaeology: Approaches, Applications, and Implications*, edited by Erkki Huhtamo and Jussi Parikka, 48-69. Berkeley, Los Angeles, and London: University of California Press, 2011.

Kuznick, Peter J. and James Gilbert, eds. *Rethinking Cold War Culture*. Washington and London: Smithsonian Institution Press, 2001.

Lant, Antonia. "The Curse of the Pharoah, or How Cinema Contracted Egyptomania." *October* 59 (Winter, 1992): 86-112.

Latour, Bruno and Steve Woolgar, *Laboratory Life: The Social Construction of Scientific Facts.* Beverly Hills and London: Sage, 1979.

Lears, Jackson. *Fables of Abundance: A Cultural History of Advertising in America*. New York: Basic Books, 1994.
--*Rebirth of a Nation: The Making of Modern America, 1877-1920.* New York: HarperCollins, 2009.
Levenstein, Harvey. *Fear of Food: A History of Why We Worry about What We Eat*. Chicago and London: University of Chicago Press, 2012.

Lewis, Sinclair. *Arrowsmith.* New York: Harcourt, Brace and Company, 1925.

Lipsitz, George. *The Possessive Investment in Whiteness: How White People Profit From Identity Politics*. Philadelphia: Temple University Press, 1998.

Litwack, Leon F. "Hellhounds." In *Without Sanctuary: Lynching Photography in America*, edited by James Allen, 8-37. Santa Fe: Twin Palms Publishers, 2000.

Lowry, Cynthia. "Mine Serves as Bomb Shelter," *Avalanche*, Lubbock, Texas, June 15, 1952.

Lynd, Robert S. and Helen Merrell Lynd, *Middletown: A Study in American Culture.* New York: Harcourt, Brace and Company, 1929.

Madison, James. *A Lynching in the Heartland: Race and Memory in America*. New York: Palgrave MacMillan, 2003.

Malone, Jacquie. *Steppin' on the Blues: The Visible Rhythms of African American Dance*. Urbana and Chicago: University of Illinois Press, 1996.

Martin, Carol. "Reality Dance: American Dance Marathons," in *Ballroom, Boogie, Shimmy Sham, Shake: A Social and Popular Dance Reader*, edited by Julie Malnig, 93-108. Urbana and Chicago: University of Illinois Press, 2009.

Marchand, Roland. *Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business*. Berkeley and London: University of California Press, 2001.

Masco, Joseph. *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*. Princeton: Princeton University Press, 2006.
--"'Sensitive but Unclassified': Secrecy and the Counterterrorist State." *Public Culture* 22:3 (2010): 433-463.

Massumi, Brian. "The Future Birth of the Affective Fact: The Political Ontology of Threat." In *Digital and Other Virtualities: Renegotiating the Image*, edited by Antony Bryant and Griselda Pollock, 79-92. London and New York: I.B. Tauris, 2010.

Mathias, Frank Furlong. *The GI Generation: A Memoir*. Lexington: The University Press of Kentucky, 2000.

May, Elaine Tyler. *Homeward Bound: American Families in the Cold War Era* (Revised and Updated Edition). New York: Basic Books, 2008.

McClintock, Ann. *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest*. London: Routledge, 1995.

McNergney Vinyard, JoEllen. *Right in Michigan's Grassroots: From the KKK to the Michigan Militia*. Ann Arbor: University of Michigan Press, 2012.

McWilliams, John E. *American Pests: The Losing War on Insects from Colonial Times to DDT*. New York: Columbia University Press, 2008.

Mead, Margaret. "Are Shelters the Answer?" *New York Times Magazine*. Nov 26 1961.

Mellon, DeForest. "Preserving Business Records for History…An Issue Raised by the NRA." *The Bulletin of the National Retail Dry Goods Association* (June 1934): 18-19; 87-88.

"Memory of Branded Pastor Still Blank," *The Naples Record*, July 16, 1924.

"Mighty Midgets of Filmdom." *Popular Mechanics* (December 1942): 72-76, 168-169.

Mitchell, Koritha. *Living with Lynching: African American Lynching, Plays, Performance, and Citizenship, 1890-1930*. Urbana, Chicago, and Springfield: University of Illinois Press, 2011.

Molina, Natalie. *Fit to Be Citizens? Public Health and Race in Los Angeles, 1879-1979*. Berkeley and Los Angeles: University of California Press, 2005.

Monteyne, David. *Fallout Shelter: Designing for Civil Defense in the Cold War*. Minneapolis and London: University of Minnesota Press, 2011.

Montagne, Renee. "The Last Public Execution in America." *NPR Morning Edition*. May 1 2001. http://www.npr.org/programs/morning/features/2001/apr/010430.execution.html.

Morrison, Toni. *Playing in the Dark: Whiteness and the Literary Imagination*. Cambridge: Harvard University Press, 1992.

"Most Interesting People." *American Magazine*, September 1937.

Mumford, Lewis. *Technics and Civilization* New York: Harcourt, 1934.

"Muncie church that stood against KKK needs help standing," *Fox News*, August 25, 2013, http://fox59.com/2013/08/25/muncie-church-that-stood-against-kkk-needs-help-standing/. Accessed January 1, 2014.

Nadel, Alan. *Containment Culture: American Narratives, Postmodernism, and the Atomic Age.* Durham and London: Duke University Press, 1995.

National Security Resources Board. *Is Your Plant a Target?* Washington, DC: US Government Printing Office, 1951.

"Nation Cheers as Tennessee Prevents Lynching." *Literary Digest*. December 29, 1934, 6.

"Nation's last public execution, 75 years ago, still haunts town." *Fox News*. August 12 2011. http://www.foxnews.com/us/2011/08/12/after-75-years-last-public-hanging-haunts-city/.

Newton, Michael. *The Ku Klux Klan in Mississippi: A History*. Jefferson: McFarland & Company, 2010.

Ngai, Mae. *Impossible Subjects: Illegal Aliens and the Making of Modern America.* Princeton: Princeton University Press, 2005.

Nora, Pierre. "Between Memory and History: Les Lieux de Mémoire," *Representations* 26 (Spring, 1989): 7-24.

Nordlund, Christer. “Endocrinology and Expectations in 1930s America: Louis Berman’s Ideas on New Creations in Human Beings,” *The British Journal for the History of Science* 40.1 (Mar 2007): 83-104.

Norman, Steve. “‘The Library Quarterly’ in the 1930s: A Journal of Discussion’s Early Years,” *Library Quarterly* 58.4 (October 1988): 327-351.

Oakes, Guy. *The Imaginary War: Civil Defense and American Cold War Culture*. Oxford: Oxford University Press, 1994.

“Oral History Interview with Daniel Duke, August 22, 1990.” Interview A-0366. Southern Oral History Program Collection (#4007) in the Southern Oral History Program Collection, Southern Historical Collection, Wilson Library, University of North Carolina at Chapel Hill. http://docsouth.unc.edu/sohp/A-0366/excerpts/excerpt_3082.html#fulltext. Accessed March 10 2014.

Paglen, Trevor. *The Last Pictures*. Berkeley, Los Angeles, and London: CreativeTime/The University of California Press, 2012.

Parikka, Jussi. “Archival Media Theory: An Introduction to Wolfgang Ernst’s Media Archaeology.” In *Digital Memory and the Archive*, edited by Jussi Parikka. Minneapolis and London: University of Minnesota Press, 2012.

Parks, Lisa. "Stuff You Can Kick: Toward a Theory of Media Infrastructures.” In *Humanities and the Digital*, edited by David Theo Goldberg and Patrik Svensson, Cambridge: MIT Press, forthcoming.

Patterson, Orlando. *Slavery and Social Death: A Comparative Study*. Cambridge: Harvard University Press, 1985.

Pendray, G. Edward. *The Book of Record of the Time Capsule of Cupaloy: deemed capable of resisting the effects of time for five thousand years; preserving an account of universal achievements; embedded in the grounds of the New York World’s Fair, 1939*. New York: Westinghouse Electric & Manufacturing Company, 1938. Digital version. Prelinger Library: San Francisco, 2006. archive.org. Accessed December 12, 2013.
--“The Crucible of Change.” *North American Review*. 247:2 (Summer 1939): 344-354.

Peters, T.K. *The Story of the Crypt of Civilization* (Atlanta: Oglethorpe University, 1940)
--“The Preservation of History in the Crypt of Civilization.” *The Journal of the Society of Motion Picture Engineers* (Feb 1940): 206-211.

Perkins, Fred W. "Preservation of Historical Films," *Transactions of the Society of Motion Picture Engineers* 10.27 (October 1926): 81.

Pernick, Martin. *The Black Stork: Eugenics and the Death of 'Defective' Babies in American Medicine and Motion Pictures Since 1915*. Oxford and New York: Oxford University Press, 1999
Pfeifer, Michael J. *Rough Justice: Lynching and American Society, 1874-1947*. Chicago: University of Illinois Press, 2004

"Preserving Our History in a Tomb: 'Crypt of Civilization' will re-create our daily life for people of 8113 A.D." *Popular Science* (December 1938): 110-113.

"Project Video." http://creativetime.org/projects/the-last-pictures/videos/. Accessed March 15, 2014.

Protection of Records: Consolidated Reports of the Committee on Protection of Records, 1947. Boston: National Fire Protection Association International, 1947.

Raffles, Hugh. "Jews, Lice, and History," *Public Culture* 19:3 (2007): 521-566

Raiford, Leigh. *Imprisoned in a Luminous Glare: Photography and the African American Freedom Struggle.* Chapel Hill: University of North Carolina Press, 2011.

Raymond, Matt. "'Packard Campus' Gift Ushers in Dawn of New Era for Audio-Visual Conservation." Library of Congress News Release. July 26, 2007. http://www.loc.gov/today/pr/2007/07-149.html

Romo, David Dorado. *Ringside Seat to a Revolution: An Underground Cultural History of El Paso and Juárez: 1893-1923*. El Paso: Cinco Puntos Press, 2005.

Rose, Kenneth. *One Nation Underground: The Fallout Shelter in American Culture*. New York and London: NYU Press, 2001

Rosen, Philip. *Change Mummified: Cinema, Historicity, Theory.* Minneapolis and London: University of Minnesota Press, 2001.

Rosenthaler, Lukas. "Digital Archiving Tomorrow--A Foresight." *Archiving 2005.* Washington, D.C.: Society for Imaging Science and Technology, 2005.

Rothman, Joshua. "The Many Lives of Iron Mountain," *The New Yorker.* October 23, 2013. http://www.newyorker.com/online/blogs/currency/2013/10/the-many-lives-of-iron-mountain.html. Accessed February 1 2014.

Rushdy, Ashraf H.A. *The End of American Lynching.* New Brunswick and London: Rutgers University Press, 2012.

Russell, Edmund. "'Speaking of Annihilation': Mobilizing for War against Human and Insect Enemies, 1914-1945," *The Journal of American History* 82.4 (March 1996): 1505-1529.

Rydell, Robert. *World of Fairs: The Century-of-Progress Expositions.* Chicago and London: The University of Chicago Press, 1993.

Schorer, Mark. *Sinclair Lewis: A Collection of Critical Essays*. New York: Prentice-Hall, 1962.

Schuster, E. Lincoln. *Eyes on the World: A Photographic Record of History-In-the-Making*. Simon and Schuster: New York. 1935.

Scribner, B.W. "Report of Bureau of Standards Research on Preservation of Paper Records." *Library Quarterly* 1.4 (October 1931): 409.
--"Air Treatment for Preservation of Records in Libraries." *Refrigerating Engineering* 33 (April 4 1937): 233-235.

Sellars, Nigel Anthony. *Oil, Wheat, & Wobblies: The Industrial Workers of the World in Oklahoma, 1905-1930*. Norman: University of Oklahoma Press, 1998.

Shah, Nayan. *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* Berkeley and Los Angeles: University of California Press, 2001.

Shinozuka. Jeannie. *From a "Contagious" to a "Poisonous Yellow Peril"?: Japanese and Japanese Americans in Public Health and Agriculture, 1890s-1950.* Ph.D. Diss., University of Minnesota, 2009.
--"Deadly Perils: Beetles and the Pestilential Immigrant, 1920s-1930s." *American Quarterly* 65.4 (December 2013): 831-852.

Singh, Nikhil Pal. "Rethinking Race and Nation." In *American Studies: An Anthology*, edited by Janice A. Radway, Kevin K. Gaines, Barry Shank, and Penny Von Eschen. West Sussex: Wiley-Blackwell, 2009.

Slattery, Thomas J. "The Atchison Storage Facility," *Army Sustainment Magazine*. May/June 1999.

Smith, Shawn Michelle. "The Evidence of Lynching Photographs." In *Lynching Photographs*, edited by Dora Apel and Shawn Michelle Smith, 10-41. University of California Press, 2008.
-- Smith, Shawn Michelle. *Photography on the Color Line: W.E.B. DuBois, Race, and Visual Culture*. Durham and London: Duke University Press, 2004.

Sokol, David. "Coming Out of the Dark: A former Federal Reserve bunker protects a different kind of currency." *Greensource*: The Magazine of Sustainable Design. March 2009.
http://greensource.construction.com/features/solutions/0903/0903_FederalReserveBunker.asp. Accessed July 26 2012.

Spears, Ellen Griffith. Baptized in *PCBs: Race, Pollution, and Justice in an All-American Town.* Chapel Hill: University of North Carolina Press, 2014.

Spiro, Jonathan. *Defending the Master Race: Conservation, Eugenics, and the Legacy of Madison Grant.* Burlington: University of Vermont, 2009.

Stearns, Marshall and Jean Stearns. *Jazz Dance: The Story of American Vernacular* Dance. New York: Da Capo Press, 1968.

Stern, Alexandra Minna. *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America.* Berkeley and Los Angeles: University of California Press, 2005.

Sterne, Jonathan. "The Preservation Paradox in Digital Audio" in Karin Bijsterveld & José van Dijck, eds. *Sound Souvenirs: Audio Technologies, Memory, and Cultural Practices*. Amsterdam: Amsterdam University Press, 2009.

Strom, Susan. *Beyond the Typewriter: Gender, Class, and the Origins of Modern American Office Work, 1900-1930*. Champaign: University of Illinois Press, 1994.

Susman, Warren I. "The Culture of the Thirties." In *Culture as History: The Transformation of American Society in the Twentieth Century*. New York: Pantheon, 1984.

Talley, Robert. "How Nation's 'Average Man' is Meeting the Depression," *Plattsburgh Daily Press*, March 19, 1932.

Tapia, Ruby C. *American Pietàs: Visions of Race, Death, and the Maternal.* Minneapolis and London: University of Minnesota Press, 2011.

The Southern Poverty Law Center. *Ku Klux Klan: A History of Racism and Violence*, 6th Edition. Montgomery: The Southern Poverty Law Center, 2011.

Thomas, G. Scott. *A New World to be Won: John Kennedy, Richard Nixon, and the Tumultuous Year of 1960*. Santa Barbara: ABC-CLIO, 2011.

Townsend, Billy. "Ku Klux Klan Met Its Match in Putnam County in the 1920s." *Tampa Bay Times*. October 19, 2012.

Trafton, Scott. *Egypt Land: Race and Nineteenth-Century Egyptomania*. Durham and London: Duke University Press, 2004.

Troyer, John. "Embalmed Vision." *Mortality* 12.1 (February 2007): 22-47.

"'Typical Families' Greeted by Mayor: After Official Ceremony, He, His Wife and Children Have Private Visit With Them." *New York Times*. May 12, 1940.

Vanderbilt, Tom. *Survival City: Adventures among the Ruins of Atomic America*. Princeton: Princeton Architectural Press, 2002.

"Vaporate Film Treatment to Protect Your Films," *Filmo Topics* (Summer 1937): 11.

Wade, Wyn Craig. *The Fiery Cross: The Ku Klux Klan in America.* Oxford and New York: Oxford University Press, 1987.

Ward, Walter H. "Records Protection Against Bombing: Your Storage Facilities." *Savings and Loan News* (May 1951): 26-27.

Warner, John Harley. *Dissection: Photographs of a Rite of Passage in American Medicine, 1880-1930*. New York: Blast, 2009.

Washington, Harriet A. *Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present*. New York and London: Doubleday, 2006.

Weil, Robert E. "Will One Fire…or Bomb Ruin Your Company?" *Credit and Financial Management* 53 October 1951): 7-8.

Weissman, Ken. "Musings on 500 More Years of Film and Digits." *AMIA Tech Review*. Issue 3. April 2011.
-- "Library of Congress unlocks ultimate archival system." *Creative COW Magazine*. http://library.creativecow.net/print.php?id=12352.

Weld, Thomas Dwight. *American Slavery As It Is: Testimony of a Thousand Witnesses*. New York: American Anti-Slavery Society, 1839.

Wharton, Don. "The Safest Place in the World." *The Saturday Evening Post*. March 22, 1952. 138-140.

Whitfield, Stephen. *The Culture of the Cold War, Second Edition*. Baltimore and London: The Johns Hopkins University Press, 1996.

Wilhelm, Henry, with Ann C. Hartman, Kenneth Johnston, and Els Rijper and Thomas Benjamin. "High-Security, Sub-Zero cold Storage For the PERMANENT Preservation of the Corbis-Bettmann Archive Photography Collection." In *Final Program and Proceedings: IS&T Archiving Conference*, 122-127. Springfield: The Society for Imaging Science & Technology, 2004.

Williams, Kidada E. "Reconsidering the Lynching Archive." Reviews in American History 41.3 (September 2013): 501-506.
--"Resolving the Paradox of Our Lynching Fixation: Reconsidering Racialized Violence in the American South after Slavery." In *Lynching Reconsidered: New Perspectives in the Study of Mob Violence*, edited by William D. Carrigan, 97-124. London and New York: Routledge, 2008.

Wood, Amy Louise. *Lynching and Spectacle: Witnessing Racial Violence in America, 1890-1940.* Chapel Hill: University of North Carolina Press, 2009.

Wood, Andrew. "The Middletons, Futurama, and Progressland: Disciplinary Technology and Temporal Heterotopia in Two New York World's Fairs." *The New Jersey Journal of Communication* 11.1 (Spring 2003): 63-76.

Wright, George C. Racial Violence in Kentucky, 1865-1940: Lynchings, Mob Rule, and "Legal Lynchings."

Yablon, Nick. “Encapsulating the Present: Material Decay, Labor Unrest, and the Prehistory of the Time Capsule, 1876-1914.” *Winterthur Portfolio* 45.1 (Spring 2011) 1-28.

Young, Harvey. “The Black Body as Souvenir in American Lynching.” *Theater Journal* 57.4 (2005): 639-657.

Young, James Harvey. *Pure Food: Securing the Federal Food and Drugs Act of 1906.* Princeton University Press, 1989.

Zapinski, Ken. “Mining the Hills for Storage: Butler County hole in the wall becomes acquisition target.” *Post-Gazette*. June 12, 1998.

Zunz, Olivier. *Why the American Century?* Chicago: University of Chicago Press, 1998.

Archival Sources

Westinghouse Archives, Heinz History Center
“The Middleton Family. Fair Weather (tentative title).” Westinghouse Electric Corporation Records. Box 70 Folder 9.

Westinghouse Press Release. “30,000 Science Students to Preserve Memory of the Time Capsule: Cupaloy Message to the People of A.D. to be Sealed In for 5,000 Years Tomorrow at High Noon Ceremonies.” September 22, 1940. Folder Time Capsule—Westinghouse Press Releases. Box 70—1938 Time Capsule. Westinghouse Museum Archives.

Undated Press Release. Westinghouse Museum Archives. Box 69. Folder Sterilamp (Microvivarium/Bugaboo of Bugville).

World in a Water-Drop Shown in Fair Exhibit: 12-Ring “Circus of Science” Will Magnify Microbes to Size of Jackrabbits at Westinghouse Building.” March 10, 1939. Westinghouse Museum Archives. Box 69. Folder “Sterilamp (Microvivarium/Bugaboo of Bugville)”

“The Bugaboo of Bugville: Now Showing.” Westinghouse Magazine. Vol 11 No 5 March 1939. p 5. Westinghouse Electric Corporation Records MSS Box 70 folder 7 “Exhibitions—Worlds Fairs—1939, New York (1938-1939)”

“How Electrical Devices Foster Public Health is Displayed at Fair.” Press Release. Westinghouse Museum Archive. Box 69. Folder “Miscellaneous Exhibits.”

Raimundo de Ovies to G. Edward Pendray, May 2, 1939. Westinghouse Museum Archives. Box 70--1938 Time Capsule. Folder "Crypt of Civilization--Oglethorpe University."

Thornwell Jacobs Radio Message. George Westinghouse Museum Archives Box 70--1938 Time Capsule. Folder Crypt of Civilization--Oglethorpe University.

Thornwell Jacobs to G. Edward Pendray, Sept 12, 1938. George Westinghouse Museum Archives Box 70--1938 Time Capsule. Folder Crypt of Civilization--Oglethorpe University.

"White Copy Time Capsule." George Westinghouse Museum Archive. Box 70--1938 Time Capsule. Folder Time Capsule--Westinghouse Press Releases.

Robertson, A.W. "5,000-Year Time Capsule: Address by A. W. Robertson, Chairman of the Board, Westinghouse Electric and Manufacturing Company, on the Occasion of the Depositing of the Westinghouse Time Capsule on the Site of the New York World's Fair 1939. Westinghouse Museum Archives. Box 70. Folder Time Capsule--Westinghouse Press Releases.

Westinghouse Fair World. Undated Publication (likely ca. 1939). On display at Heinz History Center in the 1939/40 World's Fair in New York Exhibit.

Middleton Family Ads. Westinghouse Electric Corporation Records. MSO Oversized Record Collection.

"Recordak Micro-Film Records Interred in "Time Capsule" at N.Y. World's Fair." The American Banker. Vol CIII No 235. New York, Monday, Oct 10, 1938. Westinghouse Museum Archive. Folder "Time Capsule—Published Articles." Heinz History Center. Pittsburgh, PA

The Story of the Westinghouse Time Capsule. Pittsburgh: Westinghouse Electric Company, 1938.

"Rare Book Describes 'Library' Buried in 5000-Yr. Time Capsule: Imperishable Document to Guide Archaeologists of A.D. 6939 to 'Story of Mankind' Deposited by Westinghouse at the World's Fair" Westinghouse Museum Archive. Box 70. Folder Time Capsule--Westinghouse Press Releases.

Thomas Kimmwood Peters Papers. UCLA.
Broadman pamphlet. Box 2. Folder 4. Thomas Kimmwood Peters Papers, Young Research Library, UCLA.

Thomas Kimmwood Peters Papers, Library of Congress, Manuscript Division.
Unlabeled object (fragment of metal film). Box 1 Folder Subject File, Educational Films.

NYPL Biblion Collection
"Questionnaire for Selecting the National Typical American Family." New York Public Library Biblion Collection.

Corbis
Colored Boy Lynched by Mob for Slaying/Lynching of Black Youth. March 13, 1935. Bettmann/CORBIS (BE027384).

Waiting for Dawn and Death. June 15, 1936. Bettmann/CORBIS (U7826911NP).

Frustrated Lynch Mob. December 31, 1924. Bettmann/CORBIS (U288901 ACME).

A Frightful Scene Near Omega's Landing, Mississippi/Afro-American Murderers Being Burned. Bettmann/CORBIS (BE049258).

Female Lynchers. Undated. Bettmann/CORBIS (S605).

Kidnapped Minister Bearing Klu Klux Klan Brand. July 15, 1924. Bettmann/CORBIS (U250730INP).

Effigy Hanging on Mansfield High School in Texas. May 31, 1956. Bettmann/CORBIS (U1322220INP).

Protesting Desegregation. August 31, 1956. Bettmann/CORBIS (U1113233).

Literary Treasures Saved by Book-worm Exterminator. Jan 6, 1933. Bettmann/CORBIS (U210551-10ACME).