10 DEFAULT DELETE: PHOTOGRAPHIC ARCHIVES IN A DIGITAL AGE

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Several years ago, my computer's hard drive crashed and I lost a couple of years' worth of my own digital photos. They were pictures of my toddler-aged son, mostly, and of our young family (he was the first child, and correspondingly well documented). For someone who had recently finished a doctoral dissertation revolving around photography archives and family albums, and who backed up text files with a fervor that bordered on obsession, I'd done a remarkably poor job of establishing any safeguards for what I would have told anyone were among my most cherished photographs. When it became clear that the images were irretrievable, I felt crushed, and hated the part of myself that routinely fails to adequately address matters of logistical life maintenance. Something had failed, but what? Was it me, was it "photography," was it "the archive"?

Over time it became more apparent that because of all the photographs from those years that I'd shared—through social media posts, attached in emails to friends and family members, included in gifts of little books and custom photo calendars—I still had more photographs documenting that couple of years of my son's childhood than I did from the corresponding years of my own childhood. Many of the "lost" photographs, it turned out, were remarkably persistent; the failed archive had already been dispersed into new contexts.[1]

Through cultural customs, theoretical musings, institutional expectations, and the rhetoric of technological progress, photography—in nearly all of its iterations—has come to be very closely associated with an expectation of permanence. And yet, the image ecosystem today— fueled by the rapid rise of social media, and mobile technology in particular—has transformed the role of

the digital photographic image as it is circulated, shared, saved, discarded, and recontextualized with speed and ease. These changes reflect the adaptable realities of formats like jpegs and gifs in lieu of traditional gelatin silver or cibachrome prints; viewing platforms such as mobile phones and tablets instead of magazines or galleries; and the near-instantaneous sharing enabled by Twitter and Instagram instead of print circulation or photo albums.[2] These shifts deeply challenge a field built (largely in the last forty years) on finely crafted prints, display in traditional gallery and museum spaces, and the printed photographic book tradition, and, as such, call for new tools of analysis and methods of evaluation.

What I experienced was not a failure of photographs, or of photography. Rather, if anything, it was a widespread failure to either allow or account for a role of ephemerality in the medium. In a way, my experience with photographic loss indicated a success of photographic endurance, no matter how accidentally achieved. Counterintuitively, a greater recognition of the nuanced ways in which photographs may—or may not—disappear, whether from material or digital realms, may mark the emergence of a culture that, despite itself, can come to value photographic impermanence in the face of an all-consuming default archive.

Printed family photographs circulated as discrete material objects that were traded and collected as *cartes de visite*, gathered into albums, and tucked into wallets. The object-ness of those photographs was both a matter of fact and a mechanism for social engagement, whether at the time of the photograph's staging and production, or after the fact.[3] In comparison, digital photographic images that circulate on social media can be widely and quickly distributed, are easily searchable, and often thematically aggregated through tagging.[4] Yet at the same time, they also may disappear as quickly as they emerge, or become lost in the digital flow of imagery. Beyond losing a hard drive, or using one of the increasingly prevalent options for temporary social media sharing, images seen online or among a stream of posts can be nearly impossible to find a second time. Indeed, a central question of our current photographic ecosystem revolves around developing a more nuanced understanding of the ways in which photographs appear and disappear. This is a question that affects both printed images (photographs as objects) and "immaterial" images (photographs on screens), though it may be the latter category that more robustly accounts for lived daily photographic engagement. Each broad category of image is subject both to staggering accumulation and rapid disappearance and, in fact, those very accumulations are often deeply connected to disappearance, as sheer quantity produces an inverse relationship with accessibility.

Nowhere are the close symbiotic connections between accumulation and loss more acutely present than in photographic archives, whether they are made up of seemingly endless linear feet of boxed documents, or seemingly endless quantities of data storage. The French historian and philosopher Pierre Nora argued that the "obsession with the archive … marks our age, attempting at once the complete conservation of the present as well as the total preservation of the past":[5]

> Modern memory is first of all archival. It relies entirely on the specificity of the trace, the materiality of the vestige, the concreteness of the recording, the visibility of the image…. The less memory is experienced from within, the greater its need for external props and tangible reminders of that which no longer exists except *qua* memory—hence the obsession with the archive that marks an age in which we attempt to preserve not only all of the past but all of the present as well. The fear that everything is on the verge of disappearing, coupled with anxiety about the precise significance of the present and uncertainty about the future, invests even the humblest testimony, the most modest vestige, with the dignity of being potentially memorable.[6]

Certainly, the relationship of the photograph to the archive has been one of the central extensions—proof, even—of Nora's observation. The relentless accumulations of archival objects are evidence of the failure of memory to be "experienced from within." By extension, photographs function as an outsourcing of memory: with the decline of an oral tradition, we remember less and less on our own.[7] This loss—at once cultural and individual—results in ascribing value to preserving the most mundane traces and testimonies of our lives. It is an impulse that squares comfortably with the power of the photographic medium, in its growing ubiquity and ease of use, to casually record the mundane details of lived experience, whether within the parameters of art or everyday imagery.

Archive theorist Joan Schwartz has outlined the co-emergence of photography and this archival urge historically, and situated the professional development of both within the positivist spirit of the nineteenth century,[8] arguing that "the photographic imagination and the archival imagination are inextricably linked, and can be traced to the same social origins and intellectual climate, the same desire for comprehensive knowledge and unmediated representation."[9] Schwartz situates photography as part and parcel of a much longer development, since the seventeenth century—of institutional "memory-houses" such as libraries, *wunderkammers* ("cabinets of curiosity"), and museums, as well as the establishment of encyclopedias—noting that "photographs took their place in this project as a means to know the world through possession of its images."[10] The rise of photography neatly coincides with a modern archival age and has, now, transitioned into the information age.

Everything and nothing

In the year 2017, fantasies of the total archive seem tantalizingly within reach. The rapid advancement of digital technology has played a central role in both advancing and reshaping the goals and parameters of traditional archives, indeed, in the reemergence of an encyclopedic belief in the possibility of enabling, as one

internet-based archive puts it, "universal access to human knowledge."[11] This digital positivism emerged over two decades ago in full swing in numerous state-sponsored online initiatives. In 1994, the Library of Congress launched the American Memory project and the National Digital Library Program.[12] The initiative's rhetoric took as a given their collections' role as the "nation's memory" and defined their mission "to sustain and preserve a universal collection of knowledge and creativity for future generations."[13] Similarly, The Universal Library was established, with the mission of using web-based technology to enable "free access to all human knowledge."[14] The claims of these projects to achieve a total archive were unabashed, yet with the increased complexity of archiving dynamic and ever shifting online material (let alone experience) these early efforts themselves record what may seem like a naïve persistence of Enlightenment-age optimism.[15]

But what is the future of obsessive data accumulation?[16] The clash of the analog print with the digital image is exemplified by the fate of the Bettmann Archive, which illustrates by now a common transformation of physical photographic archives. The 11-million-image-strong Bettmann Archive preserves a material record of world events, advertising, and depictions of everyday life, celebrities, and more.[17] In 2001, the *New York Times* reported that the material archive would be sunk 220-feet below ground level in a limestone mine sixty miles northeast of Pittsburgh, for storage in subzero, low-humidity conditions.[18] The decision was made for the good of preserving the photographs themselves, many of which are reportedly deteriorating. But the price of this transition was their physical inaccessibility. Of the entire archive, 225,000 images are available digitally — or, less than 2 percent of the collection.[19] The information in those images is available in digital translation, but the information embedded in the physical objects is, practically speaking, gone.

The disruption of conventional archival practices by digitization has posed a profound challenge to cultural institutions that may be woefully underprepared to address them, underfunded to invest in new technologies and staff training, and dismayed at the rapid transitions from one digital-preservation application to the next.[20] Yet distinctly apart from these formidable challenges is the emergence of an alternative mode of understanding photography: that of ephemerality. Currently, some of the most popular social media platforms for sharing photographs also are responsible for the intentional disappearance of those images. For example, every day, about 700 million photographic images are made and shared on the application Snapchat.[21] Yet, as a default condition of this service, the photographs disappear within moments of being viewed.[22] Between the app's early reputation as a sexting platform and its general lack of permanent visual archive (though, naturally, many exceptions exist), academic discussions of Snapchat initially appeared most prevalently within sociological and communication discourses.[23] Indeed, the founding principles of the app fly in the face of all things archival, and as such, present a distinct challenge not only to any visual culture study, but

also for the conventional tools of art history, which privilege tangible, reviewable photographs. But as a portal that hosts the social exchange of 700 million photographs per day, Snapchat facilitates a quantity of photographic production and level of popular engagement that no one interested in contemporary cultural photographic practice should easily dismiss.

More interesting, though, than the sheer quantity of images, is the evident appeal of disappearing photographs, particularly to a younger generation. This allure is underscored by a recent shift by the mainstream photo-sharing app Instagram, as well as others such as Xpire and CyberDust, to incorporate the ephemeral aspects of both text and image-based communication into online exchange. Indeed, because of its potential for establishing a newly private and "erasable" internet, at odds with the model of saving everything online (or, in tangible archival storage, forever), *The Wall Street Journal* technology journalist Farhad Manjoo declared Snapchat "the most important technology of 2013."[24] Though a default mode of saving everything characterizes much of the online world, there is nothing inherent about internet technology that requires material to be permanently saved. These are settings created by the people who design the programs. Similarly, within photography a default mode to save imagery characterizes the vast majority of approaches to the medium. And yet, again, there is nothing inherent to either analog or digital photographic technology to require this: there is no chemical or digital predetermination that photographic imagery need be fixed.

The most challenging and interesting provocation of these ephemeral apps, then, is how they expand our existing definitions of photography by demonstrating a mode in which images are not nostalgically or regrettably ephemeral, but simply matter-of-factly so: photographs can be short-lived, temporary records of a particular moment in time. In this mode, photographs are more akin to conversational exchange than to objects that acquire value and meaning by virtue of being collected, stored, and saved. Viewing photographs that exist only temporarily profoundly shifts the viewing experience and radically alters expectations weighted upon the medium. And yet, it's not entirely new: shared and ephemerally visible photographs have appeared sporadically over the medium's history to produce a highly social, performative, and often quite intimate form of exchange that offers a productive counterpoint to our cultural default of saving as much as possible, all the time.

Impermanence: Then and now

Generally speaking, we are primed to view photographic images at a glance, with the ready knowledge that the image—if not the object—easily can be conjured again. That is to say, if I have forgotten a detail from Dorothea Lange's iconic

Migrant Mother photograph, I can easily look it up in any photo-history textbook; if I can't remember what dress I wore to my senior prom, I can look through my high school photo album; if I want to feel absorbed in the emotional world of Nan Goldin, I can open *The Ballad of Sexual Dependency* and dive right in; if I want to send a friend a hilarious cat meme, I can do a Google image search and find a link. Whether I'm evoking a representation of a photographic object I've seen in material form, or a representation of an image that has only ever been viewed on a screen, I can see those photographs—object or image—again. Yet the consideration that some photographs aren't saved, and can't be reproduced or seen again, offers a different lens through which to understand the medium. In fact, looking back to the origins of the medium, as well as to the first decades of photography's use, impermanence arguably was not just an occasional condition of photography, but a foundational condition, despite persistent and well-coordinated efforts to eradicate it. From the founders' anxieties over chemically fixing the fleeting effects of light on a sensitive plate, through to a recent proliferation of contemporary cultural interest in ephemerality—not just in popular culture, but within the arts as well—this transitory mode of imagery reorients our understanding of the possible breadth of photographic experience.

During the so-called prehistory of photography, collaborators Thomas Wedgwood and Humphrey Davy sought to produce fixed photographic images. While Wedgwood and Davy claim to have succeeded in capturing images, none survive. Considering these experiments, I imagine their photographs fading, again and again, and think about the ratio of frustration to wonder at witnessing a thrillingly brief period of an image's visibility. In terms of their lasting contribution, photo historian Jordan Bear has argued that the easy dismissal of Wedgwood and Davy's photographic pursuits in most histories of photography as "failures" is evidence of the field's "attachment to an artifactual history of photography" that renders any photographic practice not resulting in a photographic object that has survived until our present moment relatively unworthy of further comment or attention.[25] It is worth noting that this observation also can speak well to the digital age of screen-based images.

Though ultimately, of course, practitioners figured out how to fix photographic images, often under elusively ideal circumstances, the medium remained stubbornly volatile and prone to all manner of degradation and impermanence. Indeed, it is through literature in the field of photographic conservation that grew over the course of the nineteenth century that one truly may appreciate the ongoing and persistent fragility of the medium, despite the pervasiveness of a more optimistic and stable narrative in art histories of photography. Describing the history of photographic image stability from the vantage point of 1987, George T. Eaton, the former head of the Photographic Chemistry Department at Kodak Research Laboratories, notes that in the 1840s and 1850s—the decades immediately following the public announcements of photography's invention—artists and scientists alike authored more than 150 papers attempting to explain

the lack of image stability in photographs. Eaton characterizes the prevalence of unstable photographs at this time as "chaotic."[26]

In 1855, both the Société Française de Photographie and the Photographic Society of London formally established groups to address the medium's instability. In the case of the latter group, Prince Albert financially supported the cause, motivated in part by the fading of photographs in the Royal collection. The so-called Fading Committee was tasked, as their name suggests, with studying the cause of this pervasive problem.[27] The displeasure with fugitive imagery appears to have been nearly universally felt, and was expressed in an 1892 debate (which, one should take care to note, transpired more than fifty years after the debut of fixed photographic images). In this debate about best exhibition practices among members of the Photographic Society of London, some considered allowing for—if not entirely accepting—the seemingly inherently fugitive state of the medium as they considered whether photographs that would be known to fade over the six-week run of a show ought to automatically be disqualified from exhibition. One member, Mr. Debenham, argued against their omission, saying, "If a man thinks he can get the most beauty, even though it be a fleeting beauty, by a certain process, let him do it. If necessary let the process be mentioned, so that those inclined to undervalue the work because it is not what they consider permanent may do so if they please."[28] Debenham thus recognized, in contrast to the viewpoints expressed by many of his colleagues, not just an ephemeral beauty in photography, but also that a viewpoint privileging photographic permanence was linked to a subjective perception of value.

While Debenham's viewpoint appears to have been clearly in the minority, recent practices seek to disrupt more aggressively our widely held assumptions of photography's stability.[29] In doing so, they insist on an anti-archival mode of image consumption, and on producing a shared experience often among an intentionally small audience. In 2012, the Los Angeles-based artist Phil Chang presented a series of photographs titled *Cache, Active* (Figure 10.1).[30] The title itself suggests a secret and dynamic stash, which in fact aligned with the contents of the exhibition: twenty-one matted and framed 11-by-14-inch unfixed photographic prints that began to change immediately upon being exposed to light at the exhibition's opening.[31] Chang's subjects were an array of photographic conventions: portraits, still life, landscape, and abstractions—so as not to slip into a reading based primarily on the subject matter of the image. One reviewer described the show this way in *Artforum*: "Presenting photography as a durational performance, the artist literally unveiled the works at the opening, exposing them to the gallery's bright fluorescence, which gradually darkened the pictures until, after several hours, all appeared a uniform dull maroon tone."[32] For the remainder of the exhibition, the photographs appeared as monochromes. Chang suggests a shift in our understanding of where the importance of photographs lies: in our minds, with the object, or in the image. By extension, the viewer may also wonder which, if any, of the billions of photographs made on a daily basis in our culture

FIGURE 10.1 Phil Chang, Installation View, from the series Cache Active, LA><ART, March 10–April 14, 2012. Courtesy of artist and M+B Gallery, Los Angeles. From left to right: *Two Sheets of Thin Paper, Four Sheets of Thin Paper, Six Sheets of Thin Paper*.

do we want or need to last. More fundamentally, though, the series challenges the notion that a photograph's value is equivalent to that of the image it presents.[33] Importantly, Chang's images have two primary modes of existence: first, in the period of their visibility, and second in their "monochrome period." Of the former, the scholar Walter Benn Michaels notes, "There is an important sense in which you don't simply look at these photographs, you watch what they're doing; it's a kind of performance."[34] And, like a live performance, it is ephemeral.

The recent work of artist Brian Ganter is concerned with film stills, sourced online, of gay actors in pornographic movies who have died from complications of AIDS. However, those stills become largely unviewable (Figure 10.2). Ganter covers the

FIGURE 10.2 Brian Ganter, *Karen Dior. Died August 25, 2004. Age 37*. Film still from *She Mail* (1995). Ambrotype, acrylic, and thermochromic pigment. 7.5 × 6″. Printed 2016. © Brian Ganter.

surface of the photograph—whether made on paper, metal, or glass—with a matte black heat-sensitive coating that obscures the image. The faces of Ganter's subjects exist perpetually underneath this black thermochromic pigment, and must be revealed through the application of heat. Thus, viewers must break typical art-viewing protocol not only by touching the prints, but often, by breathing onto them or holding the objects directly against their warm bodies to fleetingly reveal the image. In this case, the shared experience of the ephemeral image is fully visceral and intimately experienced, available only for a small number of viewers in close proximity to the work. The process of viewing entails an unusual level of commitment and physical involvement, thus necessitating a highly invested viewer. To speak nothing of the visual content, watching the underlying images emerge and then slowly disappear again engages viewers in the moving process of creating tenuous, ephemeral photographic images.[35]

In both Chang's and Ganter's series, the initial experience of the artworks is only available to a specific audience, and it is a visual—and in Ganter's case, visceral—experience that necessarily shifts over time, like performance art.[36] The experience of the work is both highly specific and unusually ephemeral. As the work of Chang and Ganter indicates, the ephemerality of photography is not just a digital question. Both artists' analog and highly tactile objects could not, in many ways, be further removed from a digital app, but they nevertheless move us readily back to that shared, yet ephemeral moment of photography, where this chapter began.

Ephemeral photography in the vernacular

In an essay on ephemeral photographs, the social media theorist Nathan Jurgenson wrote:

> [Temporary photography] rejects the burden of creating durable proof that you are here and you did that. And because temporary photographs are not made to be collected or archived, they are elusive, resisting other museal gestures

of systemization and taxonomization, the modern impulse to classify life according to rubrics.[37]

As cultural interest in ephemeral imagery grows, a history of photographs that has been set within a default-delete framework may come to seem more familiar—their absences made more visible. We intuitively understand the value of everyday face-to-face conversation, of the fluid and dynamic subtleties of communication that happen spontaneously and in highly specific, yet often mundane, locations: verbal exchanges in coffee shops, in a hallway passing between meetings, around the proverbial (or actual) water cooler. These exchanges are fleeting and ephemeral, and filled with the texture of everyday chit-chat and conversation, from banal pleasantries to surprising insight to shared moments of emotional poignancy. All of these exchanged words fail, every day, to be preserved outside of memory, let alone archived for posterity. More akin to spoken words than to novels, essays, or newspapers of record, ephemeral photography is an underdeveloped mode of a broader photographic language that can occupy registers from aesthetic to vernacular. This shift may mark a failure of the archive, in one sense, but it is a success in expanding the range of photographic communication and experience. Far from being photography at its least compelling and least valuable, ephemerally shared photographs reconfigure established notions of photographic value and upend the material privilege that generally consumes appreciation of the medium.

Notes

1 Of course, this means that the family archive from this period was reduced to those images I had determined as "worthy" of sharing; the possibility of later discovering an oddball picture that only became charming through the passage of time, as happened so often with analog family snapshots, was curtailed.

2 In the art-photography world, "in addition to" is more accurate than "instead of," while in other areas of photography, broadly speaking, the transformation has been more thorough. See Stephen Mayes, the founder of VII Photo Agency, in conversation with Pete Brook with regard to these questions in the documentary profession: Pete Brook and Stephen Mayes, "Photographs Are No Longer Things, They're Experiences," *Wired*, Nov. 15, 2012. Available online: http://www.wired.com/rawfile/2012/11/stephen-mayes-vii-photography/

3 In particular, work by scholars such as Elizabeth Edwards, Geoffrey Batchen, and Margaret Olin—each deeply invested in examining the materiality of photographic objects, particularly within a vernacular photography framework—are key here. It is notable that the very histories that made the strongest argument for bringing vernacular photography into the scholarly conversation also revolve around reclaiming the central importance of attending to the photograph's material dimensions, a quality that makes this branch of scholarship not obviously compatible with the most fundamental shifts to vernacular photography today. Namely, those

shifts include changes in the material form of images that are so profound that the images are often not seen as material at all. On the social and material use of vernacular photography, see, to begin: Geoffrey Batchen, "Vernacular Photographies," *History of Photography* 24: 3 (Autumn 2000): 262–271; Geoffrey Batchen, *Forget Me Not: Photography & Remembrance* (New York: Princeton Architectural Press, 2004); Elizabeth Edwards and Janice Hart, eds. *Photographs Objects Histories*: *On the Materiality of Images* (London: Routledge, 2004); Margaret Olin, *Touching Photographs* (Chicago, IL: University of Chicago Press, 2012).

4 For scholarship on digitally networked photography, see, for example: Katrina Sluis and Daniel Rubinstein, "A Life More Photographic," *Photographies* 1:1 (2008), 9–28; Daniel Palmer, "The Rhetoric of the JPEG," and David Bate, "The Digital Condition of Photography: Cameras, Computers, and Display," both in the second edition of Martin Lister's *The Photographic Image in Digital Culture* (London: Routledge, 2013).

5 Pierre Nora, *Realms of Memory: Rethinking the French Past, Volume 1: Conflicts and Divisions*, trans. Arthur Goldhammer (New York: Columbia University Press, 1992), 13. This three-volume work is a distilled translation of Nora's *Les Lieux de mémoire*, a seven-volume project published in France from 1984 to 1992. Nora's is a study of the places in which French history is crystallized, which creates sites of historical continuity.

6 Ibid.

7 The literature on the complex relationship between photography and memory is extensive, but surely always includes: Sigfried Kracauer, "Photography" (1927), in *The Mass Ornament: Weimar Essays*, ed. Thomas Y. Levin (Cambridge: Harvard University Press, 1995) and Roland Barthes, *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 1981).

8 The philosophy of positivism was developed in the 1830s by Auguste Comte, who argued that knowledge must be based on observed facts. The rising popularity of this method neatly coincided with the invention of photography (publicly announced in 1839).

9 Joan Schwartz, "'Records of Simple Truth and Precision': Photography, Archives, and the Illusion of Control," *Archivaria* 50 (Fall 2000): 40. For more on the role of French archivists during the July Monarchy in establishing archival regime, seen within a broader historical context, see Margaret Hedstrom and John Leslie King, "On the LAM," Organization for Economic and Co-Operation Development (2004). Available online: http:// jlking.people.si.umich.edu/OECD-LAM-published.pdf.

10 Schwartz, "Records of Simple Truth and Precision," 3.

11 Available online: www.archive.org. Accessed (Aug. 2016). This site divides its holdings into "Moving Images," "Live Music," "Audio," and "Text," but otherwise does not claim (or have) a focus to its survey. It is not notable for its collection, but rather for its purported ambition to provide "universal access to human knowledge."

12 They describe their project as, "a pioneering systematic effort to digitize some of the foremost historical treasures in the Library and other major research archives and make them readily available on the Web to Congress, scholars, educators, students, the general public, and the global Internet community." The Library of Congress (United States), American Memory/National Digital Library Program. Available online: http://memory.loc.gov/ammem/about/index.html. Accessed (Aug. 2016).

13 Ibid.

14 Available online: http://www.ulib.org/ULIBAboutUs.html. Accessed (Aug. 2016). The Universal Library is under the auspices of Carnegie Mellon University.

15 Projects such as Google Books and the Open Content Alliance aspire to create a free, comprehensive digital archive of all books. The two projects are now competitors, differing largely with regard to seeking copyright permissions.

16 The discussion here is one small slice of a much greater conversation about digital preservation and access in the face of rapid technological change and designed obsolescence, in which media formats are rapidly replaced and quickly become unreadable (one must think only as far back as Super 8 film and floppy disks to grasp the problem). For an in-depth analysis of the substantial challenges in preservation currently faced by cultural institutions that must grapple with digital and online content, see Richard Rinehart and Jon Ippolito, *Re-Collection: Art, New Media, and Social Memory* (Cambridge, MA: The MIT Press, 2014).

17 Reports of the number of images varies; the figure of 11 million is from Iron Mountain, the current keeper of the archive. Other sources suggest there are up to 17 million photographs in the archive. In 1935, Otto Bettmann moved his collection of photographs out of Nazi Germany to the United States, and in 1995, the archive was acquired by Corbis, which was founded by Bill Gates. For a critique of one source's ownership of a photographic archive, see: Geoffrey Batchen, "Photogenics," *History of Photography* 22:1 (1998): 18–26. Gates owned the digital reproduction rights to about 65 million photographs, a priority that spoke clearly to the economic advantages of owning digital-reproduction rights over material photographs. In 2016, the image-licensing division of Corbis was acquired by Getty Images.

18 Sarah Boxer, "A Century's Photo History Destined for Life in a Mine," *The New York Times*, Apr. 15, 2001: 30. In contrast to Gates and the Bettmann Archive, one can look to the Smithsonian Photography Initiative, and its dedication to the presentation and study, via digitization, of all 13 million images in its collection.

19 These numbers have no doubt shifted over time, though current figures are not readily accessible. Corbis's researchers and editors began by scanning those images deemed most culturally and commercially valuable, thus ensuring that popular images stayed popular. They then searched the collection for previously unknown treasures, and currently scan images based on researchers' needs. Researchers' and journalists' stories of visiting the mine are common online and typically begin with a sense of awe at the difficulty of actually reaching the remote site and getting past the multiple security clearances to the actual collection, followed by a sense of wonder at the troves of photographs available, the tiny fraction of the immense collection they are able to view, and the 5,000 years that the collection is projected to survive in cold-storage conditions.

20 A notable exception is Rhizome's recent launch of Webrecorder, funded by an Andrew W. Mellon Foundation grant and specifically designed to function as an open-access tool that archives dynamic web content in order to preserve online and new-media art. See: Dragan Espenschied, "Rhizome Releases First Public Version of Webrecorder," *Rhizome Blog*, Posted Aug. 9, 2016. Available online: http://rhizome.org/editorial/2016/aug/09/rhizome-releases-first-public-version-of-webrecorder/. Accessed (Aug. 14, 2016). For an in-depth analysis of the substantial challenges in

preservation currently faced by cultural institutions that must grapple with digital and online content, see: Rinehart and Ippolito.

21 Snapchat was launched in 2006 and has moved through multiple iterations of site design that have affected privacy and storage. A recent update made saving one's own posts a default option. In May of 2015, *Business Insider* reported that some 8,796 snaps are shared per second, which translates to over 700 million a day, worldwide. See: Molly Mulshine, "This Mind-Blowing Graphic Shows How Many Snapchat Photos Are Sent Per Second," *Business Insider*, May 28, 2015. Available online: http://www.businessinsider.com/snapchat-photos-sent-per-second-2015-5.

22 I am particularly grateful to the artists Tanja Hollander, Marni Shindelman, and Jesse Chehak for taking the plunge to try Snapchat with me in May 2013. No one else I knew was willing, often noting that they weren't the "right type" of person to use the app, which, at the very least, meant they thought they were just too old. The Pew Research Center published an analysis in 2015 that reported that 41 percent of all smartphone users 18–29 years old use ephemeral messaging apps, compared to just 11 percent of smartphone owners who are 30–49 years old, and 4 percent of those at or above age 50: Maeve Duggan, "Mobile Media and Messaging 2015: Main Findings," *Pew Research Center*, Aug. 19, 2015. Available online at: http://www.pewinternet.org/2015/08/19/mobile-messaging-and-social-media-2015-main-findings/.

23 This continues to be the case. I became interested in exploring Snapchat because Nathan Jurgenson was writing about it from a sociological perspective. See: Nathan Jurgenson, "Pics and It Didn't Happen," *The New Inquiry,* Feb. 7, 2013. Available at http://thenewinquiry.com/essays/pics-and-it-didnt-happen/. Since mid-2013, Jurgenson has written for Snapchat as a hired Researcher for the Venice, CA-based company. His Snapchat blog posts include: Nathan Jurgenson, "Temporary Social Media," July 19, 2013; and "The Liquid Self," Sept. 20, 2013; and "The Frame Makes the Photograph," Jan. 7, 2014. All available online: http://blog.snapchat.com/ In the last two years, Snapchat is regularly discussed in academic journals and blogs devoted to communication, social media, technology, and sociology.

24 Farhad Manjoo, "Do We Want an Erasable Internet?" *Wall Street Journal*, Dec. 22, 2013. Available online: http://www.wsj.com/articles/SB10001424052702304773104579272723222788620. Also, see Viktor Mayer-Schönberger, *Delete: The Virtue of Forgetting in the Digital Age* (Princeton, NJ: Princeton University Press, 2009).

25 Jordan Bear, "Self-Reflections: The Nature of Sir Humphry Davy's Photographic 'Failures,'" in *Photography and Its Origins*, eds. Tanya Sheehan and Andres Zervignon (New York: Routledge, 2015), 185. Geoffrey Batchen's landmark study *Burning with Desire: The Conception of Photography* (Cambridge, MA: MIT Press, 1997) opened up interest in reevaluating this early period of the medium's formation.

26 George T. Eaton, "History of Processing and Image Stability" (1987), reprinted in Debra Hess Norris and Jennifer Jae Gutierrez, eds., *Issues in the Conservation of Photographs* (Los Angeles: Getty Conservation Institute, 2010), 214. I am grateful to photograph conservator Jae Gutierrez for suggesting this book and other resources in her field.

27 This committee is seen by many as the origin of the much more recently professionalized field of photographic conservation, whose collective writings function as the most alarming documents about the ultimate instability of photographic material that I know.

28 Photographic Society of London, "Preparing Photographs for Exhibition," *The Photographic Journal,* (Dec. 1892): 78–81, reprinted in Norris and Gutierrez, eds., *Issues in the Conservation of Photographs*, 634.

29 While impermanence was generally seen in the nineteenth century as a practical problem to be solved, by the 1970s, it held a conceptual appeal. Robert Heineken and Sigmar Polke, both experimental artists, made work that conveyed a fundamental irreverence for the conventional markers of photographic craftsmanship and value, substituting instead a premium on conceptual engagement with vanishing—or potentially vanishing—objects. Such works, which are the subject of my current research, reopen an experimental approach to the chemical mutability of the photographic medium.

30 Chang has iterations of the series on his website dating back to 2010. Before that, he was experimenting with unfixed prints and abstractions in other capacities. I thank the artist for talking with me about *Cache, Active*. Kate Palmer Albers, unpublished interview with the artist, Oct. 26, 2014, Los Angeles.

31 James Welling describes Chang's process in greater depth: James Welling, "Associations for Phil Chang," *Nonsite,* Apr. 17, 2010. Available online: http://nonsite.org/editorial/associations-for-phil-chang.

32 Sarah Lehrer-Graiwer, "Phil Chang: LAXArt," *Artforum,* Summer 2012: 325.

33 That said, however, the project does circulate and succeed in the contemporary fine art photography market both as it was well documented and because collectors may buy an "aftermath" version of the objects from the exhibition. For a thorough discussion of the representational expectation of photographs, and contemporary efforts to undermine that expectation, see: Walter Benn Michaels, "Meaning and Affect: Phil Chang's *Cache, Active,*" *Nonsite*, Mar. 13, 2012. Available online: http://nonsite.org/feature/meaning-and-affect-phil-changs-cache-active.

34 Ibid.

35 As Ganter puts it, the work thus engages in a "trifecta of stigmatization": viewers must touch bodies considered sullied in three ways: gay, pornographic, and affected by AIDS. I thank Ganter for sharing his unpublished writing with me, "The Deceased Pornographic Body" and showing me the work in his studio in Tucson, Ariz., Nov. 14, 2014.

36 Both projects continue to complicate the unresolved relationship between photographic document and performance considered at length in, for example, Phillip Auslander, "The Performativity of Performance Art Documentation," *Performing Arts Journal* 28 (Sept. 2006): 1–10; Amelia Jones, "'Presence' in Absentia: Experiencing Performance as Documentation," *Art Journal* (Winter 2007): 11–18.

37 Jurgenson, "Pics or It Didn't Happen."

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