I’ve often wished for many of my objects of analysis not to exist. As one might expect, scouring digital footprints of white supremacists yields rather disturbing material. But last year, when I returned to study the image gallery of a long-standing nativist militia group, I was perplexed to find the home page redirecting to a network domain advertising an Indonesian beach. I refreshed the page: same cerulean waters. I re-typed the address and confirmed: adios to the clunky, xenophobic website of the Mountain Minutemen with its front-page call to donate and share posts. This Southern California–based nativist extremist organization emerged from the Minutemen Project movement as part of the anti-immigrant mobilization following 9/11, which fueled a new security paradigm rooted in the idea of homeland. Throughout my research, which took place from 2016 to 2021, I took screenshots from the photo gallery to analyze particular photos. I had always counted on the ability to access the full gallery depicting scenes from 2005 to 2015. The Internet Archive’s Wayback Machine had steadily crawled the site but didn’t capture nested pages beyond the home page. The images were gone.

Now that this page was no longer accessible, what about the hundreds of lost photos that told the story of how these “counter-narco terrorism” vigilantes recruited members or trained their “Patriot Point Posse” to hunt people
on the move? At the same time, I found it incontrovertible that removing access (by any means) to live platforms that disseminate and enshrine Far Right ideologies is something to celebrate. So herein lies the paradox and the strange sting of my unexpected wish fulfillment: as a scholar of racialized violence and media infrastructures, how was I to parse the implications of losing this archive that materially contributed to harm yet was full of objects of analysis that unlocked critical junctures of inquiry? For all my desire that these images never exist in the first place, losing access provoked an uneasy realization about my sense of analytic claim over them. How might I distance myself from seeing this as a personal research tragedy and instead zero in on the generative qualities of this disappearance?

This essay examines the afterlives of inaccessible, discriminatory media through the lens of reference rot, or the breakdown of active or functional website components. Writing in *Scientific American* in 1995, Jeff Rothenberg first warned of the “imminent danger” of losing digital information. Reference rot refers to the process of losing access to websites, hyperlinks, or source data needed to make a site run properly. The term encapsulates the precarious nature of digital material from unanticipated equipment failures, terminated domains, inactive servers, and degraded data within the context of ever-evolving web formatting and technical standards. On top of these components, Marisa Leavitt Cohn considers the labor contingencies in the construction of software itself: “the moral economy of software work also applies to its aging and obsolescence.” Given these various processes and reasons for digital decay, scholars have developed ways of picturing and describing the inability to archive all data. The ideas of a “digital dark age” and of “link cemeteries” connote a large-scale, mournful loss, while “digital heritage” suggests preservation practices with analog equivalents for cultural workers across film and media industries. Potential solutions to curb reference rot include Google vice president Vint Cerf’s notion of a “digital vellum,” which would index both content and operating system to create “an ecosystem able to remember what bits mean over long periods of time.” Until such speculative solutions become standardized, data remain just as endangered as nitrate film or museum artifacts.

As cultural workers know all too well, the politics of preservation have long been asymmetrical and contested, based in value-laden questions about what’s worth saving, why, and for whom. With this background I ask, What about data that endangers? Reference rot might just as easily encompass

---

anti-racist digital mediations that are worth holding onto. However, the archival impulse to preserve hateful media produces more complex considerations. How can media scholars usefully frame the disappearance of discriminatory online discourse that should be left for dead? Let’s consider the recently defunct website for the Mountain Minutemen to put forward methods for working across three dimensions of media loss: the gains made by eradicating media that stoke racialized harm, the persistence and adaptation of discriminatory data across media and platforms, and the role of precarity in shaping digital forms of cultural remembering and amnesia.

When it comes to combating white supremacists online, reference rot is an accidental hero. The unplanned nature of disappearing links or erased files serendipitously advances the larger project of removing white supremacist material from the internet, but it makes for a much less gratifying story. We’re not talking about savvy hackers infiltrating digital territories claimed by hateful bigots. This isn’t about artists or activists deploying counteroffensives to derail platform vitriol. Reference rot is seemingly random, and media scholars are specially equipped to spell out the potential gains of this phenomenon. We need grounded analyses that clarify the significance of discriminatory media’s removal and contextualize the historical processes shaping digital life’s impermanence. Given the various socio-technical processes that engender reference rot, media scholars can productively situate the political implications of disappeared discriminatory data.

Such an approach is familiar ground in the field. For decades, feminist film scholars have recalibrated the methods by which archival gaps and erasures can be taken up as starting points of inquiry, speculation, and oppositional reading. New media scholars have charted the political affordances of digital structures and the predictive patterns between online power and profit. Critical archive scholars have theorized the role of discrimination in projects of collective memory.


These theories and historiographies frame the unpredictable qualities of reference rot within a mediated continuum of material, historical, economic, and political contingencies. Building on this work, media scholars can pinpoint the productive capacities of eradicating discriminatory data.

Studying the Mountain Minutemen’s website helped me better understand how they promoted physical and digital border patrol. The images and the surrounding discourse on the site accounted for the development and weaponization of visual tropes that strengthened their vigilantism. For instance, they posted a series of photographs depicting abstract markings in sand to raise alarm about the counter-detection technology of migrants wrapping carpet or foam around their shoes. Other images zoomed in on trampled flora in the paths of clandestine crossings, framing broken stems as desecration of the American homeland. They took photos of hateful, slur-filled notes they placed in areas migrants commonly used to rest along the journey. They posed with their guns and imitated shooting migrants in jovial scenes at their base camp. In these images and more, the Mountain Minutemen had crafted a powerful, enduring call to bring boots on the ground and eyes on the border in ways that flaunted their alluring sense of impunity.

Though I had to cut my intended research short due to reference rot, it’s far more important that these images no longer circulate in their original context. Though each image and link is only a single droplet in the ocean of toxic online hate, their removal makes impossible any future use of such discriminatory data. Responding to Lisa Nakamura’s recent call for media scholars “to become familiar with [right-wing] culture’s iconographies, its visual preoccupations, its citational practices,” I can situate this lost object of analysis as a broken link in the supply chain of nativist citation resources.

Becoming familiar with rotted, inaccessible data means researching across qualitative and quantitative methods in order to sketch the structural contours of endangering data’s life and afterlives. In the absence of the photos I once studied, I can analyze the bright lines between their ideological aspirations and the motivations of contemporary nativists’ emergent media tactics. These photos made an indelible mark on anti-immigrant visual cultures, and I can locate the source and context of media they inspired. In their inaccessibility, I can chronicle one less data set poised to lend any semblance of historical veracity to white supremacist Great Replacement conspiracy theories. In other words, reference rot cut short our access to these images, but the longevity of their impact can still be analyzed. That includes contact tracings, which supports a twofold approach to mapping out the infrastructures of discriminatory data and creating archives that cull hateful media from their original context for study.

Emergent digital platforms have altered the spread of information among nativist vigilantes such as the Mountain Minutemen, but, of course,

---

11. “Mountain Minutemen.”
xenophobic fearmongering is neither new nor exclusive to networked digital contexts. Media scholars can use their training to contact trace or find points of contact with discriminatory media in order to map out its reach and permutations. By invoking this pandemic-era practice at the threshold of care and surveillance, media scholars can track the material and ideological viral load of absent media. Contact tracing for digital information spread differs from quantitative practices such as studying metadata in the form of traffic logs, taking up the qualitative work of comparing and histori­cizing rhetoric. Distant and close readings trace the virality and the vectors of spreading discriminatory data. New historiographies can emerge from mining and connecting the afterlives of discriminatory data.

With the Mountain Minutemen’s website down, I needed to look elsewhere for their media impact. My contact tracing was nonlinear, leading me to several more dead ends. The Southern Poverty Law Center (SPLC) had written about the rising prominence of the Mountain Minutemen and the dangers of their online outreach, but an obsolete Adobe Flash Player prevented me from viewing the embedded videos on their site. A disturbing snuff film alluded to in SPLC’s reporting had been picked up by local Mexican and US news outlets, but 404 errors prevented me from accessing reporting about the video. From here, contact tracing brought me further into nativist echo chambers.

Knowing that the Mountain Minutemen would have capitalized on any press as good press, I turned to right-wing news aggregate blogs and forums that might have concurrently reported on their activities, albeit in a more positive light. Through these sites, I eventually found direct links to YouTube channels that had posted the disturbing, first-person-shooter style videos. These stakeout videos imitate a night vision scope and play out the scenario of what the diegetic voice-over calls “cockroach hunting” before discussing a plot to dispose of the migrants’ bodies. These videos were initially claimed by the Mountain Minutemen, then rebuked, and finally admitted as staged by the head of the organization. The videos displayed a set of visual choices familiar to me from the website image galleries, deploying what I call the aesthetics of detection. Long before AI deepfake controversies or fake


15. These include powerlineblog.com, captainsquartersblog.com, patriotwebsites.net (now defunct), stormfront.org, and immigrationbuzz.com.


news discourse, the ability to track connections and aesthetics across media provided a strategy for accountability: in this case, contesting the nativist videographer’s claim of innocence (since the video was staged) by contextualizing this video as a calculated media ploy to inspire deadly force.

To return to Nakamura’s manifesto, I was motivated by the idea that “scholars must move to create their own visual archives of [right-wing] material—a job that we have been trained to do.” The controversy around the video’s veracity ignited right-wing debates about the power of free speech and the utility of what we might now refer to as fake news in producing a media spectacle.

Contact tracing the dead ends of the Mountain Minutemen’s website led me to their tactical shift from coverage of real events to releasing fantasy footage of imagined lethal violence. In my newfound attention to the unruly qualities of reference rot, it has become critical to take on the simultaneous work of actively archiving discriminatory media while creating the capacity to further trace its potential dead ends. Contact tracing the Mountain Minutemen’s defunct website allowed me to begin piecing together the foundations of cross-coalitional, anti-immigrant digital media infrastructures along the US-Mexico border. Their media shed light on particular methods of uniting the Right roughly a decade before the spectacularly visible tactics emboldened by the Trump presidency.

In her study of neo-Confederate forums, Tara McPherson analyzes how “Internet communities signal a new level of awareness about public perception and battles over public spaces. . . . These sites understand that successful publicity now requires an evasion of questions of race and racial representation.” Contact tracing of discriminating data and their reference rot can unveil attempts to recalibrate white supremacy into more covert or palatable forms. Through this method, media scholars can demonstrate the permutations and adaptability of more historically and legally recognizable forms of hate.

The internet is forever. This adage seems to dictate many of our decisions about what we post online. However, Safiya Noble has theorized the ways in which “memory making and forgetting through our digital traces is not a choice, as information and the recording of human activities through the digital software, hardware, and infrastructure are necessary and vital components of the design and profit schemes of such actions.” Fighting reference rot by renewing domains, paying hosting fees, and keeping up with compatible software and hardware all require time, labor, and money. Which organizations and individuals can afford to safeguard their digital footprint or work against them? What historical and social mechanisms nurture the afterlives of inaccessible media after reference rot? Through the example of a nativist organization’s downed website, I have explored

---

the precarity of digital records in assessing, historicizing, and countering or securing the afterlives of discriminatory media. Amid recent congressional hearings about platform moderation and popular concerns over disinformation, trolling, doxxing, and plots to enact violence, the risk of permanence seems to urgently outweigh the costs of oblivion.\textsuperscript{21} As media scholars, we can maintain the importance of such urgency while bridging it with necessary forms of remembering and structural analyses. We can advocate for ways to “value the presence in the absence,” as Lauren S. Berliner does in reframing the contributions of understanding unwatched digital media.\textsuperscript{22} Reference rot can happen to nearly any link or data bit, but its impact does not fall evenly in the context of nativist, white supremacist media. In lieu of an impossible one-size-fits-all solution to complex digital archival practices and technological standards, we can reject accepting reference rot as a neutral phenomenon and instead reformulate how to make use of existing and deleted traces of discriminating data.

Diana Flores Ruíz is an assistant professor of cinema and media studies at the University of Washington, Seattle, where her research and teaching focus on race and media in the United States.
