

*Article*

# A Death in the Timeline: Memory and Metadata in Social Platforms

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## ABSTRACT

This paper explores a Life Event post from Facebook as a point of departure for critical data studies to understand how social media metadata shapes digital cultural memory and the disciplining of data subjects. I discuss some possible interventions that can contribute to our understanding of metadata's role in the critical study of data, and in particular, how user generated metadata created in social platforms authored by state actors features in to new forms of information control, civic engagement, and networked information technologies. This discussion includes traditional concepts of concern and analysis for information and archival scholars, including creating data as a new form of belonging in society, collection tools and access policies, and the representation of events with metadata, such as death or state-sanctioned violence. In developing these concepts through a reading of a Life Event that announces death and state power over life as it is represented in a social platform, I seek to expand the modes that information scholars use to address issues of time, context, and memory in digital archives and metadata emerging from social platforms such as Facebook, Twitter, and Instagram.

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## INTRODUCTION: THE POWER OF SOCIAL PLATFORMS

Traditional understandings of state and social control are experienced through disciplinary institutions such as schools, churches, hospitals, and prisons.<sup>1</sup> These social institutions tend to build, enforce, and enroll people into information infrastructures as part of their disciplinary regimes and many information and communication scholars have given accounts of how emerging communication technologies and information systems such as the telegraph, credit cards and checks, or the filing cabinet gave rise to new genres of communication, documents, and ultimately, the discursive possibilities of modern corporations, governments, and markets of scale.<sup>2</sup> In an era of networked information technologies that rely on mobile broadband internet connections and the ownership of mobile devices that connect to next generation networks (such as 5G), we are beginning to see private information infrastructures (particularly internet-based platforms that create infrastructural goods) being used as public utilities of engagement.<sup>3</sup> In February of 2017, Facebook CEO Mark Zuckerberg posted a public statement entitled “Building Global Community,” on Facebook where he described how he intends to continue to build the business of Facebook into social infrastructure “like communities, media, and governments” have connected people throughout history.<sup>4</sup> When corporate social platforms such as Facebook or Twitter position themselves as social infrastructures that “work for us all” by bringing communities together as Zuckerberg has described, they increasingly exercise juridical power, and become what Frank Pasquale has described as “functional sovereignties” that create a new digital political economy.<sup>5</sup>

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<sup>1</sup> Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity*, 1st edition (New York: Routledge, 2006); Michel Foucault, *Discipline & Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Vintage Books, 1995); Gilles Deleuze, “Postscript on the Societies of Control,” *October* 59 (1992): 3–7.

<sup>2</sup> JoAnne Yates, *Control through Communication: The Rise of System in American Management* (Baltimore, Md.: Johns Hopkins University Press, 1993); Claudio Ciborra, *The Labyrinths of Information: Challenging the Wisdom of Systems*, 1 edition (New York: Oxford University Press, 2004); Lana Swartz, “Gendered Transactions: Identity and Payment at Midcentury,” *Women’s Studies Quarterly* 42, nos. 1/2 (2014): 137–53.

<sup>3</sup> Especially as we reach peak mobile penetration rates around in the developed and majority world, and as mobile networks increase broadband internet coverage. See: International Telecommunication Union, “ICT Facts and Figures 2017,” *ITU Yearbook of Statistics* (Switzerland: International Telecommunication Union, July 2017), <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2017.pdf>.

<sup>4</sup> Mark Zuckerberg, “Building Global Community,” *Facebook*, February 16, 2017, <https://www.facebook.com/notes/mark-zuckerberg/building-global-community/10154544292806634/>.

<sup>5</sup> Frank Pasquale, “From Territorial to Functional Sovereignty: The Case of Amazon,” *Law and Political Economy*, 2017, <https://lpeblog.org/2017/12/06/from-territorial-to-functional->

As private information infrastructures – whether they be cell phone towers, cloud storage providers, data centers, or shopping platforms – are leveraged by both state actors and citizens, they become imbued with public trust and new forms of civic engagement. Increasingly, states and citizens engage in governance and express free speech as users through platform affordances, engendering political discourse and civic participation, which in turn result in attendant forms of user generated data and metadata used for ad technology and revenue.<sup>6</sup> Social platforms like Snapchat, YouTube, Twitch, or Tinder not only connect users with each other and allow them to create and access digital media content, but they are data-driven marketing platforms that exert tremendous power over individual and public life in meaningful material ways. In addition to being theorized as public space, and recently legislated by the Supreme Court of the United States as a new kind of “modern public square” for “exploring vast realms of human thought and knowledge,”<sup>7</sup> social platforms are now grounds for new information warfare techniques used to influence elections, spread disinformation, and sow doubt in user communities by spreading media through automation and engagement techniques that, “result in broader circulation regardless of accuracy or intent.”<sup>8</sup> As digital firms accumulate power and capital from engagement data generated by platform users, they increasingly assert control over it by providing, limiting, or embargoing access to it. Social platforms like Twitter and Facebook exert functional sovereignty when they adjudicate free speech claims, censor or turn over user information to governments, become arbiters of hate speech or obscenity, or become sites of commemoration for state actions, or even clearinghouses for first publication of official statements from state actors, such as the President of the United States.<sup>9</sup>

In a post-user era of social infrastructures and online publics, where citizens, corporations, civic organizations, and state actors can all participate in platforms as users in networked communities, we increasingly observe states demonstrate and enact forms

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sovereignty-the-case-of-amazon/; Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information*, Reprint edition (Cambridge, Massachusetts London, England: Harvard University Press, 2016).

<sup>6</sup> Clay Shirky, “The Political Power of Social Media: Technology, the Public Sphere, and Political Change,” *Foreign Affairs* 90, no. 1 (2011): 28–41; Zeynep Tufekci, *Twitter and Tear Gas: The Power and Fragility of Networked Protest* (New Haven, London: Yale University Press, 2017).

<sup>7</sup> *Packingham v. North Carolina*, No. 15–1194 (Supreme Court of the United States June 19, 2017).

<sup>8</sup> Caroline Jack, “Lexicon of Lies: Terms for Problematic Information” New York, NY, USA: *Data & Society*, August 9, 2017, 3, <https://datasociety.net/output/lexicon-of-lies/>.

<sup>9</sup> As the Department of Justice has recently argued of President Trump’s personal Twitter account posts, see: Department of Justice, James Madison Project, et. al, V. Department of Justice, Preliminary Statement, No. Case 1:17-cv-00144APM, Document 29 (United States District Court for the District of Columbia November 13, 2017).

of governance through the social media logic of creating data and metadata with publishing and engagement features, resulting in a programmability of information alongside brands, media channels, and entertainment outlets directly through digital firms like Facebook, Twitter, and Amazon Web Services.<sup>10</sup> If social platforms accumulate power by acting as intermediaries between people, communities, firms, and states, it is then worth asking, how do these digital firms exercise functional sovereignty to create and control data subjects? And further, how might social platforms impact the patterns of human activity and the possibilities of digital archives by controlling access to user generated data and metadata?

## DATA SUBJECTS AND DIGITAL ARCHIVES

We live in a moment where creating data is a form of belonging. It is worth noting explicitly that data creation contexts and collection regimes are not only by way of internet connected infrastructure like mobile apps, bank card terminals, and social media platforms but that we have been becoming data subjects for the better half of the last century.<sup>11</sup> Yet it is only in the last few decades where the bulk of data created and collected is digital, born networked, and tacitly created in internet based platforms.<sup>12</sup> Whether we are taking the bus to work, turning in our homework through a learning management system, hailing a ride through an app, ordering a prescription for pick up, or shopping for the best deal, we are creating data traces that are collected by platforms. Indeed, a variety of networked platforms that support documentation, tracking, and records influence the reach of corporate digital firms, the state, and data brokers in our lives as we become data subjects. These data collection infrastructures shape our experience of control, risk, community structure, and increasingly civic engagement in the public sphere. Creating data to be collected is now part of what it means to be a parent, a student, a commuter, a knowledge worker, a gig worker, even a shopper. In short, to be a data subject is to participate in the datafication of society.

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<sup>10</sup> By post-user era, I mean the range of possibilities and multiple ontologies that can be used to represent “humans” as users in systems and in design ideology, including where the construct of user breaks down. For more see: Eric P. S. Baumer and Jed R. Brubaker, “Post-Userism,” in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, CHI '17 (New York, NY, USA: ACM, 2017), 6291–6303, <https://doi.org/10.1145/3025453.3025740>.

<sup>11</sup> Rita Riley, “Dataveillance and Counterveillance,” in *'Raw Data' is an Oxymoron*, ed. Lisa Gitelman (MIT Press, 2013), 121–46.

<sup>12</sup> Oscar H. Gandy Jr., “Data Mining, Surveillance, and Discrimination in the Post-9/11 Environment,” in *The New Politics of Surveillance and Visibility*, ed. Richard V. Ericson and Kevin D. Haggerty (Toronto: University of Toronto Press, Scholarly Publishing Division, 2006).

Datafication, as Diab and other infrastructure scholars have described it, allows for new sources and enablers to generate data to be collected and used but little choice about whether an individual can consciously create it and conscientiously control it once it exists.<sup>13</sup> Many legal thinkers and policy makers have commented on the inability to opt-out of enrollment into these social infrastructures as data subjects who must submit (intentionally but more often unintentionally) to creating swaths of data that are then collected and re-purposed by third party companies and data brokers in exchange for the use of the tool or service.<sup>14</sup> And thus creating data to be collected is increasingly compulsory to participate in society and in state programs.<sup>15</sup> In the United States for example, beneficiaries of entitlement programs must use a mobile phone to check their electronic benefit transfer (EBT) balance for welfare benefits or food stamps. Enrolling in health insurance including Medicaid involves e-mail and thus setting up (and accessing) an email account. In both cases, having access to a mobile phone and a personal e-mail address are not meaningfully voluntary for people to participate in these kinds of social services.

This essay focuses on drawing our attention to a turning point for states and their subjects who are now *both* users of social platforms and confronting the “datafication of society” by way of major digital firms and their data infrastructures.<sup>16</sup> How can we begin tracing the rise of state actors leveraging the logics of social media to create data that will be collected for profit? How does social media networking increasingly impart of the “how” of governing data subjects? How are social platforms used to engage and produce citizens through the control and access of information? And what does platform lock-in mean for governance, data portability, and control over content created in social platforms? My goal in exploring these questions is to consider social platforms’ control over digital cultural memory, particularly social media metadata that contribute to theories of digital archives. The essay engages with the very real and non-trivial possibility that increasingly, networked digital archives are “locked-in” to social platforms as a condition and feature of their functional sovereignty in society.

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<sup>13</sup> Ramon Salim Diab, “Becoming-Infrastructure: Datafication, Deactivation and the Social Credit System,” *Journal of Critical Library and Information Studies* 1, no. 1 (2017), <https://doi.org/10.24242/jclis.v1i1.19>.

<sup>14</sup> Gandy Jr., “Data Mining, Surveillance, and Discrimination in the Post-9/11 Environment”; David Lyon, “Surveillance, Snowden, and Big Data: Capacities, Consequences, Critique,” *Big Data & Society* 1, no. 2 (2014): 2053951714541861, <https://doi.org/10.1177/2053951714541861>; Pasquale, *The Black Box Society*.

<sup>15</sup> Sandra Braman, *Change of State: Information, Policy, and Power* (Cambridge, MA: MIT Press, 2006); Oscar H. Gandy Jr., *The Panoptic Sort: A Political Economy of Personal Information* (Boulder, CO: Westview Press, 1993).

<sup>16</sup> Mirko Tobias Schäfer and Karin van Es, eds., *The Datafied Society: Studying Culture through Data* (Amsterdam: Amsterdam University Press, 2017).

In what follows then is a bit of a climbing tour, a path that continues to unfold each day as the impact of algorithms and advertising technology comes under further scrutiny with the backdrop of known and ongoing election meddling and disinformation campaigns throughout the world.<sup>17</sup> I frame this peripatetic investigation of memory, metadata, and digital archives in my primary discipline of information studies, but I am also drawing from other bodies of scholarship, including archival studies, critical data studies, infrastructure studies, and science and technology studies (STS). The conceptual underpinnings of this project come from my own theorization of a platform perspective for personal digital archives in mobile and social platforms,<sup>18</sup> Brubaker's extensive empirical work on identity management and post-mortem stewardship,<sup>19</sup> Gillespie's ideas about governance and platforms,<sup>20</sup> and social media scholars like Van Dijck and Poell's work on social media logics and the datafication of society.<sup>21</sup> I also draw upon Foucault's theory of governmentality to make some brief remarks on the power of digital firms, states and state actors engaging with users of social platforms, and what this means for the future of archival access.<sup>22</sup>

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<sup>17</sup> Hadas Gold, "Facebook Bans Myanmar Military Chief and Says It Was 'too Slow' to Act," *CNNMoney*, August 27, 2018, <https://money.cnn.com/2018/08/27/technology/myanmar-army-facebook/index.html>; Elizabeth Dwoskin and Tony Romm, "Facebook Says It Has Uncovered a Coordinated Disinformation Operation Ahead of the 2018 Midterm Elections," *Washington Post*, July 31, 2018, <https://www.washingtonpost.com/technology/2018/07/31/facebook-says-it-has-uncovered-coordinated-disinformation-operation-ahead-midterm-elections/>.

<sup>18</sup> Amelia Acker and Jed R. Brubaker, "Death, Memorialization, and Social Media: A Platform Perspective for Personal Archives," *Archivaria* 77 (2014): 1–23.

<sup>19</sup> Jed R. Brubaker, "Death, Identity, and the Social Network" (PhD diss. University of California, Irvine, 2015), <https://escholarship.org/uc/item/6cn0s1xd>; Jed R. Brubaker and Vanessa Callison-Burch, "Legacy Contact: Designing and Implementing Post-Mortem Stewardship at Facebook," in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, CHI '16 (New York, NY, USA: ACM, 2016), 2908–2919, <https://doi.org/10.1145/2858036.2858254>.

<sup>20</sup> Tarleton Gillespie, "SAGE Handbook of Social Media: Introduction," in *The SAGE Handbook of Social Media*, ed. Jean Burgess, Alice Marwick, and Thomas Poell (London and Thousand Oaks, CA: SAGE Publications, 2017), <https://us.sagepub.com/en-us/nam/the-sage-handbook-of-social-media/book245739#9781412962292>; Tarleton Gillespie, "The Politics of 'Platforms,'" *New Media & Society* 12, no. 3 (2010): 347–64, <https://doi.org/10.1177/1461444809342738>.

<sup>21</sup> José van Dijck and Thomas Poell, "Understanding Social Media Logic," *Media and Communication* 1, no. 1 (2013): 2–14, <https://doi.org/10.17645/mac.v1i1.70>.

<sup>22</sup> Michel Foucault, "Governmentality," in *The Foucault Effect: Studies in Governmentality*, ed. Graham Burchell, Colin Gordon, and Peter Miller, trans. Rosi Braidotti (Chicago: University of Chicago Press, 1991), 87–104.

## SOCIAL MEDIA METADATA AND PETIT ARCHIVES

Platforms aggregate user data into collections that can be accessed, combined, and resold to third parties for advertising, app development, or predictive analytics. As a result of this business model, social platforms also shift the power of who owns user generated metadata, such as when and how layers of engagement data appear, and if posts, uploaded content, or pages travel through time. In his book on reverse engineering social media, Robert Gehl describes the problem of how digital firms own, and then lock-in digital cultural memory through the active negation of such networked context by controlling access to social media metadata. While digital firms that build social platforms are committed to preserving collections of user data *en masse* for analytics, preservation, and future use as part of their business model, they tend to promote asymmetric access for the creators themselves with what Gehl calls “petit-archives”:

[T]his limitation points to the gap between any personal archive and the massive archives maintained on social media sites: without the context provided by his or her social network, a user’s data are atomized, floating freely without the connections made within the network. Removed from context of the social media archive, personal data become stunted and incomplete, radically reduced in value. The user archive is a *petit-archive*.<sup>23</sup>

At present, social media platforms such as Facebook, Tinder, and Twitter frame personal digital archives as user-centered but decontextualized, and as such, provide tools for account holders to extract data from platforms that are authored by the user (only). While these “archive tools” allow users to download their personal social media data, they prohibit the extraction of engagement metadata—layers of context created between users, or that information that makes social media *social*. Typically, in ad-driven platforms aggregated social media data collections are preserved in context with metadata and accessed by digital firms. Slices of aggregated platform data can be bought by platform intermediaries such as third-party brokers, or even accessed by policing and government surveillance programs. The petit-archives afforded to users, stripped of context and often content created in social networks, represent a significant cultural experience of mediated life and remain a mark of social platforms’ asymmetrical control over information by limiting users’ access to social media data.

As in traditional archives, social platforms’ models of memory begin (and end) with the creator as an author: they are user-centered in terms of ownership, data-extraction and secondary use cases when users agree to give their data and metadata as

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<sup>23</sup> Robert W. Gehl, *Reverse Engineering Social Media: Software, Culture, and Political Economy in New Media Capitalism* (Philadelphia, PA: Temple University Press, 2014), 69.

terms of service. However, critics of user-centered data extraction approaches that result in petit-archives have pointed out that they fail to reflect the user experience of platforms as social infrastructures. Consider for example the platform development and software updates through time, or the reality of social networks up-stream—where platforms, user theories, and data products are designed, rolled out, and used *in situ*.<sup>24</sup> Further, when users download their personal digital archives from social media platforms, engagement and network data is grossly stripped away—layers of organic context that indicate how data traces have spread, traveled, or have been engaged by other users in social infrastructures are lost in the process of exerting individual control over personal digital archives in social media. Because of this active decontextualization and atomization of user data, petit-archives represent a significant shift in the criteria of digital archives or web archives for traditional stewards like professional archivists and their historic commitment to appraisal and weeding as part of the process of collecting for remembrance.<sup>25</sup>

Despite the reality that creating data is a form of belonging in our society—the data created in social platforms rarely belongs to creators themselves, and once extracted becomes incomplete. This poses a problem for archivists who typically rely upon creators themselves to define the origins of a collection, providing information about the context of creation in order to designate a chain of custody and preserve collections for future archival access. When social media collections are created, collected, and organized with aggregated metadata from networks of users instead of individual creators, basic archival principles of original order and provenance (that is *respect des fonds*), and authority control are transformed and recast to serve the business models of asymmetric access to information. And so petit-archives point to a double bind with the current reality of divesting and the possible reconstruction digital objects from social platforms in digital archives for users, digital stewards, and archivists. Because this active and ongoing decontextualization that strips layers of context and limits secondary future uses of data once it has been extracted, the current user-centered paradigm of social media data extraction for archives has stakes for we how describe, theorize, and confront information control in platforms, but also future contexts of accessing our digital cultural memory in social platforms by way of aggregated metadata and platform lock-in. Once individual users are limited from accessing networked data after it has been aggregated, they also cede control over secondary and future use cases to platforms, as well as second and third

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<sup>24</sup> Shawn Walker, “The Complexity of Collecting Digital and Social Media Data in Ephemeral Contexts.” (PhD Diss. University of Washington, 2017), <http://hdl.handle.net/1773/40612>; Gehl, *Reverse Engineering Social Media*.

<sup>25</sup> Anne J. Gilliland, “Reconceptualizing Records, the Archive and Archival Roles and Requirements in a Networked Society,” *Book Science* 63, no. 63 (2014): 17–34, <https://doi.org/10.15388/Knygotyra.2014.63.4011>.



parties who may access aggregated platform metadata made up of individual user data. The definition of user data and platform metadata remains a problem when access regimes and governance change, or if data acquires new status, value, or meaning across contexts. However, defining metadata by context is rarely axiomatic and changes as collections of data move through time and across space.<sup>26</sup> Petit-archives of social media with their context removed, point to the increasing gap between personal digital archives and the digital cultural memory embedded in social platforms. As we increase dependence on social platforms as massive, networked collections of data, digital archives of the public sphere are being centralized and locked-in to platforms by major digital firms exerting asymmetrical control over access to data and metadata as information infrastructure.

## METADATA AS INFRASTRUCTURE

There are many popular, historical, and occupational accounts defining metadata that give insight into the power and reality of data infrastructures now and in the past. Some begin with the library of Alexandria and the first known catalog of collected works created by Callimachus,<sup>27</sup> while others point to the establishment of a professional standards engineering community in the 1980s that resulted in the comprehensive Dublin Core metadata standard and ongoing outcomes (such as the Resource Description Framework) from the tireless work of library and information science professionals and oversight from OCLC.<sup>28</sup> Since the summer of 2013, a number of journalists, public oversight and accountability groups, and civil society organizations have attempted to explain metadata to the public as a direct outcome of Edward Snowden's NSA leaks and his subsequent information privacy activism. Post-Snowden, most public accounts of metadata then have been explained through the surveillance of mobile telephony metadata or the theft of personal information, such as all-too prevalent credit card hacks in the US. It is important to note that because metadata is often explained to the general public in terms of personal data traces instead of collections of networked metadata, it too, suffers from the gap between petit-archives of individuals and massive archives of social networks collected by digital firms. This public positioning of metadata definitions through personal data breaches or surveillance overreach tends to focus on ruptures and violations of individual users instead of the constant creation, tacit collection, administrative

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<sup>26</sup> Tom Boellstorff, "Making Big Data, in Theory," *First Monday* 18, no. 10 (2013), <http://firstmonday.org/ojs/index.php/fm/article/view/4869>.

<sup>27</sup> Markus Krajewski, "Tell Data from Meta: Tracing the Origins of Big Data, Bibliometrics, and the OPAC," *Osiris* 32, no. 1 (2017): 224–40, <https://doi.org/10.1086/694228>.

<sup>28</sup> Karen Coyle, "Understanding Metadata and Its Purpose," *The Journal of Academic Librarianship* 2, no. 31 (2005): 160–63, <https://doi.org/10.1016/j.acalib.2004.12.010>.

mandates of metadata collected from networked groups, communities, even populations.

When studying (or teaching) the definitions of metadata in professional training contexts, most information professionals educated in the United States make use of Zeng and Qin's textbook definition and connect it to management and organization of resources, defining metadata as "structured, encoded data that describe the characteristics of information bearing entities and as such enable functions for identifying, discovering, assessing, and managing the entities."<sup>29</sup> But for our purposes here in this research, and in terms of activating critical possibilities for others' scholarship of metadata, I am most drawn to Pomerantz' recent definition, "a potentially informative object that describes another potentially informative object."<sup>30</sup> By acknowledging possible futures through potential layers of information context, Pomerantz illustrates intentionality and multiple use cases in a constellation of materiality, time, and space that that people often encounter when describing and representing information about events, things, and processes in the world.

The conceptual foundations of contemporary metadata applications and their connection to the development of networked information infrastructures has been interrogated by scholars examining the "big data revolution" and its impact on scholarly communication infrastructures and the natural sciences.<sup>31</sup> Several information scholars have offered ways for apprehending the impact, methods of labeling, or naming data in historic, legacy, or active data collections in a number of meaningful ways. For example, Jane Greenberg has discussed the notion of metadata capital and created resources around "metadata literacy" for information professionals in data science contexts. Internet historian, Bradley Fidler has written widely about the origination, improvisation, and calcification of network standards and protocols in early internet architectures as metadata relates to infrastructure.<sup>32</sup> The classification theorist Melanie Feinberg's extensive and beguiling method for reading databases as whole works is another example

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<sup>29</sup> Zeng, Marcia Lei, and Jian Qin, *Metadata*, 2nd ed. (Chicago: ALA Neal-Schuman, 2016).

<sup>30</sup> Jeffrey Pomerantz, *Metadata* (Cambridge, MA, 2015), 26, accessed December 7, 2017 from <https://books.google.com/books/about/Metadata.html?id=j0X7CgAAQBAJ>.

<sup>31</sup> Christine L. Borgman, *Big Data, Little Data, No Data: Scholarship in the Networked World* (Cambridge, MA: MIT Press, 2015).

<sup>32</sup> Bradley Fidler and Amelia Acker, "Metadata, Infrastructure, and Computer-Mediated Communication in Historical Perspective," *Journal of the Association for Information Science and Technology* 68, no. 2 (2017): 412–22, <https://doi.org/10.1002/asi.23660>; B. Fidler and M. Currie, "Infrastructure, Representation, and Historiography in BBN's Arpanet Maps," *IEEE Annals of the History of Computing* 38, no. 3 (2016): 44–57, <https://doi.org/10.1109/MAHC.2015.69>.

of understanding metadata collections in context.<sup>33</sup> Elsewhere, Michael Buckland has discussed metadata standards as infrastructure with which to interpret patterns of thought and action that can be found in collections of documents within the information systems that we use to create, organize, and name the human lifeworld. While some information scholars, such as Christine L. Borgman or Ronald E. Day, have noted the power of metadata, representation and description, in contexts of big data infrastructure as enablers of creating more data.

Most scholarly interpretations tend to be concerned with standards development, design, and implementation of schema in professional contexts or in the historical interpretation of legacy standards and infrastructures. While many LIS scholars have engaged with the power of user generated metadata from platforms and the impact of folksonomies in tags from Web 2.0 technologies, such as Flickr, blogs, or forum discussions, few have begun to examine the impact and material discourse of metadata in social media and the mobile web. Maron and Carter's application of critical theory to user generated Tinder profiles is a welcome innovation explicitly in this direction, problematizing metadata and its role in digitally mediated identity construction in social platforms.<sup>34</sup> It is then useful and illustrative for understanding the power of digital cultural memory and control over accessing context from social media, to read a metadata record as it is created, published, enrolled and folded into a platform, even disappeared, to see how it is bound up and recast in the infrastructure of a social platform.

## LIFE LINES AND TIMELINES

Usama ibn Mohammed ibn Awad ibn Ladin, known as Osama bin Laden, was born in Saudi Arabia in 1957. He was the founder and 1<sup>st</sup> General Emir of Al-Qaeda, coordinating numerous bombings and attacks of terror throughout the world beginning in the 1980s. For more than a decade, bin Laden was on the Federal Bureau of Investigation's list of *Most Wanted Terrorists* for his involvement bombing US embassies in Nairobi, Kenya and

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<sup>33</sup> Melanie Feinberg, "Reading Databases: Slow Information Interactions beyond the Retrieval Paradigm," *Journal of Documentation* 73, no. 2 (2017): 336–56, <https://doi.org/10.1108/JD-03-2016-0030>.

<sup>34</sup> Deborah Maron and Erin Carter, "'More Than What It Seems': How Critical Theory, Popular Engagement and Apps Like Tinder Can Help Us Reframe Metadata and Its Consequences," *Proceedings for the International Conference on Dublin Core and Metadata Applications 2017* (Washington, DC), <http://dcpapers.dublincore.org/pubs/article/view/3849>.

Dar es Salaam, Tanzania and organizing the September 11, 2001 attacks in the United States.<sup>35</sup>

Shortly after 1:00 am on May 2, 2011, Pakistan Standard Time, a squad of Navy SEALs from the US Naval Special Warfare Development Group entered a compound northeast of Abbottabad, Pakistan, 100 miles east of the Afghanistan border. In thirty-eight minutes, the SEAL Team Six unit achieved their objective, killing 5 adults, including their target Osama bin Laden. Seventeen residents of the compound survived the raid that morning, thirteen were infants and children.<sup>36</sup> Later, President Barack Obama announced that under his direction, the US had “launched a targeted operation against” the compound, declaring that “[t]he death of bin Laden marks the most significant achievement to date in our nation’s effort to defeat al Qaeda[sic].”<sup>37</sup>

### The White House added a Life Event from May 1, 2011

On March 29, 2012, ten years and six months after the September 11th attacks, and ten months after bin Laden was killed, a staff member from the Obama White House added a Facebook Life Event (also known as a “milestone”), which was then added to the White House account’s timeline, Figure 1.<sup>38</sup> Later, the now famous photograph entitled “White House Situation Room” taken by presidential photographer Pete Souza which circulated widely at the time of bin Laden’s death was added to the post.<sup>39</sup>

This event which was created and posted to Facebook from an official government account, is enigmatic: both proof of death and a page “Milestone” according to the platform, it captures another kind of “Life Event” with varying degrees of ownership, culpability, and credit as well. Despite describing the end of a life, the

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<sup>35</sup> Dan Eggen, “Bin Laden, Most Wanted for Embassy Bombings?” *Washington Post*, August 28, 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/08/27/AR2006082700687.html>.

<sup>36</sup> Peter Baker, Helene Cooper, and Mark Mazzetti, “Bin Laden Is Dead, Obama Says,” *The New York Times*, May 1, 2011, sec. Asia Pacific, Osama, <https://www.nytimes.com/2011/05/02/world/asia/osama-bin-laden-is-killed.html>.

<sup>37</sup> The White House Office of the Press Secretary, “Remarks by the President on Osama Bin Laden,” *Whitehouse.Gov*, May 2, 2011, <https://obamawhitehouse.archives.gov/the-press-office/2011/05/02/remarks-president-osama-bin-laden>.

<sup>38</sup> While the name of the staff member who created and edited the Life Event is unknown, they were likely a political appointee and member from the Office of Digital Strategy of the Obama White House. For more on the responsibilities of the team, see: Gretchen Fox, “The Rising Stars Of Social Media: An Interview With The Obama White House Digital Team,” *Forbes*, accessed December 19, 2017, <https://www.forbes.com/sites/gretchenfox/2017/09/06/the-rising-stars-of-social-media-an-interview-with-the-obama-white-house-digital-team/>.

<sup>39</sup> “The Obama White House - Posts,” accessed October 30, 2018, <https://www.facebook.com/63811549237/posts/10150733626809238/>.

representation of the event as a Life Event means the post itself is ongoing and lives in the Obama White House Facebook archived page. It can still be engaged with, commented, on, shared, and reposted by Facebook users.<sup>40</sup>



Figure 1. The United States Killed Osama bin Laden, May 1, 2011. Life Event post.

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<sup>40</sup> For example, from the time I began writing this piece in 2017 to its submission for publication in 2018, the post has lost and gained a number of Likes, Comments, and Shares from The Obama White House Facebook page.

The post itself, as an event and representation of the killing of bin Laden, has a number of different origin points, creators and authors, and layers of times and unstructured metadata (amongst other kinds of metadata) embedded within. The post also tells a story of the inherent programmability of platform features and the datafication of events—in that it reveals a number of strange product rollouts available to users including historic buildings or government organizations like The White House account, and moderation issues that the platform now faces as it upholds and enforces Community Standards (Facebook’s Terms of Services).<sup>41</sup> It is also evidence of a digital political transition between two US presidential administrations, as the Life Event no longer appears in the current White House Facebook page of the 45<sup>th</sup> administration of the US.<sup>42</sup> While it is likely to be populated in the near future, the current administration’s White House Facebook Timeline is empty.

The Life Event that declares bin Laden’s death was originally posted in 2012 and backdated by the creator to May 1, 2011. When the post was created it was classified by the creator as an “Other Life Event”. Amongst a number of menu categories that allow users to create their own milestone posts, after Work & Education, Family & Relationships, Home & Living, Health & Wellness, the “Create Your Own...” is listed under the subcategory of Travel & Experiences menu and is indicated by a blue pennant flag. Importantly, the “Other Life Event” allows for user generated content and new forms of metadata that can be unstructured, unintended, or previously unimagined in platform features.<sup>43</sup> Life Events were a Facebook product rollout in November of 2011, and allow users to mark a range of activities from getting engaged, losing weight, to starting a new job or announcing the birth of a new child.<sup>44</sup> The feature continues to be updated. In October 2018 Facebook released a “Came Out” Life Event to celebrate National Coming

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<sup>41</sup> “Community Standards | Facebook,” accessed December 18, 2017, <https://www.facebook.com/communitystandards>.

<sup>42</sup> “The White House @WhiteHouse,” Facebook page, accessed November 18, 2017, <https://www.facebook.com/WhiteHouse/>.

<sup>43</sup> Julia Angwin and Madeleine Varner, “Facebook Enabled Advertisers to Reach ‘Jew Haters,’” *text/html*, *ProPublica*, September 14, 2017, <https://www.propublica.org/article/facebook-enabled-advertisers-to-reach-jew-haters>.

<sup>44</sup> Drew Olanoff, “Facebook Wants You to Add ‘Life Events’ to Your Timeline, but Will You? - The Next Web,” *The Next Web*, November 11, 2011, [https://thenextweb.com/facebook/2011/11/11/facebook-wants-you-to-add-overly-creepy-life-events-to-your-upcoming-timeline/#.tnw\\_6PNWk8Ob](https://thenextweb.com/facebook/2011/11/11/facebook-wants-you-to-add-overly-creepy-life-events-to-your-upcoming-timeline/#.tnw_6PNWk8Ob); “Life Event - Documentation,” *Facebook for Developers*, accessed December 15, 2017, <https://developers.facebook.com/docs/graph-api/reference/life-event/>.

Out Day.<sup>45</sup> As platform features, Life Events are intended to mark life transitions, accomplishments, geographical or professional movement—to declare meaning, marking celebration and commemoration amongst social groups and different communities.

Presently, Life Events are part of the data created and generated for an account and metadata is often created by the user or automatically suggested based on user activity. For developers, Life Events are also known as a Page’s “milestone” edge, while People (individual users) can have Life Events, account Pages can only have milestones.<sup>46</sup> Life Events can be public, edited, or simply shared privately with Facebook on individual profiles as a personal scrapbook. Later, the product was updated to allow users to create any kind of Life Event that could be dated and described (instead of a pre-selected dropdown list), so that users could create any kind of events, affiliations, and connections they wanted, without having to choose from pre-selected fields. Years later this unstructured metadata and personalization feature for customizing schools, employment, and hobbies on an account Timeline would be revealed as the atomic level of user generated ad categories with little or no moderation, subsequently allowing advertisers to exclude racial categories or target hate groups when promoting advertisements. Both ProPublica and Slate investigations found that Facebook’s ad technology could be directed towards members of hate groups by listing anti-Semitic and white supremacist categories as part of ad buys and promotions.<sup>47</sup> Since then, Facebook has instituted stricter moderation filters, but ad categories continue to be scrutinized by public officials for violating federal housing discrimination laws.<sup>48</sup>

## Representation, Reception, and Engagement

Life Events can be added, selectively edited, and back-posted onto a Page’s Timeline by users, allowing them to create a list of affiliations, accomplishments, and actions. These posts can be engaged with by followers, through social buttons such as reactions or likes, re-shares, and comments. These posts can also be used as personalized information indicators for directed ad technology as described above. The Timeline product was made

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<sup>45</sup> Alexander Kacala, “In Honor of National Coming Out Day, Facebook Unveils ‘Came Out’ Feature,” *NBC News*, October 10, 2018, <https://www.nbcnews.com/feature/nbc-out/honor-national-coming-out-day-facebook-unveils-came-out-feature-n918811>.

<sup>46</sup> This is an important distinction for an account Page that represents an historic site or government organization, “Life Event - Documentation.”

<sup>47</sup> Angwin and Varner, “Facebook Enabled Advertisers to Reach ‘Jew Haters’.”

<sup>48</sup> Will Oremus and Bill Carey, “Facebook Let Advertisers Target ‘Jew Haters.’ It Doesn’t End There.,” *Slate*, September 14, 2017, [http://www.slate.com/blogs/future\\_tense/2017/09/14/facebook\\_let\\_advertisers\\_target\\_jew\\_haters\\_it\\_doesn\\_t\\_end\\_there.html](http://www.slate.com/blogs/future_tense/2017/09/14/facebook_let_advertisers_target_jew_haters_it_doesn_t_end_there.html).

available to all Facebook users in early 2012.<sup>49</sup> Accidentally released as “Facebook Memories” before it was removed in 2010, the Timeline feature is a reverse-chronological history of an account user’s actions merging information that had previously been posted on users’ Facebook Wall and Profile. It allows users to ‘tell their stories’ as a new kind of profile that privileges visual content over text. By combining users’ walls and profiles, Timeline publishes status updates, photographs, friends added (other network users), and personal or professional information that may change.

An examination of the Obama White House Facebook Timeline reveals that the Life Events feature was largely used for backdating the inauguration dates for all previous US presidents or marking significant legislative actions during the Obama administration. As I mentioned earlier, the bin Laden Life Event is now archived under the Obama White House administration’s Facebook archive, but no longer appears under the current administration’s White House Timeline, which has no Life Events posted. As of this writing the archived Life Event of the US killing bin Laden has 127 likes, 3 shares, and 43 comments in different languages dating from 2012 to 2016. It is worth noting that Facebook engagement metrics may change even with archived posts, and the post continues to take on layers of context as it is engaged with by other community users, site moderators, current and previous account administrators.

While multiple layers of social engagement become evidence of the post’s reception on Facebook, it also points to the edges of the platform in that moment—for example, if posted today, it may have less likes and more emotion reactions or more comments in other languages such as Persian and Arabic than it does now. The archived post is kind of research artifact that can depict a particular event but also how the product works, how it has aged and been received by the community, how it has changed, and so on. By consolidating profiles and status updates into a kind of individual, or in this case, a government organization’s newsfeed, the Timeline, in Facebook’s description, becomes “[t]he evolution of [the] profile.”<sup>50</sup>

Despite still being an active Life Event post to the Obama White House Facebook page, and having been archived by the National Archives and Records Administration as part of the presidential transition, the post still has a curious existence beyond its demonstrative platform features.<sup>51</sup> Both the current White House Facebook page and the archived Obama White House pages are classified as places (or historic landmarks) and government organizations by Facebook, despite having been both but in different times.

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<sup>49</sup> Christopher Slater Tow, “Tell Your Story with Timeline,” *Facebook*, September 22, 2011, [https://www.facebook.com/note.php?note\\_id=10150289612087131](https://www.facebook.com/note.php?note_id=10150289612087131).

<sup>50</sup> *Ibid.*

<sup>51</sup> “The Digital Transition: How the Presidential Transition Works in the Social Media Age,” *whitehouse.gov*, October 31, 2016, <https://obamawhitehouse.archives.gov/blog/2016/10/31/digital-transition-how-presidential-transition-works-social-media-age>.



Though both pages represent the same place, they represent two different organizations of people, a current and past administration, but the same executive branch of the US government. Despite the fact that the existence of two Facebook pages indicates a smooth digital transition of account assets, Life Events can be edited, backdated, added or removed from account Timelines, and thus important questions about creation and authorship and significance of the Timeline itself, by way of representation and use in the platform and through metadata become quite entangled.

While some may be inclined to remove posts during transition, or even separate the Life Event post from the reality of the event itself, we cannot separate its representation from the account of the compound raid and the various ways in which it circulated in the media and on digital platforms. The post itself begs us to ask, who is responsible for the death of Osama bin Laden? Who gives and takes credit and how is responsibility being assigned? For the post's description, metadata, and layers of context play with the nature of the creation, authorship, ownership, participation in the event itself as evidence of US actions in the war on terror. While President Obama made the decision for the US, he neither carries out the operation to kill bin Laden, nor authors or posts the Life Event on the page a year later. Indeed, the Life Event declares that the "The United States Killed Osama bin Laden."

Representing events and conflicting accounts of time is not unique to how governments communicate with social platforms, however, it does reveal the centrality and programmability of social media. For example, the official time of bin Laden's death and the Navy SEAL raid on his compound was on May 2, 2011. But the date of the announcement in the American press and the date of event listed on the White House account page is listed as May 1, 2011. This is because the Pakistan Time Zone is nine hours ahead of Eastern Standard Time in the US. As a result, the time of bin Laden's death is anchored to the time zone of the White House account's time zone at creation and the publication of the Life Event post, and not the place where the event occurred. Curiously, because of this programmability, the Life Event misrepresents his death as the day before because of the White House's account page time zone when it was created. The editing, timestamps, competing depictions of time, illustrate how social media traces (and metadata in particular) are dynamic and programmable by users, acquiring layers of context that continue to unfold and change as the platform grows, rolls out new features, adds new features or pulls support from others.

### **Programmability**

It is unknown whether Facebook's "Create Your Own..." Life Event option was ever intended for all events and actions possible in the human lifeworld such as prefiguring or announcing death. But Facebook has created a number of products that allow users to address deaths of other users, loved ones and community members in the platform; these include memorialization pages and assigning legacy contacts for accounts, amongst other

end of life stewardship options for users. Other social media platforms have also developed different ways to indicate the end of life of users and create modes of management for user accounts from halting engagement products to limiting access to selected followers or friends. Despite the range of possible options, the Life Event posted to the Obama White House Timeline was chosen as the way to memorialize the death of bin Laden, flattening, possibly neutralizing this killing by naming it a Life Event and adding it to the page Timeline by leveraging the structural engagement of the profile and audience channeling.

Another form of social media programmability that can be seen in the Life Event is the photograph that appears below the title. While the photograph itself was uploaded separately to the White House Timeline on May 3, 2011, it was then attached to the Life Event on September 27, 2016. The photograph has a strong resonance with the announcement of bin Laden's assassination outside of Facebook because it appeared in many print and television news media announcements of the operation. In the spring of 2011 a number of commentators, including Ken Johnson, an art critic for the *New York Times*, declared the curiosity of using the photograph from the situation room as evidence of the covert assassination operation because it is not evidence of his death, but an active (and ambiguous) scene of elected officials, cabinet members, and military brass looking on, witnessing the raid from thousands of miles away: "It is a strangely enigmatic coda to the hunt for Bin Laden. And it would be hard to think of a more telling image of the elusiveness of truth in a democracy's fraught struggle with terror."<sup>52</sup>

The range of these events and their public reception from the assassination of bin Laden, the documentation of the situation room during the Navy SEAL operation, the Life Event post of the killing that declares it a milestone on the Timeline of the United States, and finally the erasure or 'reset' of the White House account Timeline as part of the presidential digital transition to the Trump administration—are each tied to and complicated with representations of time, public disclosure, and statecraft. More specifically, the time stamps of the posts, additions, and transition, or the chain of custody. Here we can see how the user generated metadata in the "Other Life Event" posted to an official government user page that has been archived doesn't easily map onto traditional metadata standards or representing events or works, as in Dublin Core. It also resists categories in the Facebook post ontologies of naming death or the end of life, in traditional descriptive standards as well, but then leverages the programmability, connectivity, and datafication of social media logic to neutralize and subsume the responsibility for state-sanctioned violence appearing in the timeline, or commemorating the power of the US through the executive branch's Facebook page. Further, the

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<sup>52</sup> Ken Johnson, "The Power of the Situation Room Photograph," *The New York Times*, May 7, 2011, sec. Week in Review, <https://www.nytimes.com/2011/05/08/weekinreview/08johnson.html>.

milestone of state-sanctioned violence may violate the platform's community standards, for displaying disturbing content and violence. For those archivists, scholars, and historians interested in accuracy, our social media metadata must become more transparent, standardized, and portable in ways that this Life Event that names a death in a Timeline is not.

Like many other social media posts that governments and state actors publish in platforms, the anodyne programmability of 'The United States Killed Osama bin Laden' Life Event post and its datafication deserves more scrutiny from information scholars and from the social media designers who engineer platform experiences. Communication scholars, Van Dijck and Poell argue that "the idea that social media are neutral, unmediated spaces is an important assumption ingrained in many definitions of data flows. Part of social media's logic lies in the assertion that are "raw" resources merely being "channeled" through online veins."<sup>53</sup> By turning a death announcement from an assassination operation into a Life Event, we see how a state actor asserts an unobjectionable or unremarkable "Create Your Own...Other Life Event" that prefigures data about death, backdates it and then binds it with a powerful photograph. By riveting this event to the programmable logic of social media, we see how a profile's personalization feature can become strategy that complements state sanctioned violence and a new way of commemorating death in online public spheres.<sup>54</sup>

## MEMORY IN SOCIAL PLATFORMS

Social platforms accumulate power through connectivity and engagement data, user generated metadata, and the collection of digital traces about the world that have never been quantified before. Social media posts, including Life Events and Timelines, *make* memory in networks, and by being shared as milestones with followers and audiences, they become a new kind of networked commemoration of events. Commemoration, from the Latin *com momorare*, is to remember together.<sup>55</sup> It can also be defined as the action of remembering a dead person. Laura Millar has argued in her study on the metaphor of "archives" and memory, that: "[t]he choice of memory tool depends on a society's

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<sup>53</sup> Dijck and Poell, "Understanding Social Media Logic," 9.

<sup>54</sup> For more on the circulation of digital records featuring death and memorialization in the US, see: Tonia Sutherland, "Making a Killing: On Race, Ritual, and (Re)Membering in Digital Culture," *Preservation, Digital Technology & Culture* 46, no. 1 (2017): 32–40, <https://doi.org/10.1515/pdct-2017-0025>.

<sup>55</sup> "Commemoration," *Oxford Dictionaries* | English, accessed November 27, 2017, <https://en.oxforddictionaries.com/definition/commemoration>.

technology, language, and sense of values.”<sup>56</sup> The Life Event of the US killing Osama bin Laden illustrates the content and the role of collective memory that state actors can shape as they become active users in social platforms. A Life Event attached to the Timeline, and now archived in Facebook and at the National Archives, becomes a “vehicle of memory” and a ritual of transmission, but also a way of understanding how death can be neutralized in the platform itself.<sup>57</sup>

For centuries, sovereigns exercised rights over life by exercising the right to kill. Today the power over life has undergone massive transformations through the management and creation of data, by enrolling it with metadata into information infrastructures to reinforce, control, optimize, organize, name and order those data. Presenting the curious case of commemorating bin Laden’s death in a nation state’s account timeline on a Facebook profile, illustrates how the social media logics of programmability, connectivity, and datafication can be leveraged by states, just as they are enrolled into the functional sovereignty of digital firms, like Facebook, as social infrastructure that engage citizens in public acts of memory and commemoration. The programmability of the “Other Life Event” on Facebook allows for a double movement—both of stripping context and of creating contexts anew (that of naming, back-dating, resetting the Timeline), by becoming a Timeline milestone, the post becomes a kind of annunciation that separates contexts, collapses time zones, and elides the power of representing death with social media and our ability to archive it. The platform exerts a functional sovereignty that allows state actors to produce and edit social media data and metadata, while shaping how we collectively remember or commemorate death, the war on terror, or protecting Western democratic values and the will to live with platform features that can be personalized, updated, or even phased out. These account features should elicit larger concerns about the norms of platforms as social infrastructures and the datafication of cultural memory.

The creation and collection of metadata is an undertheorized space but increasingly important for understanding contemporary data cultures, power and governance. Our usual definitions of metadata in information studies have yet to include patterns of networked civic participation, the functional sovereignty of platforms, and the transformation of the sociopolitical experience of a citizen-user that ‘follows’ or interacts with state actors in social platforms. One goal of this study has been to show how user generated metadata can structure and order our experiences of commemoration—even neutralize them when leveraging social media features such as timelines or Life Events that can be programmed.

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<sup>56</sup> Laura Millar, “Touchstones: Considering the Relationship between Memory and Archives,” *Archivaria* 61, no. Special Section on Archives, Space and Power (2006): 121.

<sup>57</sup> Misztal, *Theories of Social Remembering* (Philadelphia, PA: Open University Press, 2003), 78.

## CONCLUSION

The impacts of ordering and naming in social platforms are everywhere and carry meanings for understanding arrangements of power in data cultures and information infrastructures. For those critical scholars who witness our broken world in its inequities and mechanisms of power in naming data, examining the development and implementation of personalized and programmable metadata schemas by state actors using social platforms is a place to start. Interrogating the representation, programmability, and engagement features of social platforms that governments and state actors use (such as Facebook and Twitter) to reach public communities offers a promising way forward in critiquing and upturning these arrangements, for making change in our information systems, and critiquing asymmetric control over access to information in social platforms.

Information scholars of today must grapple with the shifting realities of users, access, cultural memory, and rapid change as we give accurate accounts about information in the world. Understanding the development of metadata schemas as they unfold in the features and affordances of social platforms can open a through line for a generalizable theory of the political power of data infrastructures in our lives. Here I have attempted to make the case that the methodological consequences of expanding our definitions of this traditional and often underutilized concept to understand these new social arrangements are vast and immediate for digital cultural memory and the near future of archives as social platforms become social infrastructures of communication, connection, and control. Indeed, the politics of control is a matter of imposing ordering principles in the world, and we can see it at work in the metadata structures afforded to users of social platforms. In understanding our data subjectivity through these data infrastructures, we need a theory of networked memory that accounts for the public-private networked archives we are now witnessing, participating, and creating with social platforms. Here I have tried to make the case for expanding our usual definitions of metadata in information studies to include the patterns of networked participation of states in social media, and the transformation of the sociopolitical experience of a citizen-user who witnesses the description of events, and new forms of governance with these vehicles of memory.

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