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Archival Inversions: Rethinking Knowledge Infrastructures through the CUNY Distance Learning Archive

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In the spring of 2020, doctoral students at the City University of New York (CUNY) Graduate Center produced a collective intervention in the knowledge infrastructures of the largest public university system in the United States. The CUNY Distance Learning Archive (CDLA) sought to document and bridge the lived experiences of faculty, staff, and students—particularly immigrant and working-class undergraduates—across the 25 campuses comprising the CUNY system. The archive's three publicfacing collections span the closure of the university, the transition to remote teaching and learning, and the resulting activism of the #CutCOVIDNotCUNY movement pushing against austerity in public higher education. These collections therefore highlight the various tension spaces made visible by the breakdown and maintenance of university infrastructure during this time of crisis. Here, the CDLA builds on the concept of infrastructural inversion by enacting a kind of "archival inversion" that inscribes these fissures into our institutional memory as a public university. By putting in conversation otherwise disjunctured constituencies and discourses, the collections in the archive offer an opportunity to rethink the relational nature of infrastructure and the frozen dialectics that are made visible by moments of crisis. This article takes the infrastructural interventions of the CDLA collections as a starting point to explore questions surrounding digital archival approaches to times of crisis and how these endeavours might facilitate prefigurative politics and memory-making practices.

Au printemps 2020, des doctorants du Graduate Center de l'université de la ville de New York (CUNY) sont intervenus au niveau collectif sur les infrastructures de connaissances du plus grand système universitaire public des États-Unis. Les Archives Universitaire de l'Enseignement à Distance (CDLA) ont cherché à documenter et à relier les expériences vécues par le corps enseignant, le personnel et les étudiants – en particulier les immigrés et les étudiants de la classe ouvrière – sur les 25

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campus du système de la CUNY. Les trois collections publiques des archives couvrent la fermeture de l'université, la transition vers l'enseignement et l'apprentissage à distance, ainsi que l'activisme résultant du mouvement #CutCOVIDNotCUNY qui pousse contre l'austérité dans l'enseignement supérieur public. Ces collections mettent donc en lumière les différents espaces de tension rendus visibles par la rupture et le maintien des infrastructures universitaires pendant cette période critique. Ici, le CDLA s'appuie sur le concept d'inversion infrastructurelle en mettant en œuvre une sorte d'"inversion archivistique" qui inscrit ces fissures dans notre mémoire institutionnelle en tant qu'université publique. En mettant en conversation des groupes et des discours autrement disjoints, les collections des archives offrent l'opportunité de repenser la nature relationnelle de l'infrastructure et les dialectiques figées qui sont rendues visibles par les moments de crise. Cet article prend les interventions infrastructurelles des collections du CDLA comme point de départ pour explorer les questions relatives aux approches des archives numériques en temps de crise et la manière dont ces efforts peuvent faciliter les politiques préfiguratives et les pratiques mémorielles.

Knowledge infrastructures in times of crisis

On March 11, 2020, during the early days of the COVID-19 pandemic, the students, faculty, and staff of the City University of New York (CUNY) were abruptly told to transition to remote operations. These instructions came, somewhat surprisingly, through Twitter. In the late morning, New York State Governor Andrew Cuomo tweeted: "Starting March 19, @CUNY and @SUNY will move to a distance-learning model for the rest of the semester. This will help us reduce density and reduce the spread of this virus. #COVID19" (Cuomo 2020). That it was the state governor, rather than school administrators, sharing this news was unusual. Even more unusual was that the news was shared publicly, as an announcement on social media, rather than as an orchestrated message to faculty, staff, and students via official school communication channels. Rumour had it that the news came as a surprise even to the university administrators, who were forced on the spot to create and share plans for remote instruction.

Among those surprised by the news were the participants in the CUNY Graduate Center's (GC) "Knowledge Infrastructures" seminar—a small doctoral class taught by Matthew K. Gold exploring questions in critical infrastructure, digital humanities, and critical university studies within the context of the public academy (Gold 2020). Already concerned with the boundaries of technology, power, and education within the larger bureaucratic systems of state and university, we had received notice of CUNY's closure just as we had begun discussion of final projects for the course. The syllabus had called on students to make a "collective intervention" into the knowledge infrastructures of CUNY, leaving the shape of that intervention up to course participants. Facing imminent closure of our physical classroom space, and recognizing that the lives of CUNY students, faculty, and staff were about to change in significant ways, we unanimously decided to make the remaining work of our class the collective documentation of the pandemic on CUNY communities. The subject of the class provided an important lens on the reality unfolding around us; there was space for action, and we were well placed to make an intervention in the moment.

In this article, we describe the events that unfolded over the following year and a half as we began work on what would become the CUNY Distance Learning Archive (CDLA). We open the article by explaining the nature and mission of CUNY, the sprawling educational institution in which we worked, and in whose "knowledge infrastructures" we were trying to intervene. We then describe the early stages of our archiving project, exploring the three collections that it came to encompass: "The Shutdown: CUNY Responds to the Covid-19 Pandemic" (CDHA 2020a), "Teaching and Learning During the Time of Covid-19" (CDHA 2020b), and "#CutCOVIDNotCUNY" (CDHA 2020c), each of which encompasses particularly important moments for CUNY communities during the pandemic. We close the article with a meditation on the importance of public archives for public universities, exploring how the experience of creating an archive with, by, and for the CUNY community has altered the ways we think of public education and public knowledge creation.

Throughout the article, we situate our work within the aligned fields of critical infrastructure studies, digital humanities, critical university studies, and archival studies. In their 2015 introduction to a special issue of Archival Science on "Archiving Activism and Activist Archiving," Andrew Flinn and Ben Alexander offer a set of terms to describe archiving practices that abandon pretenses of archival neutrality or objectivity in favour of conceptions of archival work that more explicitly engage political and social issues. "Active archivists," they suggest, engage the world by becoming "recordkeeper[s] in 'actively' participating in the creation, management, and pluralization of archives and [seek] to understand and guide the impact of that active role" (Flinn and Alexander 2015, 331). As a graduate class taking on an activist archiving project in the middle of the semester, and in the middle of a pandemic, we sought to both document and influence the chaotic moments in which we took part, building towards what Flinn and Alexander describe as "a revaluation of the fundamental influence of the archive as equal parts historical repository and agent of political representation" (Flinn and Alexander 2015, 331). Notably, we had institutional precedents for such actions; in 2001, the GC's American Social History project had partnered with the Roy Rosenzweig Center for History and New Media at George Mason University to create the September 11 Digital Archive. As Stephen Brier and Joshua Brown have written, they realized soon after the events of 9/11 that "we could not remain passive because we could not assume that the kinds of diverse information and materials that future researchers needed would still be available in the future," leading them to characterize their roles as "archivist-historians" (Brier and Brown 2011, 103).

While our work on the CDLA was fundamentally archive-based, we brought to it the theoretical underpinnings of our class, which focused attention on "knowledge infrastructures." In class, we had discussed Geoffrey C. Bowker's concept of "infrastructural inversion," a process that draws out the submerged web of activities, material conditions, and power asymmetries that form the substrate of infrastructure, often through a "gestalt switch" of its figure-ground relations (Bowker and Star 2000, 34). As we began work on the CDLA in the midst of the pandemic, we grappled with the "simultaneous world-making and world-breaking functions" of university infrastructure upon breakdown (Johnson and Nemser 2022, 7). We came to think of our work as an act of "archival inversion," an attempt to use the archive we were creating to make visible the submerged perspectives of the multitude of CUNY stakeholders (e.g., students, staff, faculty) in the midst of enormous change, vis-à-vis the official narratives offered by our institution. For our particular space and set of communities at an underfunded public institution, the infrastructural effects of breakdown and disarray were significant, coming as they did upon an already existing history of underinvestment and systematic collapse.

Finding space: CUNY and archival need

This history of underinvestment is crucial for positioning the CDLA and its relationship with CUNY as an institution. Spread across all five New York City boroughs, CUNY serves as the largest public education institution in the United States. Dedicated to serving the "whole people" of the city, CUNY comprises roughly 250,000 degree-seeking undergraduates and another 200,000 non-matriculating students. It employs a faculty and staff of 45,000 spread across its 25 campuses. The CUNY system is the primary vehicle to economic security for working-class and immigrant New Yorkers; in a city with one of the highest cost-of-living rates in the United States, 70% of current CUNY students come from families making less than \$30,000 (PSC-CUNY 2021).

Yet, in spite of its position as a mechanism of socio-economic mobility, CUNY has been subject to decades of state disinvestment (Fabricant and Brier 2016). Indeed, while it is fair to note that the pandemic placed extreme pressures across institutional infrastructures globally, the "cracks" that it produced in CUNY were less a result of novel circumstance and instead explicit consequences of austerity politics. Even prior to 2020, many of us in the class already had a visceral sense of infrastructural decay, having worked as faculty and staff throughout the underfunded CUNY system throughout our graduate tenures. In contemplating interventions in response to the university's transition to online instruction, we worried that life under COVID could further normalize a neoliberal ideology based on techno-solutionist policymaking and procurement practices. Specifically, we were concerned that CUNY officials would seize the hyper-mediated work conditions of the pandemic as a chance to renew conversations around disruptive innovation in public higher education, and thus endorse invasive technologies and practices representing the worst of online education. In formulating the CDLA, we wanted to document the confusion and chaos of the transition to online education in a way that could serve to counteract any later claims that the transition had been "smooth" or "innovative" for students.

Further, in developing the CDLA, we saw an opportunity to engage with a fundamental absence in our institutional structure. Our home college, the GC, serves as CUNY's consortial "hub." Drawing from faculty across the CUNY system to host graduate seminars and providing doctoral fellows opportunities to teach at CUNY's undergraduate campuses, the GC serves as a centralized node in CUNY's network. Yet,

in spite of this feature, the GC lacked a centralized archive for all of the CUNY campuses. While 19 of CUNY's 25 campuses host archives of various nature, none of them is tasked with the sumptuous responsibility of preserving the institutional history of the CUNY system as a whole. Additionally—due to limited funding—not all of the colleges include an archivist among their staff, making even the preservation (and the retrieval) of discrete tesserae somewhat arduous. While individual efforts, grassroots initiatives, and the prominent role CUNY has played for over 150 years in the collective lives of New Yorkers have prevented austerity-induced institutional amnesia, the frustration that results from the many archival silences therein renders visible the gaps in the information infrastructure of CUNY and, by extension, the infrastructure itself.

As Rodney G. S. Carter suggests, archival silences often serve the intended or unintended purpose of preventing "marginalized groups [from] seek[ing] redress for the wrongdoings inflicted on them" (Carter 2006, 222). This conception, as Marlene Manoff expounds, "... serves as a productive metaphor, as well as a kind of shorthand to refer to gaps, omissions, and distortions in the historical record" (Manoff 2016, 63). As a result of the modus operandi that ensued from an institutional culture affected by chronic scarcity and recurrent budget crises, CUNY's documentation of its internal contradictions and struggles to achieve its goal of serving the "whole people" of the city has been far from comprehensive. Such archival sparsity is foundational to reconciling New York State's austerity politics and its promotion of CUNY as a "national engine of economic mobility" (CUNY 2020), as "what is present in the archives is defined by what is not. And the archival silences are delimited by the archival voices" (Carter 2006, 223). In our conception of the CDLA, we saw a means to effectively respond to this silence with the voices of the CUNY community, permitting their experiences to serve as a reflective critique of how CUNY has served, and failed, them.

Method to a means: Producing the archive

Of course, though hindsight provides a more cogent narrative for the development of the CDLA, we caution that our practice was often disjointed and uncertain. While we all agreed about the exigency of our intervention, the urgency to move quickly to capture the moment gave us little to no time to think beforehand about project design. Throughout the development of the CDLA, we thus had to adopt an adaptive project management framework, gradually adjusting our decisions and processes, based on both the events related to the pandemic and the resources that we, as a team, could commit to it at different times.

Since the early stages of the project, the individual pre-existing skills, and interests of the students in the course ended up shaping its development. The team quickly created

a WordPress site on the CUNY Academic Commons—a crucial platform of educational infrastructure that helped make our work possible—that allowed students, faculty, and staff from across the campuses to submit personal narratives about the experience of moving online; to share emails, photos, and communications related to the decisions to move online; and to provide documentation of online learning experiences (CDLA 2021a). We also developed a social media presence and partnered with a praxis class of the GC's Interactive Technology and Pedagogy Program, whose students devised several suggested writing prompts for potential contributors to the archive (CDLA 2021b). Over the following months, the CDLA collected dozens of contributions. Our social media collection efforts—focusing on the reactions of the CUNY community to both the pandemic and the shift to remote instruction—also resulted in the acquisition of thousands of social media posts.

Yet, once the semester ended, our grandiose plans—that had originally ranged from creating a self-hosted Omeka site that included thousands of our collected items, to using Twitter data to work on a text analysis and data visualization project—hit a perhaps inevitable impasse. Understandably, we had a very high attrition rate. Our class originally consisted of eight students, but half of them had to drop from the project at various times. In addition to the inevitable burnout that most of us experienced at the end of Spring 2020, those who continued working on the CDLA were also overwhelmed by the amount of data we had accumulated and struggling to find a sustainable way to move forward with the project. CUNY's frozen budget in light of the pandemic and the impending further cuts made applying for institutional funding unthinkable. Further, while our efforts to make the most of our individual skills to collect data exceeded the expectations of the assignments, we found ourselves facing the question of synthesizing different approaches to data collection and archiving into a coherent project.

It was only in the fall of 2020 that our brainstorming for potential partners, for existing infrastructures that could support our archiving effort, landed us right at home. We partnered with the CUNY Digital History Archive (CDHA), a participatory digital archive co-founded by Brier and Andrea Vásquez to preserve the history of CUNY in response to the way our institution has been archiving its own history in fragmented ways, relying on a precarious and decentralized infrastructure (CDHA 2023). As of 2022, the CDHA hosts over 30 collections, documenting a range of events that shaped CUNY's history, from the free speech struggles at CCNY in the 1930s to the ongoing student and faculty activism against CUNY's perpetual "austerity blues," to riff off the title of Brier's and Fabricant's recent book. Situating our collection within the CDHA allowed us to contextualize the moment of crisis we documented within the larger history of our institution.

Working on an unfunded project, while juggling our lives as doctoral students and contingent and overcommitted faculty, often meant being aware that we were all contributing at different temporalities. Because of the unstructured nature of the project and the impossibility to plan ahead due to the dynamism of the archive, each member was working individually, following an organically atomized workflow. When we moved onto the curatorial stage of the process, the CDHA, hosted on a custom installation of Omeka, offered a pre-existing informational architecture that provided useful constraints to our team, including a set of shared guidelines that helped us limit the scope of our outcome, making our work more sustainable.

Over the course of a year, we worked with the CDHA team to create three publicfacing exhibitions using the items we had collected. Each of the collections focuses on one of three narrative engagements with common challenges across CUNY campuses between March and August 2020-the moment when the infrastructural rupture emerged more evidently and when protest especially was at its height. Our approach to assigning metadata drew from Geoffrey Bowker's and Susan Leigh Star's remarks on categorization and classification schemes as a form of articulation work, one that sheds light on "the distribution of work," across the university during this time (Bowker and Star 2000, 310). Items are tagged across our three collections to foster alternative readings and conversations on different topics and institutional settings. Likewise, we used the "Subject" metadata field to connect our artifacts with items in other collections hosted by the CDHA, mapping connections to specific flashpoints within CUNY's history, ranging from the struggles of contingent labour and student organizing to CUNY's relationships with underserved and working-class communities. Read infrastructurally, these connections across metadata fields draw "attention to the temporal continuities and breaks that structure relations of path dependency" as recurrent patterns in the broader arc of CUNY's institutional past (Johnson and Nemser 2022, 4).

While developing the CDLA, we were often confronted with ethical questions of privacy and individual data rights. Though the final collections consist of only around a hundred items, our scraped social media data numbered in the thousands. Confronted with what to do with such a large assortment of data, we ultimately chose to delete the entirety of the remainder. In doing so, we chose to intentionally engage in a close reading of the provided material, focusing on a small data curation process in contrast to the "distant" reading that is expected of data. The items in the collection were evaluated for the stakes of their inclusion as well as any potential harms. We endeavoured to highlight the concerns being raised and, importantly, offer a sense of the incredible variety in our community's resistance and the accomplishment it achieved in bringing this CUNY conversation to many other publics.

The shutdown: CUNY responds to the COVID-19 pandemic

In the CDLA's first collection, "The Shutdown: CUNY Responds to the COVID-19 Pandemic," we attempt to convey the experiences of the CUNY community leading up to Governor Cuomo's shutdown order (CDHA 2020a). While awareness of COVID-19 has now become commonplace, it is difficult to overstate the disorienting effects the disease produced at the beginning of its spread, even before it had reached pandemic classification. In the span of three months, what was once reported as "viral pneumonia" by the Wuhan Health Commission (World Health Organization 2020) had become the rationale for closing borders and institutions across the globe. During this time, a compounding of conflicting information, fearmongering, racial animosity, and structural marginalization had produced a whirlwind of emotion in the general public.

In the curation of this archive, our original goal was to maintain a separation of feelings such as these from our choice of artifacts. We had sought to continue the archival tradition that discarded the place of "affect and emotions" in favour of "that narrow focus" of detached objectivity (Douglas et al. 2022). Yet, we found early on that following such principles were counterproductive to our artifacts. In our focus on digital objects—themselves ostensibly ephemeral, diffused, undecided—we saw that the narratives such objects revealed were McLuhanesque in their interrelationship of medium and content. Scraped Twitter feeds, intended to record public discourse, were inundated with uncertainty. Facebook meme pages, recorded to share intellectual dialectics, rambled angrily and erratically. Just as any "artifact" is beholden to the social structures that produced it (Winner 1980), so too were our objects. The discourse surrounding CUNY's shutdown unfolded in a digital environment, and as such, it reflected the same emotional impulses that inform social media discourse (Kuntsman 2012). "The Shutdown" collection inevitably reflects, and allows us to reflect on, the dynamic affect of CUNY before its closure.

In a sense, along with recognizing the infrastructural nature of our archive as both a political and poetic object (Larkin 2013), we came to realize that the archive needed to address its *affectual* forces. Outside of being simply "boring things" (Star 1999), the archive, CUNY, and their interlocking infrastructures had to be recognized as foci of uncertainty and emotional turmoil. Further, the archive's depiction of the distraught "human infrastructure" (Simone 2008) of workers, students, administration, and faculty key to the operation of New York City's education system required faithful depictions of the "maelstroms of affect" (Thrift 2004) core to its functioning relations. As such, this portion of the archive tries to value the affectual promise such recordkeeping suggests. It focuses on both recorded statements from CUNY as an institution and the experienced social realities that resulted from them. Official reports of COVID-19 exposure (CDHA 2020h) are exhibited alongside social media posts about anti-Asian bigotries (CDHA 2020j). Emails requesting faculty prepare for eventual online transitions (CDHA 2020i) are juxtaposed with student posts mocking any anxieties regarding infection (CDHA 2020j). Faculty emails discussing online transition plans and policies are counterbalanced by Reddit threads denigrating faculty's (admittedly tentative and chaotic) pedagogical practices (CDHA 2020d).

As would be expected, a curatorial philosophy centred on affect at a time of crisis sets up the archive to be a site of tension. On one hand, we see the role institutions such as CUNY serve as examples of marginalization. A recurring theme across our artifacts is the juxtaposition of the timeline for closure at CUNY (a public university system serving mainly working-class and marginalized students) with the privately funded universities sharing residence in New York City (e.g., New York University and Columbia) (CDHA 2020e; CDHA 2020f; CDHA 2020g). For much of the community, this delay suggested a prioritization of the health of the affluent and privileged over the poor and marginalized. Even if we were to remove any responsibility from the CUNY administration, this role as a demonstrative focus for the CUNY community reveals how traditional systems of class and race were deeply intertwined in public discourse.

Yet, as testified by the archive's collection of teacher syllabi, interdepartmental communication, and social media responses from official accounts, a hermeneutic relying *solely* on affect would ignore the interdependence between institutions and their publics. To close a university is no simple task, and the decision to shut down CUNY entailed removal of internet access, shelter, and even housing stability for many of its students. Like many public institutions that intimated towards the commons (Hess and Ostrom 2007), CUNY bears greatest responsibility to those most dependent on it. As much as the public affect revealed socio-economic concerns, so too did the very decisions that spurred such affectual forces.

"The Shutdown" collection centres around Geoffrey C. Bowker and Susan Leigh Star's notion of "visible infrastructure," in the sense that in the breakage of CUNY and other institutions under the COVID pandemic, their roles as infrastructure became palpable to the public eye (Bowker and Star 2000). Both roles in sustaining and preventing marginalization became apparent to its "users" in the cessation of either function. Further, that these issues came to hold as great an import (if not more) as the sheer question of teaching highlights the multivalent nature higher education institutions take on. In the archive's presentation of this tension, we see an opportunity to examine the nature of infrastructure and especially the character of public higher education institutions as infrastructure, and their consequences on the public lives with which they intertwine. As well, we see an opportunity to examine the "affective responsibilities" (Caswell and Cifor 2016) archive creators owe to their subjects (and themselves) in the remembrance of the experiences lived during this uncertain period.

Teaching and learning during the time of Covid

The second CDLA collection, "Teaching and Learning During the Time of Covid," chronicles the breakdown and maintenance of educational services at CUNY following the emergency transition to distance learning formats (CDHA 2020b). The collection works "from multiple angles simultaneously" to highlight the now-visible fault lines of our online learning infrastructure as a public university (Bowker 2018, 220), and to enable more traceable connections between the local and global interactions that entangle pedagogical actors across the CUNY system (Latour 2005). Various types of artifacts shape the collection to meet those ends—from social media posts to administrative emails, from faculty guidance to student projects, and from personal reflections to community–led petitions.

These artifacts dovetail with many of the formal and informal communities of practice that were made to negotiate the effects of COVID-19 on CUNY's educational ecosystem (Lave and Wenger 1991). By enabling these connections, our curatorial design for the collection works to foster "gestalt switches" between intersecting social worlds of students, faculty, and staff at multiple CUNY institutes (Bowker and Star 2000, 34). These archival inversions combine multiple perspectives and contradictory interests to resist flat, progressivist narratives around the history of educational technology, while at the same time nurturing a wider field of possibility for teaching and learning infrastructure at CUNY and beyond. This line of prefigurative politics draws on a range of pedagogical artifacts from multiple institutional contexts to at once localize and inform advocacy for teaching and learning in a post-pandemic age.

It is with this in mind that we built the "Teaching and Learning" collection to counterpoint what Audrey Watters calls "ed-tech amnesia" (Watters 2016), taken here as the tendency to forget or erase historical points of tension between commercial technology and educational practice. Our curatorial design sought to enact a form of digital interventionism similar to the institutional activism of tactical media, which "challenges the existing semiotic regime by replicating and redeploying it in a manner that offers participants in the projects a new way of seeing, understanding, and (in-the-best-case scenario) interacting with a given system" (Critical Art Ensemble 2001). This approach tracks with the critical manoeuvre of archival inversion, which deploys tactical media to document, preserve, and problematize the infrastructural cracks and pedagogical givenness of remote teaching and learning during a global health crisis.

Rather than recapitulate the unrepresentable traumas of this moment in our institutional history, we built the "Teaching and Learning" collection with an eye toward the affective language of our multiple constituencies as an urban university. This move reflexively inverts the institutional discourse of catastrophe in terms of the archival silences that are liable to fade into the woodwork of university infrastructure with the breakdown of educational services. In this regard, the collection serves as a just-in-time archival record of our more vulnerable and underserved populations, and of those subjectivities which lie at the borderlands of university infrastructure during times of both institutional crisis *and* relative stability. This point raised questions around what sorts of artifacts ethically centre student perspectives that run the risk of erasure during the messy and diffuse conditions of remote instruction in 2020. In which ways, for instance, could we highlight the unseen drivers of structural inequality within CUNY's digital learning ecosystem? How do we document barriers to learning in ways that address archival silences as a prefigurative approach to educational reform in the future?

We could not depend on the top-down, institutional flow of information in order to surface underrepresented CUNY student perspectives of the shift to distance education. Instead, we turned our attention to the learner testimonials and peer-to-peer exchanges on social media platforms, with a particular emphasis on the student-led subreddits forums for individual CUNY colleges. We read these threads as interstitial sites of peer-to-peer knowledge exchange that stood apart from the hierarchical conditions of university infrastructure during this time. With this in mind, we collected and appraised hundreds of student Reddit posts and eventually settled on twelve posts to be included in the collection by the time we were ready to go live.

In light of their ability to invert traditional pedagogical discourse in terms of the dialectical exchanges of CUNY students, these Reddit posts now serve as a thematic lynchpin for the "Teaching and Learning" collection. As locally situated sources of pedagogical insight, these posts localize and connect student dialogues in ways that constellate the affective conditions of our student population, thus shedding light on a network of CUNY colleges without flattening the situated experiences of students enrolled in each respective institute. In turn, they negotiate an array of learning constraints, some of which range from toilsome workloads and unjust exam policies to mixed messaging and guidance from faculty and administrators alike.

One student's post to the Baruch College subreddit demonstrates the pedagogical neglect for those who carry the labour demands of "essential workers" in addition to their student coursework (CDHA 2020l). Threaded dialogue below illustrates students' struggles to keep pace with the compensation models of their instructors in the early days of remote instruction. The original poster (OP) and responders find common ground in

the pedagogical neglect of their instructors, who proved ignorant of the overburdened labour practices of working-class CUNY students. All told, these complaints bring with them a humbling reminder of the invisible weight that CUNY students are made to carry, regardless of the instructional format in which they find themselves.

Another post to the Queens College subreddit depicts student dialogue around whether instructors reserve the right to fail students for refusing to enable their cameras (CDHA 2020k). As their discussion unfolds, they touch on key pedagogical issues around student privacy and academic freedom. One responder goes so far as to share a CUNY-wide student petition calling for central administration to disavow the use of remote proctoring services and consequently upend its plans to adopt Proctorio's remote proctoring software on a university-wide basis (CDHA 2020m).

Garnering over 30,000 signatures, this student-led petition also appears as a standalone artifact in the "Teaching and Learning" collection. Read dialectically, these digital artifacts typify the affordances of reading pedagogical artifacts *across* the collection with a focus on the local and global scales at which they operate. These artifacts display a shared affective language of students in response to troublesome university conduct, and together underscore the pedagogical stakes of student privacy and academic freedom during times of both crisis and stasis. Archiving this petition also produces documentary evidence of the CUNY student body in their outrage over the incursion of surveillance software, which ought not to be erased from our institutional memory simply because the moment's crisis has waned. These two artifacts thus activate each other as historical markers regarding the slow creep of surveillance capitalism in higher education, along with the organizing power and sentiment of CUNY students in response to these incursions on what Shoshana Zuboff calls "the right to sanctuary" (Zuboff 2019, 475).

It is also in this regard that the collection acts as a countermeasure against "the politics of certainty" (Bowker and Star 2000, 24) that so often underwrites collective forgetting across the many social worlds of public higher education. As CUNY educators and advocates, we set our sights on the messiness of teaching and learning, the unknown unknowns of our students, and the multiple contested narratives of our institutional past.

Documenting community activism with #CutCOVIDNotCUNY

The CDLA's "#CutCOVIDNotCUNY" collection documents the fight against CUNY's austerity politics during the early part of the COVID pandemic (CDHA 2020c). A way of engaging what Donna Haraway terms "staying with the trouble" (Haraway 2016), it offers examples that reflect various forms of pushback and activism happening in the CUNY community—specifically in response to both potential and actualized austerity measures introduced by the institution and the state at the time. This collection

primarily focuses on documenting some of the many forms of protest our community was producing, especially those that were in wide circulation on social media. The title of the collection is a hashtag, where #CutCOVIDNotCUNY was first employed as an online student-led movement against the many budget cuts CUNY was making including, for example, the proposed dismissal of thousands of contingent employees, a decision that would involve leaving many without health insurance in the early days of the pandemic. It then turned into a more widely employed hashtag for pushing back against the institution and voicing objection to austerity. In that way, it was frequently used by students, staff, and faculty alike, especially during the first year of the pandemic. In many ways, #CutCOVIDNotCUNY became the representation and facilitator of CUNY resistance and information sharing on social media for this historical conjuncture.

In its endeavour to archive the present, this collection focuses significantly on material that was in heavy circulation in the CUNY community at the time, and also that which was produced by public-facing figures. Such individuals range from local and national government officials (CDHA 20200) protesting significant CUNY financial cuts and layoffs (especially of contingent workers) to faculty, staff, and students publishing in both national public-facing periodicals like Teen Voque (CDHA 2020r) and highly local news outlets specific to a particular NYC borough (CDHA 2020s), and voicing concerns about austerity measures they experienced as well as their long histories at CUNY, how they disproportionately impact marginalized groups, and how these issues resonate on a national scale. Ever entwined with the many issues these harmful measures raise, #CutCOVIDNotCUNY is often partnered with solutions that simultaneously open discussions about the controversial funding choices made at the state and local level while CUNY resources are continuously chipped away and is notably employed alongside calls to #FundCUNYNotCops and #MakeBillionairesPay. So, too, did this hashtag see intersections of some of the ways power dynamics might intersect with activism in higher education, as distinguished faculty and department chairs employed it to use their platform and job security to write public focused and widely circulated letters intended for Governor Cuomo (CDHA 2020n) and senior university administration (CDHA 2020s), reminding them that during the Great Depression CUNY expanded, and that those "heroes of New York" they continuously praise are made up by members of the CUNY community.

Though grounded primarily in digital space in pandemic times, #CutCOVIDNotCUNY protests also enacted a hybrid method of activism, as they incorporated in-person action inspired by and situated alongside the online protest. The May Day Caravan for Adjunct Rights (CDHA 2020t), for example, involved a large hybrid in-person and online protest which was then re-circulated digitally by our union (CDHA 2020q) and actively promoted and tweeted about, and the frontlines even attended, by government officials

(CDHA 2020p). Publicization of and support for these events then reverberated through the CUNY online community, where the Twitter discussion and online and in-person protests were continuously in dialogue and shaping each other's efforts in powerful ways. Important too was how the hashtag movement was utilized and connected to related work already being circulated and enacted by other major CUNY organizing collectives—including, for example, CUNY's large anti-austerity and anti-oppression activist group Rank and File Action with its thousands of online followers (Rank and File Action 2023), the Free CUNY movement who advocate for a tuition-free institution and establish mutual aid networks for the CUNY community (Free CUNY 2023), and the Professional Staff Congress (PSC-CUNY 2021) union that represents faculty and staff including doctoral students. The collection attempts to highlight the ways these discussions reflect the interconnection of CUNY's many activist groups as well as the long histories of their protests. It gives attention not only to the problems at hand, and those creating them, but to the layered ways pushback was engaged by the community. #CutCOVIDNotCUNY shows CUNY as a multifaceted and community-minded resistance, while raising many different, often overlapping, and long-entrenched issues.

Twitter was an especially popular platform for the CUNY community to push against the various austerity measures we faced, to share personal perspectives, experiences, articles, and resources, and to connect and mobilize with others. As such, thinking through the CDLA's engagement with Twitter, and the implications of social media usage more broadly, as discussed in the previous section, became essential especially given the ways in which this project shifted so rapidly to try to keep up with a present always in flux in unexpected ways and accounting for our own experiences of crisis at that moment. We were particularly aware of the role distance was playing during the pandemic and, as a result, how that had to feed and shape our archival process. Social media creates a layer of separation between those who produce content and those who engage it that should always be problematized; however, that was also accompanied by the fact that the CUNY community was physically distanced by a public health mandate. This collection as well as the movement it documents were both wrapped up in the complexities of having to employ almost exclusively digital methods in our efforts, including in assembling this archival collection. As we made use of the Documenting the Now project's twarc command line tool for collecting Twitter data (Jules, Summers, and Vernon 2018; Twarc 2023), we continually endeavoured to account for how we might utilize, question, and take issue with digital tools, especially in precarious times. In doing so, we sought additional guidance and conferred with a number of scholars, archivists, and digital humanities practitioners working in this space who contributed to informing our thinking about and application of social media in the archival process.

Our selection and documentation of data concerning the #CutCOVIDNotCUNY hashtag and larger movement offer a collection of responses specific to the CUNY community, where these experiences will be preserved in the CDLA to retain them in our collective institutional memory. Ultimately, though, this collection of the CDLA hopes to offer a preemptive measure against neoliberal master narratives by documenting the extensive resistance and activism by the CUNY community in this moment. It also highlights how these discussions necessitate drawing attention to the long history of austerity at CUNY, which extends outward to larger structural issues in higher education and how social media figures therein.

Public archives for public universities

Working on these collections presented multiple occasions for us to reflect on our distributed experiences as members of the CUNY community during a time of institutional triage and personal trauma. In parsing the multiplicity of how different people from different positionalities experienced these chaotic shifts in university practice, we were prompted to reckon with our own critical praxis as both public educators and digital humanists. Working on the CDLA, in other words, drove us to interrogate and reflect on our own experiences as embedded actors at an urban university whose scope and reach far exceed the epistemological limits of any one archive or intervention. While we began with the encyclopedism that so often characterizes archival ventures, we found ourselves grateful to have converged on the productive constraints of more focused archival practices. We herald these constraints not only as markers of CUNY's austerity blues but also as a commitment to our own epistemic uncertainty as critical makers and practitioners. We take it upon ourselves not to capture and foreclose on these ambiguities but rather to pass them into the foreground of the knowledge infrastructures that give rise to public institutes of higher learning.

Of course, we would be remiss to not acknowledge that our project was but one of many nodal points in a spontaneous network of archival initiatives developed to document the way individuals and communities experienced the pandemic (Documenting the Now 2020). Further, we must acknowledge the charged potentialities such archives invoke in times of personal and collective trauma. Eira Tansey has warned archivists against the "commodification of contemporaneous collecting" (Tansey 2020). Per Tansey, institutions "increasingly feel the need to go out and document every traumatic event that comes along." She also reminds us that "archivists have an ethical obligation to understand that respecting people's privacy and right to forget their own past means accepting that we will lose parts of the historical record" (Tansey 2020). However, even as inheritors of this history of "white-dominated" institutional initiatives, many of the archives emerging in the spring and summer of 2020 remained grassroots efforts, produced by either members of the very communities impacted by collective trauma, or collaborative and crowd-sourced initiatives that sought to prevent further archival silences. In fact, several archives listed in the document compiled by Documenting the Now, including the CDLA, aim to expose further fault lines and to achieve what Tansey deems as an archivist's key responsibility: "the acquisition, preservation, and accessibility of the very records that hold that institution accountable to its constituents" (Tansey 2020). As faculty, staff, and graduate students, our goal was neither to capitalize on the trauma nor to provide excuses for CUNY's inability to meet the challenges of its students, but rather to develop a platform that inscribed the struggles of its constituencies in the public record. To a greater extent, rather than being an end to itself, the CDHA's engagement with CUNY's own history offers researchers a program for more work, as evident from the heavy reliance on materials hosted on the site in three doctoral dissertations and a master's thesis submitted at the Graduate Center between 2019 and 2022 (Zeemont 2022; Albracht 2021; Battle 2019; Gonzales 2022).

Our investment in the project was, in a way, an attempt to make sense of otherwise inscrutable moments that we ourselves endured with such intensity, even on a personal level. Many of us experienced a constant state of stupor and disarray in those initial weeks. Some of us got the virus, while still others knew of a loved one who had. Working on the CDLA was a way of working through the trauma of those first few months and focusing on what that moment meant for us and the communities we inhabited. It only follows that we would arrive at a collective intervention based on the memorymaking practices of an archive aimed at the moment before us. The collections that came from our efforts are thus marked by our braided identities as public university faculty, students, and staff.

It is for this reason that we place methodological stock in the past as indeterminate and understand our institutional memory as an unfolding process of contestation and resistance. By no stretch of the imagination do our collections purport to represent the whole of institutional life at CUNY during the pandemic. We instead set our sights on representing what we could, within the limits of our abilities as we were experiencing the pandemic. We position the CDLA in the category of digital archives identified by Megan Ward and Adrian S. Wisnicki as "present- and future-oriented" (Ward and Wisnicki 2019, 202); collections that "imagine the future as well as preserve the past" (Ward and Wisnicki 2019, 201). The CDLA not only reinforces the importance of building archives that surface multiple temporalities but also opens the field of possibility for alternative futures for public universities.

Competing interests

The authors have no competing interests to declare.

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Authorship is listed in descending order by significance of contribution. Author contributions, described using the CASRAI CredIT typology, are as follows:

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References

Albracht, Lindsey. 2021. "Beyond Authorization: Toward Abolitionist Transliteracies Ecologies and an Anti-Racist Translingual Pedagogy." PhD diss. The Graduate Center, CUNY. Accessed March 30, 2023. https://academicworks.cuny.edu/gc_etds/4285/.

Battle, Andy. 2019. "Runaway: A History of Postwar New York in Four Factories." PhD diss. The Graduate Center, CUNY. Accessed March 30, 2023. https://academicworks.cuny.edu/gc_etds/3387/.

Bowker, Geoffrey C. 2018. "Sustainable Knowledge Infrastructures." In *The Promise of Infrastructure*, edited by Nikhil Anand, Akhil Gupta, and Hannah Appel, 203–222. Durham: Duke University Press. DOI: https://doi.org/10.2307/j.ctv12101q3.12.

Bowker, Geoffrey C., and Susan Leigh Star. 2000. *Sorting Things Out*. Cambridge: MIT Press. DOI: https://doi.org/10.7551/mitpress/6352.001.0001.

Brier, Stephen, and Joshua Brown. 2011. "The September 11 Digital Archive: Saving the Histories of September 11, 2001." *Radical History Review*, 111: 101–109. DOI: https://doi.org/10.1215/01636545-1268731.

Carter, Rodney G. S. 2006. "Of Things Said and Unsaid: Power, Archival Silences, and Power in Silence." *Archivaria*, 61: 215–233. Accessed March 14, 2023. https://archivaria.ca/index.php/archivaria/article/view/12541.

Caswell, Michelle, and Marika Cifor. 2016. "From Human Rights to Feminist Ethics: Radical Empathy in the Archives." *Archivaria*, 81: 23–43. Accessed March 14, 2023. https://archivaria.ca/index.php/archivaria/article/view/13557.

CDHA (CUNY Digital History Archive). 2020a. "The Shutdown: CUNY Responds to the Covid-19 Pandemic." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/collections/show/372.

---. 2020b. "Teaching and Learning During the Time of Covid-19." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/collections/show/382.

----. 2020c. "#CutCovidNotCUNY." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/collections/show/412.

----. 2020d. "Email Chain with Students." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12282.

----. 2020e. "Tweet: #CloseCUNY Nationwide." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12362.

----. 2020f. "Tweet: CUNY/SUNY Pandemic Response & Student Wellbeing." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12412.

----. 2020g. "Tweet: #CloseCUNY Activism & NYC Higher Education." American Social History Project/ Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12422.

———. 2020h. "Tweet: CUNY Announcement of COVID-19 Infection at John Jay College." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny. edu/items/show/12452. ----. 2020i. "Update on Hunter's Response to Coronavirus." American Social History Project/ Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12542.

---. 2020j. "Selected Facebook Posts from CUNY Confessions." American Social History Project/ Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12602.

----. 2020k. "A Professor's Threat: Cameras during Testing Situations." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12682.

----. 2020I. "'im tired of these professors." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12872.

----. 2020m. "Do Not Let CUNY Violate Student Privacy Change.org Petition." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12882.

----. 2020n. "Letter to Gov. Cuomo Regarding CUNY Cuts." American Social History Project/ Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/12982.

----. 2020o. "Tweet: Thanks @AOC for Standing with @CUNY Adjuncts." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/13062.

---. 2020p. "Tweet: PSC Thanks Sen. John C. Liu for Showing Support for the Caravan to Stop Layoffs and Fund CUNY." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/13102.

----. 2020q. "Tweet: CARAVAN PROTEST TO SAVE LIVES, SAVE JOBS AND SAVE CUNY IN BROOKLYN." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/13122.

----. 2020r. "CUNY, Public Colleges Face Mass Budget Cuts Under the Shock of COVID-19" (Teen Vogue)." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/13162.

----. 2020s. "Open Letter of Commitment to Resist Cuts at CUNY: No Cuts, No Layoffs, No Class Size Increases, No Non-Reappointments." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny.edu/items/show/13202.

----. 2020t. "Caravan Protest to Save Lives, Save Jobs and Save CUNY in Brooklyn." American Social History Project/Center for Media and Learning. Accessed April 4, 2023. https://cdha.cuny. edu/items/show/13232.

----. 2023. "Home." American Social History Project/Center for Media and Learning. Accessed April 4. https://cdha.cuny.edu/.

CDLA (CUNY Distance Learning Archive). 2021a. "Home." CUNY Academic Commons. Accessed April 4, 2023. https://cdla.commons.gc.cuny.edu/.

----. 2021b. "Suggested Writing Prompts." CUNY Academic Commons. Accessed April 4. 2023. https://cdla.commons.gc.cuny.edu/suggested-writing-prompts/.

Critical Art Ensemble. 2001. *Digital Resistance: Explorations in Tactical Media*. New York: Autonomedia. Accessed March 21, 2023. http://www.critical-art.net/books/digital/.

CUNY (City University of New York). 2020. "New Study Confirms CUNY's Power as National Engine of Economic Mobility." CUNY. Accessed April 4, 2023. https://www1.cuny.edu/mu/forum/2020/06/17/new-study-confirms-cunys-power-as-national-engine-of-economic-mobility/.

Cuomo, Andrew (@NYGovCuomo). 2020. "Starting March 19, @CUNY and @SUNY will move to a distance-learning model for the rest of the semester. This will help us reduce density and reduce the spread of this virus. #COVID19." Twitter, March 11, 12:12 p.m. https://twitter.com/NYGovCuomo/ status/1237803530787991553?lang=en.

Documenting the Now. 2020. "Documenting COVID-19." Google Docs. Accessed March 14, 2023. https://docs.google.com/document/d/1v5tso8spFq6SpW53h2OJULcdRoPEbyl6xpah31kW-H0/edit.

Douglas, Jennifer, Alexandra Alisauskas, Elizabeth Bassett, Noah Duranseaud, Ted Lee, and Christina Mantey. 2022. "These Are Not Just Pieces of Paper': Acknowledging Grief and Other Emotions in Pursuit of Person-Centered Archives." *Archives & Manuscripts*, 50(1): 5–29. DOI: https://doi.org/10.37683/asa.v50.10211.

Fabricant, Michael, and Stephen Brier. 2016. Austerity Blues: Fighting for the Soul of Public Higher Education. Baltimore: Johns Hopkins University Press.

Flinn, Andrew, and Ben Alexander. 2015. "Humanizing an Inevitability Political Craft': Introduction to the Special Issue on Archiving Activism and Activist Archiving." *Archival Science*, 15(4): 329–335. DOI: https://doi.org/10.1007/s10502-015-9260-6.

Free CUNY. 2023. "Free CUNY." *Facebook*. Accessed March 14. https://www.facebook.com/ freecuny.

Gold, Matthew K. 2020. "ENGL 89500: Knowledge Infrastructures (Spring 2020)." CUNY Academic Commons. Accessed April 4, 2023. https://kinfrastructures.commons.gc.cuny.edu/.

Gonzales, Clarissa. 2022. "A History of the Center for the Study of Women and Society, 1975–2015." Master's thesis. The Graduate Center, CUNY. Accessed March 30, 2023. https://academicworks.cuny.edu/gc_etds/4670/.

Haraway, Donna. 2016. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press. DOI: https://doi.org/10.2307/j.ctv11cw25q.

Hess, Charlotte, and Elinor Ostrom. 2007. Understanding Knowledge as a Commons: From Theory to Practice. Cambridge: MIT Press. DOI: https://doi.org/10.7551/mitpress/6980.001.0001.

Johnson, Adriana Michele Campos, and Daniel Nemser. 2022. "Introduction: Reading for Infrastructure." *Social Text*, 40(4[153]): 1–16. DOI: https://doi.org/10.1215/01642472-10013276.

Jules, Bergis, Ed Summers, and Vernon Mitchell. 2018. "Documenting the Now White Paper: Ethical Considerations for Archiving Social Media Content Generated by Contemporary Social Movements: Challenges, Opportunities, and Recommendations." *Documenting the Now*. Accessed March 14, 2023. https://www.docnow.io/docs/docnow-whitepaper-2018.pdf.

Kuntsman, Adi. 2012. "Introduction: Affective Fabrics of Digital Cultures." In *Digital Cultures and the Politics of Emotion*, edited by Athina Karatzogianni and Adi Kuntsman, 1–17. Palgrave Macmillan. DOI: https://doi.org/10.1057/9780230391345_1.

Larkin, Brian. 2013. "The Politics and Poetics of Infrastructure." Annual Review of Anthropology, 42(1): 327–343. DOI: https://doi.org/10.1146/annurev-anthro-092412-155522.

Latour, Bruno. 2005. *Reassembling the Social: An Introduction to Actor-Network Theory*. New York: Oxford University Press.

Lave, Jean, and Etienne Wenger. 1991. *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511815355.

Manoff, Marlene. 2016. "Mapping Archival Silence: Technology and the Historical Record." In *Engaging with Records and Archives: Histories and Theories*, edited by Fiorella Foscarini, Heather MacNeil, Mak Bonnie, and Oliver Gillian, 63–81. London: Facet Publishing. DOI: https://doi.org/10.29085/9781783301607.005.

PSC-CUNY (Professional Staff Congress–City University of New York). 2021. "Legislation for a Better CUNY." Professional Staff Congress. Accessed March 14, 2023. https://psc-cuny.org/ clarion/2021/april/new-deal-cuny-free-tuition-and-more-investment/.

Rank and File Action. 2023. "Home." CUNY Struggle. Accessed March 14. https://www.rankandfileaction.com/.

Simone, AbdouMaliq. 2008. "People as Infrastructure." In *Johannesburg: The Elusive Metropolis*, edited by Sarah Nuttall and Achille Mbembe, 68–90. Durham: Duke University Press. DOI: https://doi.org/10.1215/9780822381211-003.

Star, Susan Leigh. 1999. "The Ethnography of Infrastructure." American Behavioral Scientist, 43(3): 377–391. DOI: https://doi.org/10.1177/00027649921955326.

Tansey, Eira. 2020. "No One Owes Their Trauma to Archivists, or, the Commodification of Contemporaneous Collecting." June 5. EiraTansey.com. Accessed March 14, 2023. https://eiratansey.com/2020/06/05/no-one-owes-their-trauma-to-archivists-or-the-commodification-of-contemporaneous-collecting/.

Thrift, Nigel. 2004. "Intensities of Feeling: Towards a Spatial Politics of Affect." *Geografiska Annaler: Series B, Human Geography*, 86(1): 57–78. DOI: https://doi.org/10.1111/j.0435-3684.2004.00154.x.

Twarc. 2023. "Home." Twarc Project. Accessed March 14. https://twarc-project.readthedocs.io/en/latest/.

Ward, Megan, and Adrian S. Wisnicki. 2019. "The Archive after Theory." In *Debates in the Digital Humanities 2019*, edited by Matthew K. Gold and Lauren Klein, 200–205. Minneapolis: Minnesota University Press. DOI: https://doi.org/10.5749/j.ctvg251hk.21.

Watters, Audrey. 2016. "Ed-Tech & the Commercialization of School." Hack Education. June 14. Accessed March 14, 2023. https://hackeducation.com/2016/06/14/commercialization.

Winner, Langdon. 1980. "Do Artifacts Have Politics?" *Daedalus*, 109(1): 121–36. https://www.jstor.org/stable/20024652.

World Health Organization (WHO). 2020. "Pneumonia of Unknown Cause–China." January 5. WHO. Accessed March 14, 2023. https://www.who.int/emergencies/disease-outbreak-news/item/2020-DON229/.

Zeemont, Anna. 2022. "'The Act of the Paper': Literacy, Racial Capitalism, and Student Protest in the 1990s." PhD diss. The Graduate Center, CUNY. Accessed March 30, 2023. https://academicworks. cuny.edu/gc_etds/4911/.

Zuboff, Shoshana. 2019. The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power. New York: PublicAffairs.