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*Community Data*PLURI-TEMPORALITIES IN THE AFTERMATH  
OF BIG DATA

IN OBSERVING THE GROWTH OF digital divide frameworks across the two decades she has dedicated to civil rights and social service work in East Central Illinois, Stephanie Burnett has become well practiced at what information and technology studies scholars would recognize as a certain “broken world” analysis (Jackson, Pompe, and Krieshok 2012; Jackson 2014; Tsing 2015). Well before we began working together on community data projects in the region, Stephanie had already diagnosed the magical thinking that had come to be pervasive in computing initiatives targeting marginalized households and Black and Brown communities through so-called “digital divide” initiatives. She recalls how quickly the belief spread that such programs were catalysts for change for marginalized households in the United States, and how convictions seemed to quickly compound, even while there remained a basic absence in tracking the actual impacts of the information and communication technology (ICT) programs funded.

Across the years of her work with local families—first as a young social worker counseling youth in the Boys and Girls Club, then in after-school advocacy a decade later, and now, as a mother of three herself, working in public housing with the Housing Authority of Champaign County (HACC)—she has cultivated a patience for the messages of digital boosters and private sector funders. Such messages would later get echoed from an ever-wider spectrum of funding entities, from state institutions to public offices and foundations, who increasingly joined tech companies in endorsing a focus on “closing gaps” in digital skills and technology access as the best expedient (over universal child care, health care, basic income, or criminal justice reform) to combating inequality. More than simple incantations of project goals, such messages were invitations to step into the innovation timescape

channeled by ICT projects. With their emphatically future-fixated, progress-insistent percussions, ICT projects registered a special promise for public service workers, whose care work has come to define “unproductive time.” There, in contrast to innovation time, time is expended to “merely” support vulnerable lives and those unable or unwilling to generate new value through change (Puig de la Bellacasa 2015). Emphasizing innovation and future-readiness endorsed by funders, ICT-centered projects insisted upon the promise of transformation—of converting matter at hand from less to more productive value-making states. But for Stephanie, their messages, imbued with growing references to “data-driven” techniques as the cornerstone of state and tech companies’ knowledge work, registered differently. For her, they underscored the lack of evidence to bolster the boosterism surrounding ICTs as tools for reducing social and economic inequality. As she put it, naming one longstanding breakdown, “There’s no real trying to see how people are benefiting from gaining access [to technology]. . . . You have all this money available, but it’s still not [clear it’s] getting to the people who need it.”

The amplified funding from her vantage instead fed outsized expectations that local organizations could do the “impossible” with ICT hardware or service provision, even when compressed time lines and minimal program funds were involved. In communities like East Central Illinois, where poverty rates for local counties like Champaign and Vermillion had hovered for decades above state and national averages (at 14.9% and 20.9%, respectively, compared to state and national averages of 12.1% and 12.8%, according to the US Census Bureau’s 2021 American Community Survey data), such magical thinking seemed to hold special sway. Her eyes widened recalling a recent \$12,000 state-based grant received to expand broadband connectivity for two thousand low-income households she worked with after joining the HACC. She added, naming another breakdown, “We were supposed to do all these miraculous things. But it was only \$12,000 [for one year]. It was just kind of impossible.”

She recounts pivoting to another strategy—one that aimed to address the explicit absence of data by investing funds in a local community-scaled survey tailored to HACC households. Even if small, such an effort might offer a localized snapshot and begin to establish a baseline understanding of broadband practices and needs among underserved households (in the way that efforts around the US Census Bureau’s American Community Survey had begun working to do since 2013 for locales with populations of sixty-five thousand or more). Importantly, it might also begin to create some oversight

around the unspoken future-based fixations and evident breakdowns in dominant institutions' ICT programs. In other words, it might allow expectations to be reset around the local reality and operational tempos working households—rather than the funders' imagined users—actually encountered on a day-to-day basis. Stephanie describes one need for the reset work in the survey's design: "If we asked our residents if you have internet access, people will say yes. But they're not talking about a broadband connection at home with a laptop. . . . Most, 70 to 75 percent, were using their smartphones. For everything. . . online classes, work, applying for work, for benefits, even their children being able to get assignments done at home."

For more than a decade, feminist and postcolonial scholars have critiqued the selective tracking of ICT programs in economic development contexts and the condition of default missing data (Onuoha 2018) that has resulted around them. Repair studies scholars note how an emphasis on the "new" in scholarship on ICTs has emphasized diffusion rates and growth statistics, over accounts of the breakdown of products and services when they fail to meet local needs (Jackson, Pompe, and Krieschok 2012). Furthermore, such emphasis on diffusion does not account for the extent of organizing that is required to repurpose, manage, or sustain the use of old and aging technologies among populations with diverse and often underserved needs. Critical information studies scholars point to how little evidence, then, there has been to prove that investments in digital skills and ICT and data access are reliable means to producing widespread economic mobility. And they have instead observed how the growth of economic stratification, homelessness, and stagnating wages followed the expansion of high-tech economic development plans (Eubanks 2011) and the growth of technology sectors (Greene 2021) across varied US cities.

The persistent absence of basic tracking measures around the failures of ICT programs in the wake of such trends speaks volumes about where breakdown is deemed worthy of being left uncounted and unseen. Much like the simultaneous rise of digital monitoring systems targeting marginalized populations undeniably reveals where errors and breakdown are guaranteed to always be made to count. From systems that assess eligibility for social services to those enforcing compliance with law enforcement, such widespread and commonplace designs speak loudly about whose errors are allowed to count, where responsibility must be extracted, and whose failure becomes a matter of permanent record.

Stephanie's insistence that technology programs and their design assumptions be subject to questioning was a modest means to push back on the veneer of inevitability that accompanied the missing data around breakdown in ICT programs and to turn the given accountability framework on its head. For her, channeling program funding into data collection opened an opportunity for a temporal reset, one that could begin to resist the void of oversight around funded ICT deployments and disrupt the compounding assurances that there is no value in revisiting and interrupting a productivity-paced deployment when it came to tracking ICT failure among underserved populations. Her pushback questioned the logic that the only worthwhile temporal orientation would be a forward moving one, redirecting funders' intentions for a unidirectional plan for service delivery toward a means for critical feedback and a chance for local residents and organizers like herself to activate another kind of conversation around technology. Her redirection defended not only a conviction that there was indeed something more to see and account for, but also defended local residents' right to redefine the pace of projects so that they might be represented on other terms—including ones that could push back on funding institutions and the "knowledge" they presumed to stabilize around ICT breakdown and success—and by extension, care and collaboration.

Stephanie's dedication to translating the lived experiences and practical knowledge of local underserved residents into tools that could challenge and temporally reset the invisible assumptions baked into technology programs has, in recent years, led her to seek out new collaborations and research cooperations around data beyond domains focused on low-income housing. It's how she and I came to work together as partners in a broadband equity research project hosted at the University of Illinois, shortly after she joined HACC. Along with media justice organizer and Cunningham Township supervisor Danielle Chynoweth (featured in chapter 2), after-school program advocate Kimberly David of Project Success of Vermillion County, and public health advocate Julie Pryde of the Champaign Urbana Public Health Department, we formed a local research team in 2020 to work with local households to address unmet broadband needs in East Central Illinois and to map data in ways that might push back against the hardening future-fixated consensus that funders and dominant knowledge institutions narrowly reified.

These efforts by community organizers to use data work to redirect ICT programs toward a community-based form of technology assessment and

oversight are not solitary outliers. Across a growing range of local sites, community data projects have emerged as responses to the failure and breakdown of dominant knowledge institutions to meaningfully speak for local communities' needs around technology and to address the complexity of historically marginalized populations' experiences around datafication (Holden and Van Klyton 2016; Kennedy 2018; Lewis et al. 2018). Spanning grassroots projects, intersectional organizational coalitions, and novel research-oriented partnerships, their efforts are channeled through a diverse range of structures that share a commitment to retemporalizing data work around a vitalization of community life. Refusing to adhere to dominant ICT paradigms defined by the digital economy's hyperproductionist time and progressive imperative (Puig de la Bellacasa 2015), where drives to extract greater value and efficiency propel compulsions for individual optimization and restless self-improvement, they choose to invest in another kind of knowledge practice instead. Insisting that a future of technology access and use might still be imagined to defend the empowerment and collective vitality of historically marginalized communities, their work channels questions around what happens when community renewal, collaborative living, and connective interrelation—rather than efficiency, rationalization, and individual competition—become the organizing logics and tempos behind the design, use, and repair of information technology and data-driven infrastructures. They necessarily ask, too, how can we begin to account for the damage inflicted via data practice when urgencies around individual optimization and productivity are maintained as priorities above all else?

This chapter attends to the growth of such projects, and the coordination they have brought together, to retemporalize data work and the dominant innovation imperative that surrounds it. To retemporalize data work today would mean decentering the givenness of the “move fast and break things” pace of competitive innovation that has driven big data and AI-based industries, and channeling and repacing data work toward a vitalization of community life instead. Gaining recognition in recent years for broadening the inclusion of new publics in debates around the politics of data, and underscoring the power of situated data practices to advance calls for accountability (Chan and Garcia forthcoming), community data projects have drawn from critical traditions in intersectional feminist (Garcia et al. 2022; D'Ignazio and Klein 2019; Rosner 2020), Black (Benjamin 2019, 2022; Gaskins 2021; Milner 2020), Indigenous (Carroll et al. 2020; Christens 2018), decolonial (Couldry and Mejias 2019a; Hassan 2023; Lin 2023; Milan and Treré

2019; Ricaurte 2019; Yang et al. 2023), and labor-allied (Irani 2015; Nguyen 2021; Roberts 2019) data practices to demonstrate the disproportionate harms that contemporary datafication systems have had on marginalized communities. From a diversifying range of contexts, their voices multiply frameworks—from data sovereignty (Global Indigenous Data Alliance, US Indigenous Data Sovereignty) to abolishing big data and data capitalism (Data for Black Lives), vernacular technology (Boston South End Technology Center), counter data (Datos Contra Femicidio/Data against Femicide), data body defense and consentful technologies (Our Data Bodies, Detroit Community Technology Project, Los Angeles Community Action Network), and anti-spying organizing (Stop LAPD Spying Coalition, Mijente), among others, that counter narratives of datafication in the age of big data as a preeminent engine of universal progress.

This chapter speaks to the growth of community data initiatives as they have worked to mobilize collective efforts to cultivate new tempos around data that can speak back to a history of harms that have resulted from the extractive, segregationist logics of dominant data systems. Focused on community data practitioners' temporal investments, this chapter builds on chapter 4 and 5's explorations of the varied forms of data work—including developing relational infrastructures and cultivating coalitions for data pluralism—that marginalized populations have undertaken to refuse and remake the terms of dominant knowledge institutions across generations. Following a review of community data's pluri-temporal defense work in relation to techniques of care time, broken world thinking, and collaborative survival that feminist and postcolonial studies scholars have explored, I address in this chapter how such temporal arts reverberate across the justice-oriented commitments of community data practitioners as they have worked to develop localized, community-responsive models of situated data practice as critical alternatives to dominant knowledge institutions. I then bridge a conversation with the past, tracing the roots of community data's growth to past justice-oriented and locally engaged social movements, where critical orientations against anti-pluralistic data methods were channeled into calls for structural and institutional reforms in the United States in the nineteenth and early twentieth centuries. I close this chapter by returning to East Central Illinois, reflecting on how spaces outside of (and often said to be "left behind" from) innovation's accelerated productionist time can cultivate local tempos that channel into commitments to retemporalize data work around ethics of patience, care, and accountability. This includes a project I partnered with as a faculty member at

a US-based public university. The research effort demonstrates the potentials of community data collaborations to instantiate accountability acts and temporal resets at state-level public offices and universities. Even while fleeting, they carry reminders that such acts have the potential to accrue into meaningful transformation if commitments to community life and renewal were centered by knowledge institutions as situated actors themselves.

As an exercise of solidarity with community data, notably, this chapter gives voice to community data practitioners' accounts of the harms and graduated violences that have accrued across a history of extractive relations, segregations, and silenced voices in technology and data work—as well as how such histories are collectively recalled, accounted for, and recorded through acts of collaboration. Far from seeing extractive exploits as outcomes uniquely tied to the spread of contemporary data and technology systems, community data initiatives connect such trends to a history of technical developments that have been driven by the narrow interests of dominant knowledge institutions and their long-standing exclusion of, and disinvestment from, community interests in the pursuit of global scale and profit. This chapter is a call for greater attention to the local and to forms of situated investments in critical data practice as productive sites for cultivating strategies on how to push back on datafication processes that have often been abstracted at the level of the global and a projected universal time. It is a reminder of how long marginalized populations have worked to mount local defenses and to speak through forms of critical practice to steer knowledge processes toward other futures and away from the inevitability of globally extractive, segregationist forms of datafication. This chapter is a call to listen to the strategies fostered to insist on pluri-temporal relationalities—and not just productionist time's percussive insistence on control and profit—as the projected aims of technological design and data work. And it is a reminder of the possibilities that emerge when we attend to the interconnective cultivations community data practitioners have brought to life across generations.

#### COMMUNITY PRECARIETY AND THE EXPULSION OF REGRESSIVE TIME

At first blush, technology initiatives and innovation paradigms don't make themselves obvious as counter-forces to community life. The continued stream of investment technology initiatives have poured into designated

productive sites and economic centers, after all, appear alongside celebrated instantiations of community-focused ICT programs and high-tech diversity programs that provide the cover of equality of interest and inclusion (Hoffman 2021). Amplifications of Big Tech leaders' messages that their data-driven products can deliver "community" to broad global bases of digital users and consumers (Zuckerberg 2017)—while simultaneously optimizing individual personalization (Pariser 2011)—can make the "falling behind" of growing classes of marginalized populations and the regression of those who simply can't "keep up" to the periphery appear as if they were inevitable, natural outcomes, rather than programmed stratifications and designs that filter and elevate the future-worthy from those deemed undeserving of investment and irredeemable of value-extraction.

But if community data practitioners inhabit the time of aftermath—of attention to and care for what was left behind—they remind us how inhabiting such time spaces can be (or perhaps, necessarily must be) a connective affair. Their efforts echo postcolonial and feminist technology studies scholars who have underscored the centrality of care time, repair worlds, and multispecies survival to break out of the master narratives of individualist progress and competitive growth that have dominated innovation paradigms. While such work frames our present as a time of life "after" broken worlds, it also defies a straightforward narrative of decay and hopeless social, economic, and ecological ruination, underscoring instead how worlds of tentative hope—in the ecologies of "collaborative survival" (Tsing 2015) and counter-breakdown—have emerged despite the "weight of centrifugal odds" (Jackson 2017). They press us, then, toward cultivating new "arts of noticing" and "subtle arts of repair" practiced around socio-technical infrastructures, inviting us to sustain a wonder and curiosity for the ongoing work that allows collective living and shared worlds to be maintained in the face of precarity, instability, and indeterminacy. Their lenses offer a means to see outside the binary of large-scale growth or destruction and collapse (at least for all but the narrowest classes) as inevitable temporal trajectories. And they move us beyond the figure of the rational individual, which has been heroized for too long as Western history's key to economic growth, progress, and intellectual and political enlightenment, and as the best bet for the future of democracy, science, and economic abundance alike.

Underscoring emergent collaboration, they point us instead to sites and actors who span the multispecies world of Matsuzaka mushrooms: the burned landscapes where "humans, pines and fungi work together to take

advantage of bright open spaces and exposed mineral soils . . . [and] make living arrangements simultaneously for themselves and others” (Tsing 2015, 22); the favela LAN Houses where semistable digital access spaces and social meeting grounds are maintained by owners and residents through “a mix of personal relations, informally acquired knowledge, and cheap parts” (Nemer 2022, 52); and the permaculture and biodynamic practitioners who engage with food web-friendly soil care techniques recognized “as innovations [even when] . . . some of the ‘new’ technologies that they implement are a thousand years old, integrating knowledge from contemporary indigenous modes of re-enacting ancestral cosmologies” (Puig de la Bellacasa 2015, 709). These are figures who operate under a mix of temporal orientations, not always forward moving, and who labor against dominant productionist tempos and urgencies (Philips and Matti 2016; Puig de la Bellacasa 2015) that insist on extracting ever-more value and efficiency. Their interest instead is to push against such dominant forces to create care time and cultivate resistances that, despite all, gather intents in efforts to “stay with” (Haraway 2016; Martin, Myers, and Viseu 2015) the ever-growing terrains and tempos of the un- and under-valued.

Like the varied actors and relations that populate such sites, those that situate the work of community data practitioners remind us of the landscape of complex relations that are necessary to coordinate (and cultivate) to bring together stability in the face of pervasive unpredictability and uncertainty. They underscore the expanse of agents and forces whose interests must be negotiated to bring together meeting grounds—across and despite differences—that forestall breakdown. This labor of creating coordination and managing complexity across social, material, and temporal divides required for countering breakdown is constant. It demands a sustained vigilance and art of rapid responsiveness that generally goes unrecognized, even though it is unrequired in contexts where formal systems and dependencies keep unpredictability and uncertainty to a minimum. The labor of counter-breakdown and coordination, and the contradictory invisibilization of its presence despite its constant extraction from marginalized classes, is part of the “ordinary violence” channeled through contemporary data infrastructures that emphasize speed, scale, and volume over all other assets. It is a through line that maintains inequity as a central logic of our contemporary technology cultures and that has ensured that exploitation, oppression, and cultural imperialism remain primary driving forces in the information age (Eubanks 2018; Greene 2021; Nemer 2022; Noble 2018).

Community data's work to retemporalize data work in a contemporary age of big data is not simply a matter of slowing down time. Rather, it entails a fundamental recognition of how dominant models of datafication that have fed big data regimes have eroded temporal worlds. They work to expel unproductive time and exterminate regressive temporal orientations—ones that in the most pernicious framings are allegedly not merely wasted time, but work as degrading, retrogressive forces that block the future itself from proceeding. The authors of the popular text *Big Data: A Revolution That Will Transform How We Live, Work, and Think* (2013), Kenneth Cukier, data editor of the *Economist Magazine*, and Oxford Internet Institute professor Viktor Mayer-Schönberger animate such a logic, underscoring the hard but necessary exterminationist decisions that will have to be made to unleash big data's revolutionary potential. Projecting big data's arrival as "the moment when the 'information society' finally fulfills the promise implied by its name," they write that its potential is conditional upon society "shedding . . . its obsession for causality" and interest in "knowing why"—prioritizing instead a new epistemological commitment for "predict[ing] the future." In such a radical remaking, they tell us, outdated fixations around "knowledge as an understanding of the past" must be excised, so that the power of knowing through "simple correlations" can be unleashed—"not knowing why *but only what*" (2013, 7). In big data's existential time scape, innovation is not simply a process that opens new futures, but becomes a conditional future itself—one whose outcomes rest on the contingency of radically reformed information practices and the prompt expulsion of regressive tendencies, including those of now outdated knowledge professions.

The editor-in-chief of *Wired* magazine, Chris Anderson, provides another snapshot of this exterminationist logic of big data temporalities at work. Pressing his audiences to ready themselves for what he described as the radical transformations of "the Petabyte Age," he stated that it would bring about the rapid demise of knowledge and data methods from "out-moded" disciplines. As he wrote, "Out with every theory of human behavior, from linguistics to sociology. Forget taxonomy, ontology, and psychology. Who knows *why* people do what they do? The point is they do it, and we can track and measure it with unprecedented fidelity. With enough data, the numbers speak for themselves . . . [in this new] world where massive amounts of data and applied mathematics [now] replace every other tool that might be brought to bear" (2008). He spoke boldly for not only the active embrace of new knowledge paradigms oriented around the pursuit of big data and

future prediction, but also for the very virtue of a radical unmaking of past disciplinary methodologies, out-evolved by more efficient, universalist tools for data processing. Under such projections, almost all modes of knowledge practice on human behavior—“every theory” from linguistics to sociology to taxonomy, ontology, and psychology—are argued to be out-evolved by more efficient tools for universal data processing. In this new world order, resources for knowledge making are only wisely spent when invested narrowly in growing the mechanisms for tracking and measurement, enabling processes oriented toward allowing data and numbers to simply “speak for themselves” and on amplifying and prioritizing questions of the *what* while silencing those fixated on the past around *why*. To expend resources on anything else would be an unnecessary distraction that would only crowd information ecologies with more “noise” at best, and at worse, advance epistemological suicide.

Community data’s commitment to retemporalize data work, however, should remind knowledge professionals that the work to expel and exterminate “regressive” temporal orientations has been long going. Community data practitioners’ work underscores how dominant models of datafication have deleteriously impacted community life, eroding temporal worlds as the harms of datafication have disproportionately impacted marginalized classes. Sharing values and goals with broader data justice and data activism movements worldwide (Dencik et al. 2022; Redden, Brand, and Terzieva 2020; Milan and Van der Velden 2016), community data initiatives highlight how contemporary data systems and a long history of data violence couple to amplify the harms marginalized communities have faced in the era of big data—from an expansion of forms of economic exploitation and identity-based discrimination to the loss of privacy and autonomy, political manipulation, and physical violence (Benjamin 2019; Cottom 2020; Couldry and Mejias 2019a, 2019b; Eubanks 2019; Hoffman 2021; Noble 2018; O’Neill 2016; Onuoha 2018; Ricaurte 2019). While community data initiatives have gained notice for interventions in technology policy debates, their critiques go beyond policy reform, by targeting the politics of dominant knowledge institutions—that is, powerful commercial, academic, and state actors whose creation of data-driven knowledge sets and data voids alike have accelerated the control, commodification, and classification of populations (Crawford 2021; Davis, Williams, and Yang 2021; Sadowski 2019; Zuboff 2019). Like justice-aligned data journalism projects that have focused efforts around translating datafication processes to diverse publics (Tere, Hintz, and Owen

2022), community data projects highlight the need to cultivate new methods to engage diverse stakeholders and to respond to the varied temporal orientations of marginalized communities.

What distinguishes the engagements of the community data practitioners is the commitment to not merely respond to but also to stay, be, and think with particular marginalized communities, while retemporalizing data work. Their defense of community life is grounded in the work of situating data practice within a temporal order that unfolds outside of the accelerating, efficiency-demanding, universal temporal regime insisted upon by big data. From such a vantage, datafication processes can be read not so much as necessarily abstracted processes whose global takeover and grip on the future is already a given; instead, they can be recognized as uneven and locally contingent processes that get differentially paced and shaped across locales by the specific forms of resistance and investment of time and care by situated actors. From this vantage, dominant knowledge institutions don't exist as decontextualized global forces, but are understood and treated instead as entities whose stability relies on sustained coordinations across specific sites (of particular research clusters, commercial divisions, or public offices, among other extensions), where local forms of disruption or dissent can still meaningfully register.

And much as community data practitioners have demanded more nuanced framings of data and technology, they have likewise resisted simple readings of "community," grounding their work instead in understandings of communities as complex social bodies made up of a plurality of actors who are nonetheless bound and sustained by an active reproduction of shared space, values, interests, or concerns. Community thus refers less to a homogenized body of organically unified actors and more to a complex network of actors whose coherence can only emerge from the sustained labor of coordination and investment of care work. This labor, from the dominant productionist vantage of innovation time that insists upon the extraction of ever-greater value and efficiency, can only be dismissed as reproductive (rather than genuinely productive) labor. Practitioners acknowledge that while some communities are tied to local space and place, others span across a network of sites that activate a common sense of belonging through a cultivation of situated forms of relating and renewals of connection. They recognize that while communities, from the outside, might appear homogeneous, differences exist within that are constantly negotiated and that can result in relative forms of privilege and marginalization. Community, seen from this vantage then,

is not presumed to be a natural given entity, but is a form of relating that requires work, care, and time to cultivate. And so, too, can its existence be made vulnerable and precarious, despite such investments.

Community data efforts underscore the deleterious impacts that the accelerating segregations and automated classifications of contemporary data systems have had on the pluri-temporal coordinations of communities across varied formations. They highlight how the amplification of discriminatory and stratifying operations under datafication have threatened the continuity of community life that extends through pluri-temporal vibrancy and the safety of marginalized populations to securely cultivate new interrelational connections (Adams 2021; Crooks and Currie 2021; Emmer et al. 2020; Eubanks 2018; Gangadharan 2015; Madden et al. 2017). They draw focus, then, to the overlooked precaritization of community-driven social connectivity, as the forms of collective coexistence they foster across a plurality of relational capacities are increasingly undermined.

#### REPLACING DATA FOR INTERRELATIONAL CONNECTION

Far from seeing data harms as discrete outcomes tied only to the spread of contemporary datafication systems, community data initiatives connect such trends to a history of technology developments that have been driven by the interests of dominant knowledge institutions and their long-standing exclusion of, and disinvestment from, community interests in their pursuit of global scale and profit. Community data is thus grounded in an enduring critique—at least over a century long (Battle-Baptiste and Rusert 2018; Chan 2020)—of dominant knowledge institutions' roles in amplifying social vulnerability. Such harms extend from dominant knowledge institutions' projection of universal knowledge production, despite their failure to meaningfully know, speak for, and address the lived experiences of diverse marginalized populations. Community data initiatives' renewed calls for more accountable knowledge practices and research infrastructures instead recognize the importance of local context in developing and analyzing the impacts of data systems in ways that center the priorities, voices, and histories of lived experiences of marginalized communities (Akinwumi 2023; Benjamin 2019; Costanza-Chock 2018; D'Ignazio and Klein 2019; Eubanks 2011; Gangadharan and Niklas 2019; Gaskins 2021; Irani et al. 2010; Lewis et al. 2018; Shaikh 2023; Walford 2018). Echoing calls to more intentionally

center context in design (Escobar 2018; Gangadharan 2020; Irani et al. 2010; Lee and Petty 2021; Rosner 2020), community data work has underscored the growing tensions around the historic exclusion of marginalized populations from determining how dominant knowledge institutions use, collect, and selectively filter data, even as such communities have remained among the most common subjects of data extraction (Arora 2016, 2019; Eubanks 2018; Greene 2021).

Community data initiatives respond to the need for new forms of situated data practice and community-accountable research infrastructures as alternatives to the control, commodification, and classification of populations by commercial, academic, and state actors (Haraway 1988). In doing so, activists, organizers, and researchers who engage in community data initiatives speak for the possibility of alternative knowledge practices that counter the polarizing and socially stratifying impacts of datafication and the restless imperative of a universal innovation time. They redirect data processes toward a renewal and strengthening of community relations and self-determination—refusing critical scholarly frameworks that position data as inevitably harmful, while also refusing frameworks that see technology and data production as democratizing simply for being placed in the hands of communities (Ahmed 2012; Crooks and Currie 2021; Fuchs 2013).

Community data work is conditioned on a sustained commitment to redirect data practices toward a defense of communities' open capacities for collective coexistence and pluri-temporal relational connectivity. Such redirection efforts entail not only prioritizing greater accountability to marginalized communities and redefining power relations around data practice, in response to long-standing critiques of the exclusion of communities in knowledge production, but they also entail redefining of the very terms of data work itself, shifting the focus away from elite actors (Kennedy 2018). Prioritizing a reinvestment into community life and local relations results in data practices that exceed the terms and interests of dominant knowledge institutions: community data are often small, contextual, qualitative, and creative; highlight storytelling, community documentation, and memory work; and are grounded in locally based archives and situated histories. What matters is not the scale, speed, and volume of data captured, but the possibility of meaningfully engaging the lived experiences of marginalized community members. What is valued are the diverse means to recommit to an empowerment of local community life through activating local forms of relationality, connecting collective histories, and committing to the

patient—and often unpredictable work—of cultivating new relationships of reciprocity and accountability.

In distinct contrast to dominant knowledge institutions' ventures, community data initiatives do not solely value data for their economic value or competition- and independence-enhancing utility. They instead draw intentional focus to the social aspects and relational potentials inherent in the infrastructures (Star 1999) and collective research processes that surround data. Community data projects look distinct from site to site, being responsive to local needs, potentials for relationship building, and problems around data infrastructures and datafication systems. As such, community data initiatives take on a range of functions, from promoting reinvestments into community life and marginalized communities' pluri-temporal relational capacities (Escobar 2018) to developing inclusive and locally engaged research methods to extend accountability to communities and enhance new channels of self-determination around data and technology. While distinctly shaped by their local contexts, community data initiatives emphasize shared priorities around situated forms of interrelating and community-centered research practice that underscore how patient forms of data work strengthen knowledge practice by fostering conditions for shared accountability.

And even while contemporary developments have brought new focus to community data work as emergent phenomena tied to recent digital developments, practitioners often view their efforts as interlinked with past justice-oriented reforms and data work stretching back more than a century. Community data efforts draw from a range of earlier justice-based reforms and social movements' data methods—from abolition movements, intersectional feminism and anti-sexual violence campaigns, and immigrant and labor rights organizing to movements for Indigenous sovereignty in varied regional national and local instantiations, among others. By drawing on prior justice-based reform efforts, community data practitioners underscore long histories of alternative data methods that bridge the work of activists, community members, and scholars to counteract oppressive forms of knowledge power. They further draw focus to the varied alternative knowledge infrastructures and resources developed by the collaborative work of generations of marginalized actors (Gaskins 2021), which have frequently been overlooked and invisibilized by innovation narratives that narrowly celebrate the “disruptive” profit-generating products of high-tech firms and the inventions of lone (and typically White, male, and Western) “genius” individuals or heteronormative, male-dominated institutions (Broussard 2018; Crawford

2021). Under such frameworks, marginalized communities are excluded as agents in knowledge production and more likely to be framed as sources of problems to be solved, or as sites or objects of experimentation from which data needs to be extracted (Cifor et al. 2019), than as knowledge agents.

By contrast, community data practitioners recognize marginalized communities as having long been central to the development of new knowledge practices and data methods focused on the needs, interests, and concerns of the people most directly harmed by dominant norms of knowledge production. Whether through the late nineteenth-century feminist and immigrant-authored surveys and labor studies of Hull House (Chan 2020), the early twentieth-century data journalism of Ida B. Wells, the data visualizations and sociological publications of W. E. B. Du Bois (Battle-Baptiste and Rusert 2018), the statistics-based nursing advocacy and medical reform work of Florence Nightingale, or the mid-twentieth-century origins of accessibility design and educational research (Brown 1992), community data practitioners link their work to past interrelational coordinations and organizing efforts led by marginalized communities that challenged and redefined the norms of dominant knowledge institutions. Significantly, they point to how such past, locally centered collaborations of critical data practitioners not only generated new data methods, but also demonstrated the potential to seed larger social and institutional transformations, underlining the vital role of alternative knowledge infrastructures in such work. Sites such as Chicago's Hull House, W. E. B. Du Bois's Atlanta Sociological Laboratory, the Black Panthers' national network of People's Free medical clinics, and immigrant communities' alternative health clinics demonstrated the range of possible research-based outputs in the United States alone when the priorities of innovation or growth were displaced as priorities in research practice. Supporting the extension of justice-based infrastructures, such sites highlighted the rich possibilities of alternative research futures that have been imagined through fostering retemporalized understandings of data as a relational knowledge resource and expression, not merely instrumental or utilitarian.

Such efforts underscore how local communities and grassroots networks have long worked to cultivate alternative knowledge infrastructures to enable a form of data work that might be more accountable to marginalized communities (Chan 2021; Eubanks 2011; Gaskins 2021). Whether developing mutual aid networks such as in Indigenous, Black, and LGBTQ health networks or feminist safe houses (Brown 2017; Spade 2020), improvising work-arounds for technological systems that do not meet diverse

needs (D’Ignazio and Klein 2019), or figuring out how to scale existing resources to provide nurturing and care (Precarity Lab 2020), such groups committed time and care to foster multisectoral collaborations at local and global scales to uncover and redress the negative impacts of dominant data practices on marginalized communities (Amrute, Singh, and Guzman 2022; Carroll et al. 2020; Gorur 2023; Irani 2021; Kukatai and Taylor 2016; Lewis et al. 2018; Nguyen 2021; Petty 2018; Ricaurte, Nájera, and Maloof 2014). They are active reminders of the long-standing work of organizers who occupied care time, cultivating and coordinating a shared patience across networks of difference to negotiate and hold together varied time scapes. Existing as alternatives to predatory data tempos, they forged paths to break away from an insistence to always move forward and faster, or to simply accept being left behind. Each call for accountability they architected together was hard won, but if they could accrue, they might layer into meaningful, lasting reforms. Recognizing such opportunities, then and now, required a willingness to “stay with” the process in order to refuse the restless tempo of innovation and to step into another patience.

#### COMMUNITY DATA IN EAST CENTRAL ILLINOIS’S AFTERMATH TIME

Noticing the work of retemporalizing data by community data practitioners in the contemporary can be challenging. It requires that we commit to denaturalizing the imperatives of innovation time and that we reorient selves to a different kind of patience for recognizing the varied forms of collective work that have emerged to counter innovation time’s violences. It means we recognize, too, how innovation imperatives have long drawn from other logics of segregation and stratification to feed global growth, parasiting on and amplifying such hierarchies as needed in the name of creating greater efficiencies for those deemed most “future worthy.” And it means dedicating time to cultivating new means of accounting for the local forms of vitality sustained through community data when care time—rather than the conventional profit-generating tempo of innovation’s productionist time—is the rhythm adopted to orient collaborators’ “value” creation.

Community data practitioners’ care work around data reminds us that the ever-intensifying calls of innovation to reorient all data practice toward an acceleration of production-oriented efficiencies have not extinguished

all other temporal orientations associated with data practice. Listening to community data practitioners, then, allows us to create space—temporal, social, and otherwise—for the active defense of pluri-temporalities that they channel through data collaborations as care work that decenters and denaturalizes the imperatives of datafication’s innovation imperative. This final section returns to East Central Illinois to hold space for the care time invested through local data work and the research partnership I was a part of with Stephanie Burnett and other regional leaders in social services and community organizing to address the broadband equity needs of diverse marginalized households in Illinois. The labor of care time and multitemporal relational cultivations invested around data work make plain how much data is read as more than just “raw material” to exploit—with greater speed or scale—in the interest of profit generation. They reveal the variety of data formats and tempos that can be drawn from to develop critical alternatives to innovation time and its violent percussions, including through the archives of personal memory and the lived experiences of historically marginalized community members. More than just markers of the past, such records help inform and connect us to the alternative futures community data practitioners imagine for data cultures and the possibilities of their practice as a means of enacting technologies of care.

For instance, when Stephanie speaks about what she credits for fostering her own critical orientations to contemporary data technology projects, it doesn’t take her long to reground herself in her hometown of Danville, a city in East Central Illinois that, like so many others, is rarely read in relation to hi-tech futures, even as it is threaded through with multiple temporalities. Indeed, from the vantage of innovation’s high productionist time, Danville would be a city that would be said to have been largely “left behind” decades ago, outpaced by a global economy increasingly temporalized around computation’s ceaseless processing time. Danville was once a growing industrial center, with coal beds and a railroad hub that supported its growth as a manufacturing site in the nineteenth and early twentieth centuries, drawing a thriving African American population that still makes up a third of the city’s population of thirty thousand. The city began to see its population dwindle as mines closed and later as midwestern manufacturers like General Motors began to depart. But in the midst of such outward migrations and following her graduation from Cornell University over two decades ago as one of the first members of her family to earn a college degree, Stephanie recounts how she returned to Danville, explaining the decision by simply

stating, “Yeah, Danville changed a lot after the [GM] plant closed. It was a totally different place.”

While dominant economic narratives resigned Danville to the past of industrial time and rationalized migration out of the city, from Stephanie’s narration, Danville’s transition to the explicit “afterlife” of productionist tempos spurred another kind of decisive moment and marked the city’s movement into a space inviting restoration and repair from neighbors like herself. From such vantage, it could be read not so much as a site that was “left behind” or one that receded into unproductivity, but as a space that instead defied innovation time’s binarization of worlds into future-oriented and regressive. For neighbors and residents like Stephanie, it was a site worth returning to and investing in for a different kind of orientation around the “future”—one where the lived experiences of residents and the commitment to a present sense of community and survival now allowed temporal spaces of care time to patiently emerge. In sites like Danville, in stark and quiet contrast to innovation culture’s relentless insistence to keep moving forward in pursuit of future opportunity (Puig de la Bellacasa 2015, 694), anxiety over the risk of falling into unproductive time dissolves.

This comes to mind as Stephanie recalls her first memory of her family’s decision to stay in Danville, which came after her father’s job of forty years was transferred to another GM site out of state following the Danville plant’s closing in the 1990s. Noting her father’s own cultivated patience, she recounts his practice of weekly commutes from Central Illinois to a GM plant in Defiance, Ohio, and how he would repeat this travel across midwestern states for years to keep Stephanie and her siblings from being uprooted from school and their network of family relations in Illinois. And she recalls how the same steady commitment came into play as he later enrolled in night courses year after year to gradually accrue course credits until he was able to complete a bachelor’s degree. “It took him ten years,” she says with admiration. In the time since, as she worked with Black and Brown youth at the Boys and Girls Club, with underserved youth and families in largely rural schools and after-school programs at Project Success, or in public housing program development at the Housing Authority of Champaign County, she has cultivated her own steady, committed approach to her work. She paces her “progress” around the relational and focuses on the repetition of working side by side with households, most often to create temporary work-arounds for systems that fail to adequately align with household capacities and routinely punish households in failing to anticipate temporal and economic barriers. “I see

families who take an hour-and-a-half trip on the bus just to get here to drop paperwork off” because they lack means to access email digital forms. In the end, she says, “It costs money [for households just] to get [and maintain] benefits. People who don’t have the money to get all the steps they need done [to simply apply for benefits], don’t get the benefits. It’s a double-edged sword.”

Such recognition is partly what seems to ground the version of patience she has chosen to cultivate around the outsized projections and promises of technology programs. Even when the program funders’ focus on the “new” means that they miss obvious opportunities to recognize the absence of other, more basic infrastructural needs, such as transportation, child care, or housing, Stephanie stresses she has not given up on partnering around technology: “My main thing is trying to make sure that our families in our communities and our children are set up for success. I’m always going to be on board with that.” Her cultivated patience stands in stark contrast to the calls for “future readiness” and projections of heightened crisis and urgency to act “now” that feminist science studies scholars underscore as diminishing the “present of action” (Puig de la Bellacasa 2015, 694) and that funders’ and innovation culture’s future-focused orientations rely on. In the space of care time, however, the present is instead “distended, thickened with a myriad of demanding attachments,” so that, as Maria Puig de la Bellacasa writes, “even when care is compelled by urgency, there is a needed distance from feelings of emergency, fear and future projections in order to focus on caring well” (2015, 694).

Far from simply automatic, the work of cultivating care time also entails work to suspend the ever-pressing demands to prepare for the future and to create instead the space and means to focus on commitments to the past and present alike, including through architecting acts of accountability. This ethic is adopted by the local research team that was formed by Stephanie and myself for a community data project around broadband equity in 2020, which included media justice organizer and Cunningham Township supervisor Danielle Chynoweth, after-school program advocate Kimberly David of Project Success of Vermillion County (featured in chapter 3), and public health advocate Julie Pryde of the Champaign Urbana Public Health Department. Working with local households in East Central Illinois, we aimed to undertake data collection around unmet broadband needs in ways that might push back against funders’ and dominant knowledge institutions’ hardening consensus around a future-readying framing of technology and data needs as already defined and worked to reorient the temporal presumptions embedded into programs’ dominant access-focused frameworks.

The accountability work that community data collaborations like ours aimed to bring forth didn't occasion instant and heroically revolutionary change. Funded with a \$50K grant from the state of Illinois's new Office of Broadband, we began our work together in 2020 recognizing our limitations. Invested in the means by which institutional accountability on smaller, shorter scales, however, might still be practiced, we committed ourselves to a collaboration—modestly focusing our work on addressing the missing data around technology failures related to support around state-supported broadband initiatives—with the prospect that any gains we might make could carry the potential to layer into other changes and stabilizing reforms.

The data collection process we knew we wanted to undertake thus aimed to collect information beyond the number of new laptops and data access devices distributed to households that state agencies and funders emphasized. Rather than taking the progress-enhancing power of technology for granted or enabling funders' immersion in innovation's time scape to allow us to adopt its future-focused and future-driven orientations uncritically (with their insistence that there were few things passed worth stopping forward-moving projects' advancement for), we aimed to pose other questions. We prioritized, then, allowing marginalized households and community groups to question the unexamined logic behind the access doctrine and to speak directly back to how the spread of digital devices actually impacts them in the short and long term—as sources of potential risk or liability—rather than presuming them to be automatic enhancers to households' quality of life. We further aimed to examine the local impacts of digital divide frameworks in diverse communities and critically attend to the local opportunities missed when technology companies continued to be exceptionalized as unquestioned sources of “universal” solutions for all populations—so much so that any problems or gaps in technology use were typically read more as failures of the marginalized communities and households themselves rather than as failures of technology design, markets, or policy.

Centering local accountability as a value, our team designed a research protocol that mimicked a pilot for the Office of Broadband's statewide distribution plan. Adopting the same hardware provider—the nonprofit PCs for People (PC4P)—that Illinois's Office of Broadband announced it expected to use for a statewide broadband equity initiative and leveraging the federal government's newly launched Emergency Broadband Benefits (EBB) and Affordable Connectivity Program (ACP), as was also anticipated for its projected statewide deployment, we worked with project partners

over the first phase of the project to design a local distribution plan for five hundred low-income households in East Central Illinois (EC-IL). Over six months, we worked with EC-IL partner organizations—Project Success of Vermillion County, Champaign-Urbana Trauma & Resilience Initiative, Cunningham Township, Champaign-Urbana Public Health Department, and the Housing Authority of Champaign County<sup>1</sup>—to design and deploy six different events to supply a refurbished laptop and a new hot spot device to five hundred local households they worked with (who averaged annual incomes of roughly \$11,000 in Champaign County and roughly \$23,000 in Vermillion County). These in-person events allowed households to also be enrolled into the EBB or ACP federal government programs launched in 2020 and 2021 to subsidize low-income households’ monthly internet connections and at-home data use.<sup>2</sup>

On top of Connect Illinois’s anticipated statewide distribution plan, however, our team added a new program feature: a family support and outreach team that would gather ongoing feedback from the five hundred participating households on the support they required in the months *following* their receipt of refurbished laptops and new hot spot devices, and ACP/EBB enrollment. In parallel with our work to design hardware distribution events, we developed a Tech Buddies Program that employed and trained a nineteen-person team (composed of ten UIUC students and nine local community members) to support households’ continued connectivity needs in the months following their receipt of hardware. Once every two weeks, tech buddies extended personalized calls to simply check in with households, answer questions, and address any complications that emerged in the two to six months after a distribution event took place. Sustained feedback from households provided our team with a guide for evolving concerns around households’ data and digital connectivity needs and allowed households to register their own observations around a local test scenario for Connect Illinois future expansion plans. Most importantly, it allowed households to collectively register reports and critiques around unanticipated outcomes—including the unexpectedly high number of hardware and service failures associated with the program’s technology providers—and to pose questions about how policy leaders intended to cope with such outcomes.

The documentation process we established made our team accountable for reporting back to state funders on the liabilities of their anticipated program design. This included the overwhelming instances of hardware failure and problems with renewing monthly broadband subscriptions with EBB or

ACP, which led hot spot devices to fail.<sup>3</sup> Roughly half of the tech buddies' total working hours over the course of six months of the program's operation was spent addressing hardware failures alone, which ranged from assisting households in contacting hardware suppliers (either PC4P or T-Mobile) to reporting and replacing nonfunctional hardware<sup>4</sup> and assisting with EBB/ACP renewal processes online.<sup>5</sup> Households reported experiencing long and frustrating wait times when attempting to contact providers' own tech support hotlines in hopes of resolving problems themselves,<sup>6</sup> and they reported that issues that required multiple calls to resolve further compounded their frustrations. While programs like Tech Buddies typically are not included in standard technology initiatives (where access is given the primary or exclusive focus), our final report to Illinois's Office of Broadband (Chan and Smith 2022) stressed how essential the program became in addressing marginalized households' specific needs (whether expediting resolutions around equipment failures or simply providing a personalized channel for intermediation between technology hardware and service providers and households).<sup>7</sup> We further stressed that community organizations' efforts to highlight the importance of developing meaningful accountability mechanisms to track gaps in support from technology providers demonstrated its importance to the research collaboration's data infrastructure, collection process, and findings—allowing outsized failure rates to be diagnosed and amplified to policy makers in ways that could guide plans for state-scale technology plans.

Like the kinds of archival silences (Trouillot 1995) and missing datasets (Criado Perez 2019; D'Ignazio and Klein 2019; Onuoha 2018) that decolonial historians and feminist information studies scholars have unpacked before, the kinds of historical absences and exclusions in data work that these kinds of community data efforts point to are omissions sustained against a backdrop of data accumulations happening around other “data-driven” plans of the state and dominant knowledge institutions. Far from accidental, missing data are what African American feminist data scholar Mimi Onuoha has described as “blank spots that exist in spaces that are otherwise data-saturated . . . where no data live . . . [even when] it should” (2018). Like gaps in global femicide data or missing accounts of subaltern resistances, they point to the missing records responding to possible but concealed questions and propositions that allow a status quo to remain in place. Adjacent to sites of designated data abundance, the voids that result settle in places when present conditions are meant to go unqueried, keeping the possibility of alternatives in the shadows to obscure another present and future alike. These are not, then,

empty spaces. Neither do they channel justifications for more datafication in the hands of contemporary big data actors and dominant knowledge institutions, as if generating more data would resolve the problem that created the silences around their mattering in the first place. As outlines of queries that might have been—and might still be—asked, missing data are instead carriers of critical potential, reminding us where, as Onuoha writes, “that which we ignore reveals more than what we give our attention to” (2016).

For community data practitioners, the invitation extended is not one to merely fill the void of missing data. Theirs is a call to reformulate the terms of questioning instead, so that it might be possible to ask why what was missing remained that way at all and what might begin to emerge instead if historically marginalized communities determined what questions, terms, and tempos of their asking could be encoded into research and data infrastructures instead?

## CONCLUSION

What happens when community renewal, collaborative living, and connective interrelation—rather than efficiency, rationalization, and individual competition—become the organizing logics and tempos behind the design, use, and repair of information technology and data-driven infrastructures? And how do we begin to account for the damage sustained via data practice when urgencies around individual optimization, innovation, growth, and productivity have been sustained as priorities above all else? I argue here that recognizing the import of these questions has been a domain and ethical commitment adopted by more than just information and technology studies scholars. I’ve explored too how cultivating temporal methods for connection and interrelation among such multisited nodes of thinking as responses have been differentially developed by community data practitioners. Their efforts to organize data work around these questions can be one means of refusing the insistences (and seductions) of innovation time and fortifying practices for community repair, survival, and perhaps even accountability in its aftermath.

This chapter has aimed to underscore the work of marginalized communities as sites of solution-making to counter the violences of innovation time and their accelerations through dominant datafication processes driven by industry and large knowledge institutions. Community groups’ commit-

ments to local forms of care work that extend from their data work—even if local and gradual—can heighten new opportunities for accountability acts through situated forms of community data work. Such commitments are obscured in a world where the dominant means to value and recognize real “work”—whether in the economy or politics, or around data and knowledge practices—have turned around the capacity to measure some version of change or quantified value-making. Within digital industry domains, such manner of designating “work” has increasingly demanded that the time and labor investments of “rational” individuals translate into the mastery, dominance, or conquering of large-scaled systems that can convert matter into more “optimal” states. Developing norms to recognize “work” in other domains that have required the kinds of slow, iterative, gradual, and long-term investments that are needed to sustain life and collective being (rather than attempt to optimize them) has been something we have comparatively ignored (like recognizing and tracking long-term impacts, whether around investments or disinvestments in public education and health care, air and water quality, or climate change). We follow numbers around growth and loss, assigning value to such movements as indicators that spur anxiety and crisis, or hubris and celebration, but we invest in and have developed far fewer means to assess what it means to simply stay and to evaluate investments in collective survival and community. And this, despite the fact we live in an age when we can no longer take either for granted as social matterings.

In the face of such developments, community data projects have refused to simply be resigned to the space of regressive time. Community data practitioners remind us of the host of other questions we might ask, and the array of other possibilities and problems we could explore, were attentions and imaginaries not narrowly fixed on the temporal paradigms of innovation regimes. Ever more narrowly defined by dominant knowledge institutions, the given terms on which success and survival, risk and experience, come to be framed and understood under innovation regimes silence and discount the alternative care work fostered through community data. What else might we attend to, foster data accounts around, or create new bonds of affect and affinity around were there not the decoy of finance-driven campaigns around value and value extraction? How then might we remake economies of attention toward other ways of collective knowing with data and encounter mutual experience in pluralistically entangled worlds?