SCULPTING REALITY FROM OUR DREAMS: PREFIGURATIVE DESIGN FOR CIVIC ENGAGEMENT

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SCULPTING REALITY FROM OUR DREAMS: PREFIGURATIVE
DESIGN FOR CIVIC ENGAGEMENT

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For everyone who has fought before me and to everyone who'll be fighting after me.

And for Scout.

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Dr. Jill Dimond—my academic aunties. Thank you to Melisse and Sidrah, my two sisters from two different families. And, as always: thank you Scarlet and Dan, my hearts and my home.

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LIST OF SYMBOLS AND ABBREVIATIONS

AMC	Allied Media Conference
BIPOC	Black, Indigenous, and People of Color
HCI	Human-Computer Interaction
HDL	Housing Defense League
HIPAA	Health Insurance Portability and Accountability Act
ICTs	Information and Communications Technologies
IFTTT	If This Then That
NGOs	Non-governmental organizations
OOHA	Occupy Our Homes Atlanta
PAD	Prearrest Diversion Initiative
UI	User Interface
VSD	Value-Sensitive Design

SUMMARY

At their core, organizing and activist work are about envisioning and working towards an alternative, more just political future. Various digital tools are used to support activist work, however these tools engage with values that are at odds with activist practices: where many activists do work in the service of social justice and equity, the digital tools they use are often corporate made, and thus support the status quo, i.e. profit generation, cis-heteropatriarchy, white supremacy, oppression. The ideals underlying activists' equitable visions—of a more accessible and just future—drive their practices. This intentional alignment falls under the purview of prefigurative politics, where political work "express[es] the political 'ends' of their actions through their 'means.'" [53] If activists envision a more democratic future, they adopt more equitable practices in the present in anticipation of building a more equitable future.

This dissertation explores the role of digital tools to contribute to—to prefigure— alternative, more radical political values. My work uses design research and anarchist literature to explore the opportunities that ICTs offer in support of radically progressive political organizing. This work offers *prefigurative design* as an approach for designers and practitioners who work with communities in service of progressive political change. Prefigurative design is an orientation within HCI design and research that encourages critical reflection of research and design practices to better align design artifacts and processes with anarchist goals of anti-oppression and collective liberation, ultimately

building counter-structures to replace existing institutions complicit in violence and oppression.

"We've got democracy / who needs solidarity?"

–Desperate Bicycles, 1978

"The fact is money and not votes is what rules the people. And the capitalists no longer care to buy the voters, they simply buy the 'servants' after they have been elected to 'serve.' [...] The idea that the poor man's vote amounts to anything is the veriest delusion.
The ballot is only the paper veil that hides the tricks."

–Lucy Parsons, 1905

"We have to imagine the kind of society we want to inhabit. [...] We have to begin that process of creating the society we want to inhabit right now."

–Angela Davis, 2016

"Are we brave enough to imagine beyond the boundaries of 'the real' and then do the work of sculpting reality from our dreams?"

–Walidah Imarisha, 2015

"Tomorrow's world is yours to build."

–Yuri Kochiyama, date unknown

"Check out my reference list."

–Suburban Lawns, 1979

INTRODUCTION

In 2016, Nextdoor decided to implement some changes to their platform to address their racism problem. Nextdoor is a location-based social network for neighbors to connect with each other around local concerns, but the platform was inundated with racist posts. Often, people made these posts under the guise of sharing safety or security concerns, but the content of the messages revealed little information beyond the perceived race or ethnicity of someone 'suspicious.' Oakland-based advocacy group Neighbors for Racial Justice brought this issue to the attention of Nextdoor and urged the company to take action against the implicit biases expressed on the platform, arguing that Nextdoor was complicit in larger forms of systemic racism that were negatively affecting Black, Indigenous, and people of color (BIPOC[1]) in their neighborhoods. In response, Nextdoor released a new feature for users creating a new post on the platform: an algorithm would detect if any racially-coded language was being used and, if detected, the user would be prompted to include more details about the suspicious person in question before their content would be posted, such as descriptions of their clothing. In an interview with The Daily Dot [58], then CEO and co-founder Nirav Tolia reported a 75% drop in incidents of racial profiling after the release of the feature. He described how Nextdoor served as a "mirror in the neighborhood" and thus had some responsibility for

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[1] I use BIPOC here instead of POC to acknowledge that white supremacy and other forms of oppression affect different identities in different ways. By using the BIPOC acronym, I acknowledge Native invisibility and anti-Blackness and that I benefit from these oppressions as a non-Black and non-Indigenous person of color.

the racism on their platform, but also acknowledged that "a few changes that a website makes won't cure racism" [58].

I open my dissertation with this example to illustrate one kind of design intervention in service of justice—in this case, an update to the platform's user interface (UI) to support racial justice. I include it here to point to my overarching research interest of the role of social computing in larger sociopolitical issues, specifically around the design of information and communications technologies (ICTs) and anti-oppression. To understand anti-oppression, I refer to the work of Beverley Burke and Philomena Harrison, who draw from Black feminist thought to define anti-oppressive work as work that *challenges inequalities*, where inequalities are functions of power (i.e. social differences between "dominant and dominated social groups") across various identities (e.g. race, class, gender, age) and across levels of scale (e.g. individual, community, structural) [40]. They also describe oppression as rooted in time and place, and thus oppression must be situated within the broader historical and geographic contexts of the social groups in question. For Burke and Harrison, anti-oppressive practice is a "methodology focusing on both process and outcome; and a way of structuring relationships between individuals that aims to empower users by reducing the negative effects of social hierarchies on their interaction and the work they do together" [40]. Burke and Harrison's work is rooted in their professional practice as social workers, but has been immensely useful in other disciplines—including human-computer interaction (HCI)—to better understand how to incorporate anti-oppressive principles into professional practice [40, 64. 65].

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In this dissertation, I explore the role of ICTs in supporting anti-oppressive work, focusing specifically on work done in service of digitally mediated civic engagement. By *civic engagement*, I refer to the wide spectrum of individual and collective activities for influencing the outcome of government practices. I draw specifically from Arnstein's seminal essay "A Ladder of Citizen Participation" to understand civic engagement more critically as a proxy for "citizen power," where citizens seek inclusion in political and economic processes as means to better share in the benefits of a democratic government [6, 258]. My doctoral work builds on years of ethnographic and design work with advocate and activist communities in Atlanta to observe how they use ICTs in support of their community-based civic engagement work. I have worked with a variety of civic actors—including advocates, residents, and government and non-profit employees—but ultimately the contributions of this work speak to more radically progressive activist work, acknowledging them as rich and underexplored sites for civic engagement. Through my research, I argue that centering the lived experiences and expressed needs of these radical communities provides valuable perspective into the role of digital tools and systems for supporting a wider spectrum of political practices.

As I describe in later chapters, existing digital systems assume the use of more traditional political practices, specifically those working with and within formal institutions and legal frameworks. These systems do not readily support more alternative political practices—more collective, radical, and cumulative work— and thus, as designers, researchers, and scholars, we risk missing broader and more in-depth understandings of what we build, how they are used, and by whom. By *radical* work, I

refer to practices that seek more drastic sociopolitical change. I acknowledge that radical work is not necessarily synonymous with anti-oppressive work. Thus, I situate my use of "radical" in Leftist literature and history to align it with progressive efforts seeking collective liberation through critiquing and remaking the underlying structures of oppressive institutions (e.g. social, economic) [156, 198]. In later chapters, I describe fieldwork I did with activists; their work aligns with this radical tradition, which gave me the opportunity to learn from their community-based anti-oppressive work. By observing these more radical practices, we gain deeper insight into the impacts of complex sociopolitical issues, which more traditional, or status quo, approaches to governance do not address. As my fieldwork has focused on ICT use in particular, these radical practices also reflect more nuanced and varied approaches for using digital tools to address these issues.

The main contribution of this dissertation is *prefigurative design,* which I offer as a set of concerns and practices to help guide scholarly work to better support these community-based anti-oppressive efforts. Prefigurative design orients us towards communities whose needs are not adequately met by existing institutions and structures; it leverages design and research practices to support these communities as they try to meet these needs. Prefigurative design adopts an anti-oppressive perspective, which contextualizes the more local concerns of community partners by situating them within larger structures of oppression and violence, e.g. patriarchy, white supremacy, capitalism. In this way, design and research interventions aim to address both problems within a given community, but to also work towards addressing these problems as they manifest

on a macro-level beyond the specific community and particular research collaboration. The ultimate goal of prefigurative design is to work towards building more just counter-structures to replace the harmful institutions that permeate our professional, personal, and shared civic lives. I discuss the roots of prefiguration in more detail in chapter 2 and discuss in chapter 8 the contributions that prefiguration makes to design and research, drawing from empirical findings from my research sites in chapters 4-7.

1.   Problem Statement

Contemporary HCI research points to changing sociopolitical practices around *civic engagement* in response to technological innovations and interventions. Some approaches have focused on improving existing civic practices, such as voting [143, 155], volunteering with non-governmental organizations (NGOs) [267, 270], or communicating with elected officials [101, 234, 246]. Other projects focus on the quality of civic participation, like more inclusive public processes [89, 106] or deploying sensors to support community advocacy [158, 172]. Broadly, these projects have focused on improving city services to be more accessible, responsive, and efficient. These initiatives have leveraged a variety of computing technologies, from social media to smartphones, and encouraged citizens to advocate for their needs, such as better city roads or more inclusive planning processes [106, 202]. Due to various constraints—temporal, spatial, financial—there is a growing trend to rely on digital tools and platforms to facilitate greater public participation in civic processes. Many of these digital tools assume to already know different categories of urban and civic concerns—again, largely through the

lens of service delivery—and also rely on more traditional modes of governance, such as public meetings or voting. Here, digital tools mediate existing mechanisms of civic engagement, leveraging the affordances of digital artifacts and ICTs to facilitate or enhance citizen input and participation in democratic processes.

Many of the digital interventions used for civic engagement have explicitly engaged with democratic discourses—particularly *deliberative democracy*—but have done so uncritically, framing technologies as more inclusive or empowering for citizens through increased means of participation without calling into question any underlying structures that might prohibit or hinder participation [31, 33]. By deliberative democracy, I refer to governance that relies on decision-making practices informed by reason and debate as determined by an educated and engaged citizenry (described in more detail in chapter 2) [49]. However, the challenge is that deliberative democracy can be understood from different perspectives, each of which suggests a different set of democratic problems and approaches to address them. For example, tools to support online consensus (e.g. DemocracyOS, Loomio) assume majority consensus as a mechanism for decision-making. Similarly, there are platforms to support citizens communicating with their representatives (e.g. Resistbot, Countable), which assumes that those elected officials are addressing all the needs of all their constituents. The assumptions of these digital tools points to a tension between underlying democratic ideals and how those ideals are practically implemented.

My work lies at the intersection of these tensions, where mechanisms of civic engagement are seemingly out of sync with the democratic ideals and principles that they are meant to enact. By observing and working with various issue-oriented communities in Atlanta, I have gained understanding into some of the limitations and shortcomings of contemporary practices of democratic civic engagement and how different communities engage in alternate civic practices to better serve their own underrepresented needs and concerns. More specifically, I have learned how communities use ICTs to support their advocacy and activist work. My work started with Cycle Atlanta and looked at more traditional modes of civic engagement, relying on policy and planning mechanisms to participate in decision-making processes. Here, cycling advocates used digital systems as tools for more inclusive and more in-depth participation in planning processes. This research revealed some of the limitations of both traditional modes of civic engagement and civic tools as they did not acknowledge more complex narratives, histories, and structures underlying civic engagement, such as distrust, structural racism, and underrepresentation. Next, Occupy Our Homes Atlanta (OOHA) was a valuable site for learning about these complexities and how they impacted existing civic practices, and in particular to observe more radical community responses to them. Housing activists used digital systems to amplify counter-narratives within their community, leveraging them as political resistance for folks disproportionately affected by the mortgage crisis, itself the result of more structural forms of inequity and the failure of larger institutions, like banking and housing policies.

After this more exploratory work, I focused my research to be more interventionist: my work with the Atlanta Community Engagement Playbook was an experiment in deploying a civic counter-structure: our co-design process was driven by community needs and experiences, resulting in a design artifact to try and prefigure more just and accessible interactions between constituents and their elected officials. By centering our community partners, the research and design work both drew from and built on their ongoing civic work and sought to increase the collective capacity for various communities in the city to advocate for themselves. Finally, my work with the Atlanta/ Fulton County Prearrest Diversion Initiative (PAD) revealed some of the limitations of prefigurative design, particularly when collaborating with an organization negotiating more radical and more institutional forms of civic engagement simultaneously. In this context, prefigurative design became a way to address more immediate concerns local to the group, focusing on increasing internal capacity such that staff could better continue their more structural anti-oppression work after the research collaboration had ended.

I trace my observations of these four issue-oriented communities to explore opportunities for better supporting anti-oppressive civic engagement work through digital artifacts and design interventions. I reflect on my fieldwork, as well as related literature and scholarship, and build on these more radical, alternative political practices to address a wider spectrum of civic engagement work that implements democratic ideals of justice, access, and equity across different levels of scale.

2.   **Research Questions**

To address my overarching research interest around ICTs and civic engagement, this dissertation addresses the following research questions:

2.1.   R1. How are democratic ideals embodied by existing forms of civic engagement?

I address this research question through a combination of fieldwork and existing literature from both HCI research and political theories of democracy. My fieldwork through Cycle Atlanta offered opportunities to observe cyclists, advocates, and city planners as they engaged with existing civic engagement processes. My work used participatory design to learn more about the community's use of digital tools in their advocacy work, which was supported with relevant scholarship out of HCI and urban informatics. In addition to the Cycle Atlanta mobile app, advocates used a variety of social media networks, mobile technologies, and sensor data to argue for better distribution and quality of cycling infrastructure in the city. Research participants shared their motivations for—and frustrations with—participating in public processes; in some cases, digital technologies addressed their frustrations, but in other cases they exacerbated them. Participants also described civic practices and goals that aligned well with those described in democracy theory literature, including access, self-determination, safety, and equity. I discuss these practices and goals in more detail in chapter 4.

2.2.   R2. What are alternate forms of civic engagement that emerge from similar democratic ideals?

I address this second research question through my work with my second research site, OOHA. This work built on my work with Cycle Atlanta as OOHA activists expressed similar frustrations as cycling advocates concerning existing mechanisms of civic engagement. Both communities had expectations that local institutions would attend to their civic concerns and both felt those needs were not being adequately addressed. OOHA was valuable for observing other, more radical kinds of civic engagement as alternate means for trying to attain similar democratic ideals. Where cycling advocates relied on policy and planning, OOHA activists primarily worked outside those structures, relying on grassroots organizing and community support to address housing needs. These larger, more formal institutions were ineffective as they prioritized market values over home ownership and resident stability. The activist practices I observed through OOHA aligned more with direct democracy theory and practice—specifically anarchism—which contrasted more the cycling advocates' more traditional, or status quo, approaches to civic work. OOHA's activism took more direct approaches to implementing democratic ideals, relying on solidarity, mutual aid, and prefiguration to serve their own needs, rather than mechanisms of representative democracy. I discuss these alternate practices in more detail in chapters 2 and 5.

2.3. *R3. What is the role of prefiguration in design research?*

R1 and R2 were more exploratory questions that pointed me to alternate civic engagement practices as opportunities to conduct civic engagement research. With my third fieldsite, the Atlanta Community Engagement Playbook, I focused specifically on

prefiguration as a specific kind of alternate civic engagement and shifted my work to explore the role of prefiguration in design research. The playbook project was a collaborative effort across researchers, government employees, neighborhood residents, and other civic stakeholder to better understand—and, ultimately, document and share—effective and inclusive community engagement practices. The co-design process itself became the vehicle for prefiguration as our research team worked to enact the ends of our work—accessible and equitable city governance—through our design process, adjusting our research to better accommodate the expressed needs and concerns of our community partners. Our design research was prefigurative in multiple ways: researchers reflected on their own practices to better respond to stated participant concerns; our design process was flexible and generative to accommodate participants' various civic needs and to encourage co-ownership; and the design artifact embodied the share vision of our collaborators despite their different priorities, agendas, and goals.

2.4.   R4. What are the limits and opportunities of prefiguration in design research?

My final fieldsite was with PAD as they launched their pilot program as an intermediary service provider with an explicit vision to heal damage done to communities by the criminal justice system [104, 136, 211, 215]. PAD was an ideal site to better understand the boundaries of prefigurative design in community-based anti-oppression work for two reasons: the first was that they deployed myriad civic engagement practices, spanning from more advocate and institutional to more radical kinds of work (e.g. trauma-informed social work). The second was that PAD had a clear organizational vision

for the future they wanted to prefigure but still had to work with institutions that did not share that vision. As an embedded researcher, I worked with organizational staff with the explicit and mutual goal of increasing the group's capacity through design interventions. I explored the limits of prefigurative design when deployed in a setting with changing needs and practices to negotiate the various politics and agendas of the civic actors involved. My design interventions responded to the urgent temporal concerns expressed by PAD staff, and thus served their more immediate care-based social work rather than more structural concerns around criminal justice reform. Ultimately, the research partnership ended as a service design project to support operational needs, building organizational capacity to more effectively carry out their more radical civic work in the long term.

3.   Contribution: Prefigurative Design

This dissertation used design-based interventions to explore opportunities for ICTs in service of *prefigurative design*, where design work both imagines an alternative, less oppressive future and then actively plays a role in bringing that future into the present through design artifacts, processes, or systems. This design work places at its center the expressed needs and concerns of research partners, especially as they emerge from community-based anti-oppression work. Prefigurative design draws from the approach to anti-oppression work described above by leveraging research practices to "reduce the negative effects of social hierarchies" both through process and outcome [40, 116, 198]. This dual emphasis encourages researchers to constantly reflect on and adjust their work

to better align with the more just outcomes envisioned and articulated by community partners. The goal of prefigurative design is to create counter-institutions to replace more oppressive structures; these counter-institutions support the ongoing equity work of community partners and challenges oppression as it takes place across multiple scales, including more local practices or behaviors within a community as well as larger structures or institutions. As such, prefigurative design can take many forms, including but not limited to organizational processes, social relationships, prototypes, and digital or non-digital systems.

Prefigurative design draws from and builds on existing design and research traditions, but brings with it an added and explicit commitment to more radical, progressive practice and to minimize participation in structures of oppression and exploitation. This commitment is a dual project [198, 278], bringing with it both a social and material commitment to justice and anti-oppression while minimizing exploitation. Prefigurative design embodies the hybrid model of prefigurative politics—that is, transforming social relationships while accumulating resources for counter-power— which can and should be applicable to our notions of technology design. I argue that we can design digital tools and their uses to be used as platforms through which we can facilitate ongoing community efforts around equity and justice. As such, prefigurative design offers a set of circumstances and conditions through which we can better attend to anti-oppression through our design and research work by drawing from anarchist principles and practices, which strive for autonomy and collective liberation. Like anarchism, prefigurative design aligns with the anti-oppressive principles and seeks to

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replace any and all structures of violence and oppression (e.g. racism, sexism, cis-heteropatriarchy, capitalism, and colonialism/imperialism) through anti-hierarchical organizational models, decision-making processes, and modes of solidarity [2, 83, 185, 199]. I discuss these anti-oppressive practices in more detail in chapter 2.

Prefigurative design is thus meant for certain modes of interventionist research—those done in partnership with issue-oriented communities—and encourages closer interrogation of research and design practices that are born from or complicit in structures of oppression. Its ultimate goal is to reimagine social relationships and accumulate material resources towards a shared liberatory vision to scale up and create more just counter-structures to replace existing systems of violence. One example of a counter-structure is *transformative justice*, which focuses on repairing harm as an alternative to the existing criminal justice system, which enacts harm across multiple levels of scale, from formerly incarcerated individuals experiencing trauma to overpoliced communities and overmilitarized police practices [57, 273]. I discuss the role of transformative justice in prefigurative design in chapter 8.

Despite prefigurative design's roots in radical organizing, and because of its commitment to process and structure, it is not immune to the oppressive structures and practices it seeks to resist. As such, prefigurative design is not meant to be an overarching framework or prescriptive model to determine individual research projects. Instead, I frame it as an orientation to which both researchers and community partners can articulate and align with a shared vision for their collaborations, identifying roles, needs,

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and expectations for all actors involved, and adjusting and iterating on practices as capacities and resources shift over the course of the project. This orientation asks us, as researchers, practitioners, and educators, to do design work that commits to equity and justice while minimizing exploitation and harm, particularly as different forms of oppression manifest through digital systems, cultures, and structures [51, 91, 123, 141, 220, 273]. This ask is a way to encourage broader and more nuanced understandings of the role of computational systems in civic engagement: by following the lead of communities doing anti-oppression work, we can better understand how oppression operates through different systems and structures. Through research, we can gain new perspectives through which we can build digital tools to have more meaningful impact in people's lives, especially for folks who are on the forefront of doing equity and justice work that benefits everyone.

In addition to its contributions to research, I offer prefigurative design as a way for us to be more self-reflective as academics and scholars, especially as the 'third wave' in HCI moves beyond traditional sites of work and living [227]. As such, the ask to commit to minimizing harm through our work is done acknowledging that we are not activists or organizers—necessarily, we can't be since we need to maintain commitments to our students, research, collaborators, etc. As such, our role is to contribute to anti-oppression work through solidarity, supporting ongoing and existing liberatory work within whatever spaces or communities we are working within. If we want to support equity and justice, then we must attend to our work considering both the social *and* the material. That is: we must commit to equity through our social relationships, from individual power dynamics

to larger organizational practices. We must also commit to the economic conditions that belie the social in order to push for material change: it is important to respect a person's pronouns and talk to our bigoted family members, but it's also important to fight for all-gender bathrooms, paid parental leave, and equitable pay across all genders. The smaller scale work is important to normalize changes and set precedents, which eventually builds up counter-structures to challenge injustice and oppression on larger scales. I envision prefigurative design as a way for researchers to support community partners through design interventions and to leverage existing resources and expertise such that the community is able to more effectively continue their work after the researcher has left the project.

4.   Dissertation Overview

Below, I describe the structure of the rest of this dissertation document. I first go through how my dissertation chapters are organized, then I briefly summarize each fieldsite and organize my corresponding observations through visual diagrams. These diagrams are meant to help ease navigation of the document and orient readers to the conceptual findings that form the foundation of prefigurative design.

Each diagram corresponds to one fieldsite and identifies three categories of practices I've observed through fieldwork: the kind of *sociopolitical change* the organization was trying to marshal; the *community engagement* strategies they deployed in service of those goals; and their uses of *ICTs as support to* enact those strategies. These three categories point to different kinds of prefiguration I observed at each site. Please

note that my analyses of Cycle Atlanta and OOHA were made through the lens of prefiguration *retroactively* (i.e. understandings of prefiguration have been described after fieldwork was completed). My latter two fieldsites, the ATL Playbook and PAD, were more intentional deployments of prefigurative design artifacts and systems where I was more explicitly engaging with prefiguration *during* my fieldwork. Along the z-axis, I have mapped out each group's practices along a spectrum of representative democracy and direct democracy, with the center generally aligning with the mechanisms of representative democracy and the outer points corresponding to mechanisms of direct democracy, such as solidarity, mutual aid, or prefiguration.

4.1.   Dissertation Structure

The next chapter of this dissertation will contain the literature review for my research. It covers three areas: digitally-mediated civic engagement, democracy theory, and anarchism. The first two areas are meant to set the conceptual space for understanding the practices and motivations of each of my fieldsites. The civic engagement section describes the umbrella of digitally mediated technological practices that advocates and activists have used in service of their political work. Next, I outline the ideals and principles of *deliberative democracy* on which many of these digital systems rely. I continue the digital democracy section by describing the socio-political landscape that each of my fieldsites navigated through their civic engagement work. I focus on the actors and mechanisms that have historically and continue to uphold *representative democracy*, which describes the current system of democratic practices

used in the American South. This work is important to understand the challenges and limitations of particular kinds of radically progressive work. Finally, I briefly describe anarchism, which acts as a foil to representative democracy insofar as it uses alternate means to enact similar democratic goals, i.e. those of deliberative democracy. While its histories are fraught and complex, I describe anarchist practices and philosophies that most closely align with my observations from my various fieldsites, including solidarity, autonomy, and mutual aid. Specifically, I describe the concept and practice of prefiguration, which I focus on as a specific alternative to the mechanisms of representative democracy.

My third chapter outlines the methodologies used throughout my research, specifically participatory design and action research. I discuss the history and aims of participatory design, which were heavily influential on my collaborations with my community partners. I also describe action research as a framework for how to do collaborative research where community partners play a more significant role. Next, I return to anarchism to discuss it as a mode of inquiry, which anchored my research in principles of equity and justice. Here, I briefly describe prefigurative design in order to situate it within existing design traditions and emphasize the opportunities it brings to design research. I also describe it in terms of its boundaries against more interventionist modes of design, including value-sensitive design, participatory design, and service design. This chapter serves as an introduction to more detailed descriptions of my research methods as they were deployed and negotiated at each fieldsite.

Chapters 4-7 describe my first four fieldsites (in chronological order) that led to the formulation of prefigurative design. Each of these chapters describes the political issue each organization was trying to address, how they addressed them using digitally mediated tools and practices, and my observations of the challenges and opportunities of those technological interventions. Each chapter concludes with my reflections on how my fieldwork to that point starts building towards what ultimately becomes prefigurative design.

Chapter 4 discusses my first site, Cycle Atlanta, which focused on a digital intervention to support cycling advocacy work in Atlanta. This chapter discusses R1 to describe the democratic ideals embodied by existing forms of civic engagement as they emerged through my fieldwork and were additionally corroborated by HCI literature.
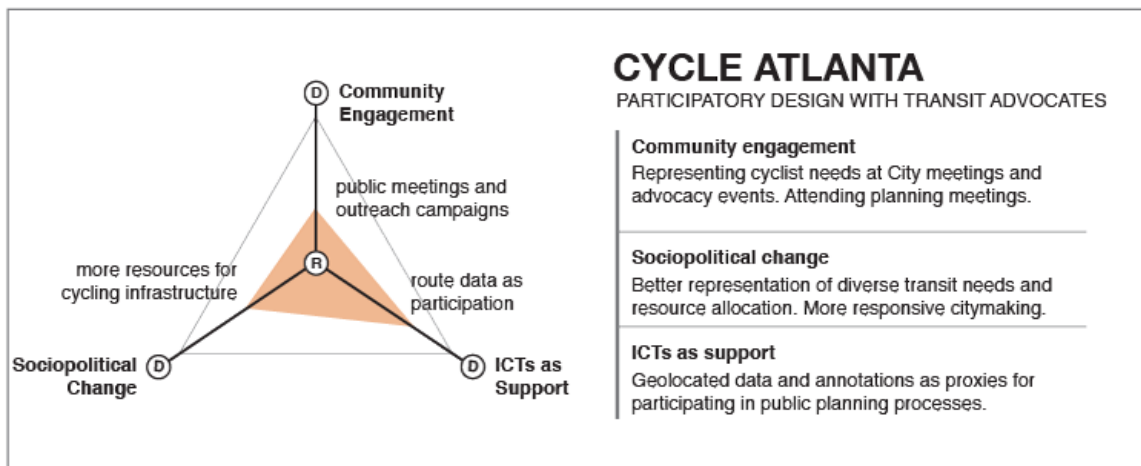
Figure 1 - The cycling community was a rich site to learn about digitally mediated advocacy and more traditional forms of civic engagement.

Chapter 5 focuses on my fieldwork with OOHA, an offshoot of the local Occupy chapter that organized activists around issues of housing justice, specifically dealing with the fallout from the 2008 financial crisis. This chapter addresses R2 and details a variety of alternate civic practices that I observed through OOHA; here, I briefly detail forms of digitally mediated mutual aid and connect them to the democratic ideals outlined in Chapter 2.
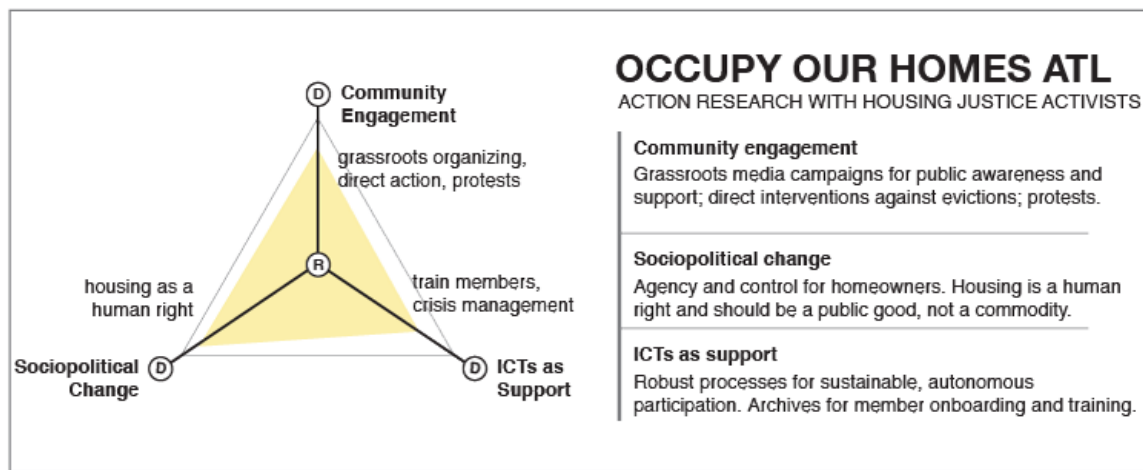
Figure 2 - Activist practices share with advocates patterns of digital tool use and democratic goals, though use different strategies to achieve them.

Chapter 6 discusses the Atlanta Community Engagement Playbook, a research project that produced, documented, and disseminated a set of civic engagement 'best practices' across both residents and city employees. The playbook project also marked my initial explorations into prefigurative design and explored the various roles that prefiguration might play in design research (R3).
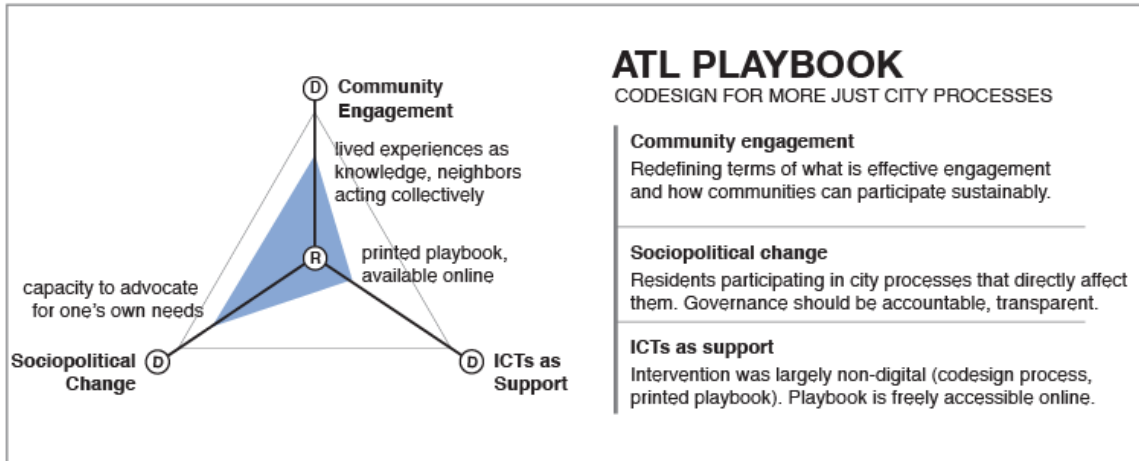
Figure 3 – These design interventions were primarily non-digital to respond to the community's stated needs and practices.

Chapter 7 details my final fieldsite, PAD, which provided social services to populations most vulnerable to arrest and recidivism due to extreme poverty, mental health concerns, and/or substance abuse. PAD was unique as it worked within more traditional institutions while also trying to be a counter-institution in and of itself. As such, PAD was an important site to put prefigurative design into practice and learn about its limits and opportunities, which addresses R4.
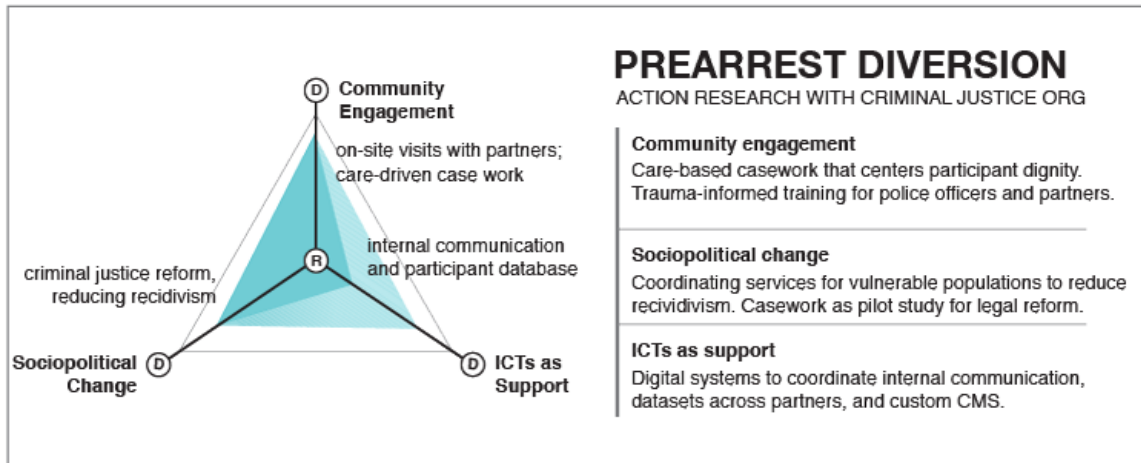
Figure 4 – The organization was a combination of more radical approaches to social work while trying to affect progressive change within larger, more traditional civic institutions.

Chapter 8 returns to both my research questions and prefigurative design to discuss the contributions of this work. I describe in more detail some of the tensions I encountered in my design work and reflect more broadly on the role of the academic in community-based anti-oppression work. I briefly describe transformative justice as a kind of prefigurative counter-structure that may be more appropriate and generative for collaborative research projects given its emphasis on repairing harm. I discuss the opportunities of transformative justice as a kind of prefigurative design and introduce a set of prompts for researchers who wish to practice prefigurative design through their community-based research collaborations. In light of these methodological reflections, I finally conclude with some fruitful avenues for extending prefigurative design beyond this dissertation and make some recommendations for designers, researchers, and/or practitioners who seek to use interventionist research methods to work towards more radical and liberatory socio-political change.

2.   RELATED WORK

In this chapter, I describe existing research that motivates my dissertation work. I frame this scholarship within the discipline of HCI, through which I examine concerns in the broader landscape of democratic practices and conceptual frameworks. Within HCI, I put my work in conversation with three main areas—*civic engagement*, *democracy theory*, and *anarchism*—and build on ongoing discussions in these spaces. These domains benefit this work as they share similar concerns as my research questions: civic engagement scholarship looks into the role of digital artifacts to support political practices, while democracy theory discusses different frameworks of civic governance and how to enact democratic principles in practice, which helps me distinguish between more traditional and more radical kinds of political work. I then focus on anarchism as direct democracy, using scholarship that explores the role of prefiguration in civic settings, which I build on in later chapters by drawing from and synthesizing my empirical work.

First, I look to HCI literature to discuss how digital systems support different mechanisms of *civic engagement*. This scholarship focuses on digital artifacts used in service of municipal governance; here, I have largely focused on HCI work that looks at city planning because of my early fieldwork with Cycle Atlanta [e.g. 173, 174]. There are myriad concerns involving ICTs and city planning, but my early research pointed me to concerns around the organizational structure of civic organizations, their information and knowledge management practices, and opportunities and challenges when incorporating

public efforts into existing socio-political institutions [78, 186]. I draw from public planning literature as informed by my early work with Cycle Atlanta, anchoring my understanding of digitally mediated civic engagement in urban transportation advocacy.

Next, I situate the HCI scholarship within the broader context of *democracy theory*, looking specifically at *deliberative democracy* as the main framework underlying most of the HCI literature relevant for this dissertation. I focus on *liberal democracy* as the model of governance that much of the HCI scholarship relies on, with *representative democracy* as the system of democratic mechanisms that best represents both the HCI literature as well as my fieldwork in the American South. I briefly discuss a few HCI projects that demonstrate this theoretical commitment to both liberal democracy and representative democracy. I categorize this set of democratic theories as *status quo* to reflect their normative position both in HCI research and in my fieldwork.

I then discuss *anarchism* as a governance model that also follows the principles of deliberative democracy, but approaches them from a more radical (i.e. versus status quo) perspective. This alternate perspective broadens the spectrum of democratic work considered by the HCI research community and provides insight into underexplored practices that are not taken into consideration when designing digital systems for civic participation. Here, I compare anarchism to liberal democracy and draw from anarchist organizing literature to identify how anarchist interpretations differ from liberal democracy around the same set of deliberative democratic concerns. I continue this comparative analysis by discussing *direct democracy* as an alternative set of deliberative

mechanisms in contrast to representative democracy, which echoes the more radical practices I observed through my fieldwork (discussed in more detail in Chapter 5).

Below, I outline in Figure 5 the main theories of democracy I use to make sense of my fieldwork in later chapters. I situate them within the framework of deliberative democracy and compare key terms and concepts across 'status quo' and 'radical' approaches to anchor the fieldwork I discuss in later chapters.

Deliberative democracy: motivated by ideals of freedom, reason, equality, and consensus	*Status quo*: individual, public reason, fair, overlapping consensus	*Radical*: non-hierarchical, anti-oppression, prefiguration
Models of governance: interpretations of deliberative ideals	*Liberal democracy*: pluralism, stability, justice as fairness	*Anarchism*: non-hierarchy, anti-oppression, self-organization
Mechanisms of deliberation: deliberative ideals as practiced within a governance model	*Representative democracy*: public assembly, voting, majority consensus.	*Direct democracy*: solidarity, mutual aid, prefiguration

Figure 5 – Under the umbrella of deliberative democracy, liberal democracy and radical democracy (anarchism) have different interpretations of how to govern constituents.

2.1. Democracy and HCI

HCI has long been concerned with the opportunities and challenges of incorporating ICTs into municipal and democratic interactions. Much of this work engages with the overarching question of how to improve democratic society by focusing on specific sociopolitical issues [167, 187, 191], common organizational practices [218, 269], or how to support the different needs of civic actors, like constituents, non-profit staff, and municipal employees [50, 73, 80]. A common thread across this work is the role

of computing to coordinate resources to better influence policy or legal change, which I highlight to set the stage for my 'status quo' framing later in this chapter [81, 111, 119, 247]. While earlier work approached these concerns from the perspective of the institution or agency, more recent scholarship has explored democratic interactions from the perspective of communities, calling attention to their unique challenges of accountability, efficacy, and—increasingly—power [63, 85, 87, 265]. Within the context of HCI research, democratic interactions vary greatly on the geographic and sociopolitical context in which they are practiced and studied, so the scholarship discussed in this dissertation is mostly from a Western perspective, specifically in the United States. This is not to dismiss the important and valuable work from other countries and cultural contexts [e.g. 3, 15, 140, 141, 220, 260], but to better align this work with the democratic practices I encountered and observed through my fieldwork in the American South.

Of the many concerns around civic work, one of the core themes that emerge through the HCI literature is the role of ICTs for supporting *service delivery*, which is an issue that cuts across different sets of actors and institutions and often requires a diverse set of resources to enact [35, 64, 121]. Recent civic engagement scholarship explores opportunities for incorporating digital systems to support service delivery using different approaches: for example, citizen sensing relies on low-cost sensors and devices (e.g. smartphones) as means for gathering environmental data to support community advocacy efforts. These data are typically collected by community members to call attention to a *lack* of service delivery (e.g. pollution, environmental racism [106, 159]). Through these

projects, digital tools are novel mechanisms to increase a community's capacity to take civic action.

My own early work through Cycle Atlanta can be seen as a kind of citizen sensing project as the app relied on smartphone sensors as a novel and technological means to participate in cycling advocacy. Specifically, cyclists could advocate for more democratic distribution of municipal services by using route data as evidence to support arguments for more and higher quality cycling infrastructure [173, 191]. Similarly, HCI work is interested in the spatiotemporal affordances of digital tools to support civic engagement. When considering transit advocacy, for example, ICTs can facilitate participation across limitations of time and space, gathering valuable public input beyond set meeting times and spaces [32, 93, 173]. The Cycle Atlanta app leverages these capabilities by storing route data for multiple rides, and additionally asks users to voluntarily share demographic data, which provides rich and important context through which planners can make more informed planning decisions than with geospatial data alone [173].

HCI scholarship concerned with civics and participation primarily focuses on similar concerns and practices as this research is done within the framing of *deliberative democracy*, which is the basis for contemporary democracy in the Global North. Next, I turn to democratic theory to better understand the goals of deliberative democracy and, consequently, some of the shared motivations of the communities and organizations from my fieldwork as they do their respective kinds of digitally mediated civic work.

2.2. Deliberative democracy

HCI research discusses digitally mediated democratic interactions that primarily fall under the umbrella of *deliberative democracy*, where political decisions are made by free and equal citizens [49, 189]. This dissertation focuses on deliberative democracy as many contemporary political theorists identify it as the theoretical basis for democracy as practiced in the Global North [49, 59]. I first describe the philosophical and political *ideals* contained in deliberative democracy, which inform the shared sociopolitical motivations for American democratic institutions, specifically *liberal democracy*—a model of deliberative democratic governance—and *representative democracy*—the mechanisms by which liberal democracy is enacted.

In her essay "Deliberative Democracy or Agonistic Pluralism," Chantal Mouffe identifies John Rawls and Jürgen Habermas as the theorists through which the two main schools of deliberative democracy were formed [190]. For the rest of this dissertation, I draw from the Rawlsian school of deliberation to ground this research, relying heavily on the work of Joshua Cohen, who was a student of Rawls and whose work articulates the core tenets of deliberative democracy more concretely than the theoretical work of either Rawls or Habermas [49, 224]. Both schools share many central arguments about democratic society: for example, they both argue that the core of democratic governance is consensus, where educated and informed citizens deliberate amongst themselves and reach agreement through reason (Rawls) and rationality (Habermas) [190]. Additionally, both scholars share a theoretical premise that democratic societies inevitably arrive at consensus as they share a set of generalizable interests that extend beyond other facets of their identity (e.g. religious beliefs) and that these shared interests guide deliberative

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processes to their agreed upon outcomes [189, 224]. However, the Rawlsian tradition is key to this work as it discusses deliberation at a different scale than Habermas: a key divergence between the two schools is what is considered reasonable or rational. Habermas emphasizes the interpersonal dynamics of deliberation, arguing that consensus relies on civil discourse [190]. Given the contemporary critiques of civility wielded as a means of racist or sexist oppression [207]—and the ubiquity of this practice through ICTs, in particular [196]—I focus on Rawls and Cohen's continuation of Rawlsian theory as they provide more appropriate context for my research findings on community organization and practice.

Cohen describes institutions as necessary for democracy as they "make deliberation possible… as though free deliberation could proceed in the absence of appropriate institutions" [49]. Institutions are meant to be "reflections" of the collective will of its citizens and also meant to "mirror" the results of public deliberations, thus "provid[ing] the framework for the formation of the will" [49]. Cohen argues that institutions are vital for deliberative democracy as they facilitate decision-making processes and then implement those decisions through policy and law. Given their important societal role, Cohen outlines four characteristics for what he describes as "ideal" deliberation, which he argues should be the basis of all democratic institutions [49]. Per Cohen, deliberation should be: *free*, as in the participants are not coerced into deliberative processes and are able to act on the results; *reasoned*, in that participants persuade others to agree with their proposals through justification, and "not power"; *equal*, in that no individual has more influence or authority than another in the decision-making process; and decided by

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consensus, where all participants are committed to acting on the outcome. In lieu of "ideal conditions" of consensus, Cohen states that deliberation should conclude with voting subject to majority rule [49].

Underlying deliberation is the drive for "the common good," a Rawlsian concept that Cohen uses to describe a condition where outcomes "advance the aims of each party to it" [49]. Cohen acknowledges the risk of people skewing deliberative processes to "disguise personal or class advantage as the common advantage," though he ultimately dismisses this as a concern. He argues that deliberative processes will resolve concerns around inequality through their reliance on reason, where "having a preference, conviction, or ideal does not by itself provide a reason in support of a proposal" [49]. Like Rawls and Habermas, Cohen also relies on reason as a core property of deliberation that inherently leads to consensus via a commitment to the common good: "the interests, aims and ideals that comprise the common good are those that survive deliberation" [49]. Other than a reference to Rawlsian notions of "fairness" (which I discuss in the next section), Cohen does not offer additional detail into what the common good entails, instead arguing that it is produced through and emerges from processes of deliberation.

2.2.1. *Liberal democracy as deliberative governance model*

Liberal democracy is one governance model that puts into practice the ideals of deliberative democracy. Below, I describe how liberal democracy interprets the deliberative democratic goals of freedom, reason, equality, and consensus [199, 224]. Specifically, a Rawlsian interpretation of these principles configures liberal democracy as

a system of governance that relies on *"justice as fairness," stability*, and *public reason* [224].

2.2.1.1. <u>Justice as fairness</u>

Rawls' liberalism rests on his concept of "justice as fairness," which he articulates as the basic structure of democratic society and the means through which various sociopolitical institutions (e.g. social, economic, legal) fit together to form a "unified scheme of social cooperation" [224]. For Rawls, justice relies on two principles: the first being that each person has an "equal claim to a fully adequate scheme of equal basic rights and liberties," and the second arguing that the social and economic equalities "attached to offices and positions" should be adjusted such that they are available to all and are of the greatest benefit of the least advantaged citizens [224]. Here, Rawls accounts for inequalities in liberal democratic society and allows them so long as they benefit other people in society. This component of justice—what Rawls calls "the difference principle"—accepts as a natural fact that some citizens are born with more advantages than others, but explicitly does not try to correct this inequality as democratic deliberation will distribute these benefits throughout society [224].

These two principles of justice thus drive all deliberative processes; Rawls describes justice as fairness as an "organizing idea" to connect all other ideas and principles with the goal of creating a fair system of free and equal persons cooperating with each other [224]. Here, Rawls places justice at the core of liberal democracy as a logic to regulate the distribution of resources and power, while also acknowledging that it

is not a totalizing framework meant to apply to any and all sociopolitical contexts. Most notably, Rawls articulates that justice as fairness is meant to work in closed societies, which is self-reliant and has no interaction with other societies, and also in societies that are not experiencing scarcity, so there is a surplus of resources to distribute fairly [224].

The individual is of primary importance for justice as fairness: the basis for governance per Rawls is the concern for each individual's rights and access to resources. Rawls describes a "veil of ignorance" by which reasonable individuals are meant to make decisions as though they do not know any details or identifiers of themselves or each other (e.g. race, gender, religious belief) [224]. Rawls argues that this veil is a way to ensure that decisions are unbiased and that individuals remain "fair" by acting in the interest of any other member of their society. The veil is a way to maintain a kind of social "equilibrium" as it encourages citizens to make decisions to "maximize" each individual's share of goods and resources [224]. Rawls' liberalism does not articulate what these individual rights and needs are but instead argues that they emerge through rational deliberation. In this way, there is a strong moral dimension to Rawls' liberal democracy as rationality is cast as morally "good:" "For goodness as rationality allows us to say that things are good if they have the properties it is rational for us to want as free and equal citizens, given our rational plan of life" [224]. Cohen echoes this line of argument, assuming rationality to be a trait of a citizen and thus Cohen's work is deeply enmeshed with Rawls' articulations of fairness and justice.

2.2.1.2. Pluralism and stability

Through justice as fairness, Rawls implicitly acknowledges differences across citizens in society: he accounts for pluralism in liberal democracy, though he argues again that these differences will ultimately be stabilized through reasoned consensus. Rawls describes his overarching project of liberalism as a way to answer how a cohesive and democratic society can exist as a stable and sustainable entity despite differences across citizen beliefs and values (i.e. pluralism). In *Political Liberalism*, Rawls describes stability as a condition of "social unity" where "the doctrines making up the consensus are affirmed by society's politically active citizens" [224]. Liberal democracy requires stability to sustain itself, and stability is achieved through *overlapping consensus*, which Rawls describes as the "reasonable comprehensive doctrines" that persist despite individual differences in beliefs, etc. [224] Again, Rawls relies on rationality as an inherent principle of democratic society when describing overlapping consensus, arguing that these "comprehensive doctrines" are "objective reasons" that citizens can reach by "using and applying the concepts of judgment and inference [i.e. deliberation], and ground and evidence [i.e. rationality]" [224]. Here, the notion of pluralism is still present, as Rawls argues that citizens who arrive at consensus may do so for different reasons: citizens arrive at consensus by prioritizing Rawlsian justice over these more individual reasons, which draw from various religious, moral, etc. beliefs.

For Rawls, an overlapping consensus is important for the stability of a liberal democracy as it is a mode of deliberation by which reason ensures social cohesion and protects against a society being influenced by "unreasonable doctrines" [224]. In this way, Rawls argues that an overlapping consensus is a failsafe against power imbalances:

whereas power has and continues to fluctuate throughout history, an overlapping consensus offers stability and consistency through "common human reason" [224]. Rawls does not consider stability an inherent trait of a democratic society, but rather a state that is achieved: "stability is secured by sufficient motivation of the appropriate kind acquired under just institutions [224]. In this way, consensus is guided by justice and reason, but still ultimately relies on citizens to enact it, specifically citizens "who grow up under just institutions [who] acquire a normally sufficient sense of justice so that they generally comply with those institutions" [224]. For Rawls, an overlapping consensus is not inherent in liberal democracy, but is the ideal outcome assuming a society is justly governed by its reasoned citizens.

2.2.1.3. Public reason

Rawls argues that reason is the concept upon which a liberal democracy operates: it drives the core principle of justice as fairness as well as the stability that ensures a society's cohesion and longevity. As mentioned above, Rawls assumes reason as a public virtue insofar as each citizen must possess it: he summarizes public reason as the ability to "explain to one another on those fundamental questions how the principles and policies they advocate and vote for can be supported by political values" [224]. As a way to reaffirm pluralism, Rawls does acknowledge reason is not entirely public. In other words, decisions can be reasoned drawing from other "religious, philosophical, and moral considerations of many kinds," though these deliberations should only pertain to the smaller scale associations where they are applicable (e.g. churches, universities) and not

influence public discourse [224]. Public reason, by contrast, pertains to decisions that affect broader society.

For Rawls, citizens should not have input on all public matters, but rather only deploy public reason for concerns involving basic justice, or what Rawls calls the "constitutional essentials" [224]. He describes public reason as important for "fundamental" questions such as "who has the right to vote, or what religions are to be tolerated, or who is to be assured fair equality of opportunity, or to hold property" [224]. Rawls gives a few examples public reason is not required: "tax legislation and many laws regulating property; statutes protecting the environment and controlling pollution; laying aside funds for museums and the arts" [224]. (Rawls does acknowledge that these concerns sometimes involve "fundamental" matters, in which case public reason might be needed.) For "constitutional essentials," public reason should use forms of evidence and discourse based on "publicly accessible standards," generally known facts and "common sense," and science that is "well established" [224] in order to arrive at consensus and make decisions in the interest of fairness to benefit the rest of society.

I draw from Rawlsian theories of deliberation as many HCI projects rely on this tradition to understand democratic governance and thus direct their technological interventions to support liberal principles. For example, early work around value-sensitive design incorporated simulations and modeling into their research as a way to better inform urban planning stakeholders engaging in deliberative processes. The artifact was deployed as a means to enhance the planning process as participants were able to

more effectively and convincingly justify their planning decisions through shared access to the simulation data [33]. Similarly, researchers designed and deployed a design intervention to better capture different perspectives and forms of evidence used in a deliberative process [144]. Similarly, this project documented different moments of community planning events so participants had more information with which to deliberate group decisions [144]. Through both these projects, deliberation is understood to be the dominant model for democratic governance and the research consequently assumes reason as the basis on which collective decisions are currently and should continue to be made.

2.2.2. *Representative democracy as deliberative democratic mechanisms*

Liberal democracy is a mode of governance that relies on democratic mechanisms to enact its principles: here, I turn to Saward and his work on *representative democracy,* which encapsulates a variety of deliberative mechanisms to support liberal democracy, including forms of *public assembly*, *voting*, and *majority consensus* [233]. These mechanisms build on the work of Cohen and Rawls by providing the means through which liberal institutions enact deliberation, specifically enabling democratic participation through lobbying and representatives [49, 233].

2.2.2.1. Voting

In "Direct and Deliberative Democracy," Saward identifies an educated and rational public as a key component of deliberative democracy: as citizens reason amongst

themselves and reach consensus, this forms the basis of shared legal rules and a stable political system [233]. As democratic systems scale up, these deliberations take place through voting, where a citizen's vote represents their contribution to public reason and elected representatives are the embodiment of an overlapping consensus by advocating for the "comprehensive doctrines" to benefit the greater population [233]. Voting becomes the mechanism through which justice as fairness is upheld as citizens decide who will best represent their interests and act in the interest of "common good."

2.2.2.2. Public assembly

Public assemblies are an important mechanism for deliberative democracy as they provide the space for decisions to be made. Assemblies can be direct, where citizens meet face-to-face to persuade each other of the fairest outcome to a decision, or indirect, where officials make decisions on behalf of constituents, who hold them accountable to their interests and needs through elections [233]. Saward problematizes these concepts of public assembly by identifying other sites and fora that occur across different levels of scale, including polls, juried decisions (i.e. courts), citizens' forum (i.e. that are invited to deliberate with elected officials), and less formal interest groups and associations [233].

2.2.2.3. Majority consensus

Also known as majority rule, Saward identifies majority consensus as a key mechanism for representative democracy as it interprets elections and translates votes into formal procedures by which political communities must abide [233]. Saward writes

about majority consensus as one of many other examples of democratic mechanisms that point to the nuances and complexities of enacting deliberation [233]. A majority consensus evokes "the aggregative and technical equality at the moment of decision" and imparts a sense of inclusion via the "proportional representation" of a citizen's vote [233]. For Saward, the principles of a democracy as less important than the mechanisms by which they are enacted, which must be responsive and reflexive, changing procedures to reflect the change and adjustment inherent in democratic structures. Through this lens, the majority consensus is an important adjustment on the decision-making procedures outlined by Rawls in that they accommodate liberal principles when practically applied to larger scales [233, 244].

2.2.3. Digitally mediated "status quo" democracy

Given the principles of liberal democracy and how they are enacted through mechanisms of representative democracy, I return to some of the tools and systems discussed in HCI literature to identify their common concerns and motivations as a kind of normative articulation of "status quo" democracy. In other words, given the patterns and features across digital systems, they align with the assumptions of liberal democracy and point to liberalism as the more dominant model of democratic governance that privileges certain ways of knowing and acting in civic society.

Much of the HCI research concerned with democracy focuses its attention on voting; this distills the broader concept of deliberation into key deliberative moments, which follows liberal framings of democracy where voting is the mechanism by which a

stable democratic society persists. In addition to the projects mentioned above, I also turn to ConsiderIt to demonstrate liberalism as the normative democratic framing in HCI. ConsiderIt is a research project supporting public deliberation and was deployed before a major US election for residents to debate the pros and cons of different ballot measures [156]. This work aligns well with Rawlsian notions of public reason as researchers described the tool facilitating deliberation based on the expressed opinions only, weighing the pros and cons of other people's comments. Additionally, researchers stated that the deployed system did not reveal any user's political affiliations or identifying information beyond what could be inferred from a user's post on the platform [156]. This design decision echoes Rawls' veil of ignorance as ConsiderIt assumes objective reason as the basis of decision-making and actively discounts any personal biases or political agendas that may be informing those arguments.

2.3. Radical deliberative democracy

Given the role of liberalism as the *de facto* status quo in HCI research, this dissertation explores other, more radical models of deliberative democracy to reveal underexplored forms of political practice and modes of governance. These alternative practices point to opportunities for HCI research to broaden understandings of democratic work (i.e. beyond liberal formulations) to take different approaches to achieving shared ideals of justice, equality, and inclusion. To contrast to the more normative understandings of democracy described above—liberalism and representative democracy

—I discuss here *anarchism* and *direct democracy* as alternative interpretations of the same democratic ideals of freedom, equality, reason, and consensus.

Throughout the rest of this dissertation, I describe anarchism and direct democracy as *radical* to situate them in contrast to liberal and representative democracy. I also refer to "radical" as a way to align anarchism with more Leftist schools of thought, specifically more socialist notions of critiquing capitalist economic structures and practices as barriers to freedom [157]. Beyond the general framing of anti-capitalism, there are many nuances when distinguishing anarchism from other models of radical democracy which I acknowledge as important and valuable scholarship, but which I consider to be beyond the scope of this dissertation and pertains more to concerns in the disciplines of political science and/or social movement studies. For this work, I want to make clear that I use "radical" as shorthand in this dissertation to refer to specifically anarchist aims of anti-capitalism and liberation for all, and not to refer to radical democracy, although the latter articulates very similar goals. Below, I briefly describe the commonalities between canonical radical democratic theory and anarchism (i.e. as radical democracy) to make clear the practices and principles I refer to in this dissertation.

I draw from Chantal Mouffe and Ernest Leclau to describe more canonical modes of radical democracy. They describe it as a response to liberal democracy, specifically placing at the center of its framework the concept of agonism—or constant friction and dissent—as a way to incorporate difference into democratic governance [189]. Mouffe in particular rejects the universalism at the heart of liberalism (i.e. Rawlsian overlapping

consensus described above) and encourages conflict to more explicitly address the needs of political minorities, who are silenced and dismissed through majority consensus models [189]. These radical democratic principles align with anarchist principles, but the two differ greatly in their end goals. Here, I draw from Markus Lundström and his book *Anarchist Critique of Radical Democracy*, which details the long histories and relationships between anarchism and radical democracy. For Lundström, canonical radical democracy (i.e. as described by Mouffe) is a project to establish "left-populism" and does not oppose the goals of liberalism but instead seeks to reaffirm them, ultimately relying on the state and representative institutions to facilitate a "socialist strategy of 'the people' taking over state power" [180]. This marks a stark divergence from anarchism: anarchism and radical democracy both rely on similar projects of dissent and increased individual participation, but radical democracy ultimately reaffirms authority through the state as a governing body, whereas anarchist modes of radical democracy reject any and all forms of authority (i.e. coercion) and instead argues for self-organization through anarchist federations, affinity groups, and similarly autonomous organizational structures [180, 198] (described in more detail in 2.3.1.3).

2.3.1. *Anarchism as deliberative governance model*

Anarchism is a fraught and notoriously vague tradition, though also a prominent one, with significant anarchist movements taking place in Mexico, Spain, Chile, Italy, as well as North America (most notably, the 8-hour work day was born of anarchist labor organizing in Chicago [48, 112]). I draw heavily from the comprehensive body of writing

by Cindy Milstein, who writes about anarchism from a more contemporary North American context, but also draws from the scholarship of other anarchist theorists where relevant [198]. Milstein identifies anarchism as a political framework concerned with the abolition of domination in all its forms, across all issues, identities, and institutions, including capitalism and the state [198]. She describes anarchism as "the best of liberalism and the best of communism," combining both in "a constant balancing act" of "figuring out ways to coexist and thrive in our differentiation" to create a "free society of free individuals" [198].

American anarchist Emma Goldman describes anarchism as "a social order based on the free grouping of individuals for the purpose of producing real social wealth, an order that will guarantee to every human being free access to the earth and full enjoyment of the necessities of life" [112, 198]. Through both Goldman and Milstein, we see parallels to articulations of liberal democracy described above, particularly the emphasis on individual freedom, collective structures, and equal access to resources. While the underlying democratic ideals are similar, liberalism and anarchism operate as two different modes of governance, with anarchism being driven by *non-hierarchy, anti-oppression,* and *autonomy*. Here, I describe these three anarchist principles in more detail and contrast them to the liberal governance model described above to more explicitly identify the differences and distinctions across the two implementations of deliberative democracy.

2.3.1.1. <u>Non-hierarchy</u>

Milstein describes anarchism as a "dual project" of both "the abolition of domination and hierarchical forms of social organization" (or "power-over") and the "replacement with horizontal versions" (or "power-together") [198]. Milstein identifies many different forms of "power-over" hierarchies, including gender and race, but also capitalism and the state, the latter two being the two largest challenges to a free society due to their "internal logics [that] consolidate power monopolies for a few, always at the expense of the many" [198] For Milstein, capitalism and state power are the most prominent forms of domination in that they "must both continually expand and mask its dominion," and thus the social relations on which they both rely (i.e. inequality) drives all instances of these structures to inevitably build towards "concentrations of social control and injustice" [198]. In other words, both capitalism and the state require inequality to exist and can only exist as totalizing structures, thus anarchism is largely concerned with undoing the components of both systems as they manifest in various forms, from economic structures (e.g. banks, private property) to social relations (e.g. bosses, landlords) to material conditions (e.g. commodification and alienation).

This pervasiveness of domination is a key concern for anarchism and is foundational to the deliberative democratic ideal of *freedom*. Milstein's articulation of anarchism values freedom much like Rawls does in his work on liberalism, but differs in fundamental ways, particularly around questions of pluralism. For Rawls, pluralism is inevitable in a democratic society and takes the form of differences across religious, moral, etc. belief systems, as well as membership of various associations (e.g. universities, churches) [244]. These individual differences are largely based on private

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preferences and should be ignored through the "veil of ignorance" so individuals can fairly access the same share of resources. In this way, liberal pluralism both acknowledges and accounts for inequalities as an *a priori* part of a well-functioning and free democratic society. For anarchism, by contrast, it is crucial to acknowledge differences, but instead as unique means through which individuals experience domination through institutions, structures, and social relations, and not simply as differences in identity [157, 198]. The anarchist critique of liberal freedom is that its "fairness" is a way to flatten differences and thus normalize and further perpetuate various forms of domination (e.g. across race, class, ability) [2]. Pluralism according to anarchism is an "equality of unequals" where everyone has access to resources, but those resources are distributed differently according to individual differences in needs and desires [198]. Consequently, anarchist notions of freedom *incorporate* pluralism *in response to* differences, rather than liberal notions of freedom that *flattens* pluralism as *identical markers of* difference.

2.3.1.2. Anti-oppression

Similar to non-hierarchy, anti-oppression is a key concept for anarchism as it is the guiding logic through which members of a society interact with each other. The differences between anti-hierarchy and anti-oppression as subtle, but to explain the distinction in this dissertation I return to Burke and Harrison, who describe anti-oppressive practice as "a way of structuring relationships between individuals that aims to empower users by reducing the negative effects of social hierarchies on their

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interaction and the work they do together" [40]. Combined with Milstein's "equality of unequals" in the previous subsection, I describe hierarchy as the difference *in degree* of freedom whereas oppression is a difference *in kind*: the former identifies the positionality of one entity to another and the latter describes the nature of these differences across their experiences. To be anti-oppressive is not only to be anti-hierarchy (i.e. having power-over) but to also work to "reduce [those] negative effects" through different social relationships and material conditions to overcome the *unique* circumstances under which some people have more power than/over others [40, 198]. I add to my definition of anti-oppression articulated in my introduction and define it for the purposes of this dissertation as: *a commitment to reducing the unique, negative effects of different overlapping hierarchical structures*. Rogue and Volcano offer more insight into these unique conditions of anti-oppression: "race, gender, sexuality, dis/ability, age—the gamut of hierarchically-arranged social relations—are in their own ways unique. [They] function differently [and] reproduce one another. White supremacy is sexualized and gendered, heteronormativity is racialized and classed" [228]. Returning to Milstein's description of anarchism as a "dual project," anti-hierarchy describes the work of overcoming "power-over," while anti-oppression is more appropriate to describe the more generative work of deliberating the "power-together," which Milstein describes as necessarily imperfect and ongoing in response to "new demands and dilemmas, new social conditions and contexts" [198].

For Milstein, the perpetual work of figuring out the "power-together" is a positive tension that is the basic aspiration of anarchism, and as such anti-oppression serves as the

foil to Rawlsian reason as the "organizing idea" that configures a more radical democratic society. For many of Rawls' concepts, like comprehensive doctrines and overlapping stability, they are enabled because individuals participating in the underlying deliberative processes possess and act on a sense of *reason*. By contrast, Milstein describes negotiation processes (i.e. deliberation) that places at their center each individual's unique concerns and needs, which can be more readily addressed when divorced from capitalism and its commodifying logics to "carve out rich new relations of sharing and kindness" free of market-based consumption [199]. Anti-oppression also differs from the liberal model described above in its dynamism, not meant to be a state of completion or goal to achieve, unlike Rawls' writings on stability. Instead, Milstein describes "modest experiments" for "people to meet their needs and desires, be ecological, craft new social relations, set up spaces and organizations, and make decisions together—all in non-hierarchical ways" [199]. Milstein writes that anarchist projects differ in their scale and duration, but "form a tangible fabric of horizontalist innovation" as they respond to current and future systems of domination [198].

2.3.1.3. Autonomy

Anarchist governance parallels liberalism as it privileges individual autonomy and the lack of coercion to participate in decision-making. Autonomy, also known as voluntary association or self-organization, is an important concept for anarchism as it embodies the challenge of maintaining freedom for both individuals and the wider collective. The tension is between accommodating the unique needs and contributions of

an individual with the needs and goals of the larger group while avoiding forms of domination or coercion. Milstein describes autonomy as being deeply entwined with accountability as they both rely on "freely given promises that people make to each other, with no outside force compelling them to follow through aside from the power of their mutual commitments" [198]. Milstein describes autonomy as an interconnection with someone similar to the way that friends are bound together, relying on care and consent: individuals are motivated to do something because it is satisfying to them and/or meets community needs and desires, rather than feel coerced through the "logic of domination, where some have the ability to leave others in the lurch" [198]. Autonomy is key for deliberative processes as it imbues decision-making processes with anarchist concepts of anti-hierarchy and anti-oppression, thus requiring explicit and compassionate parameters both participating in and leaving a given group or organization.

Autonomy-as-self-organization is the anarchist approach to decision-making, which is motivated by self-interest and the needs of the collective. Milstein acknowledges that these deliberative processes are not free of conflict and they do not guarantee that individuals "get their own way" but instead are ways to articulate individual needs and capacities and identify forms of organization and coordination that best accommodate them. Autonomy, self-organization, or voluntary association (which I use in this document as interchangeable terms) are *de facto* modes of arriving at consensus, though many anarchist writings make explicit that they do not refer to *majority consensus*, but consensus as a more "creative role of dissent" where deliberation seeks to arrive at a decision that actively incorporates and accommodates the interests, needs, and concerns

of all participants [198]. The anarchist critique of majority consensus is that it embodies the spirit of domination by "muting the minority in favor of the "'one' of the 'consensus'" [198]. Thus, it is crucial for anarchist consensus that all members who are participating are doing so of their own volition in the spirit of "freely given promises" and to avoid enacting coercive power dynamics.

Lundström identifies dynamism as a key component that separates self-organization (i.e. anarchist consensus models) from majority consensus models: unions, assemblies, and coalitions differ from governments and other authoritative structures as they strive to be "spaces of encounter" where "differences arise, conflicts play out, and transformations occur as different social constellations converge and diverge" [180]. This differs from representative democracy in a few different ways: the first is that autonomy seeks to make decisions that incorporate all the needs and concerns of its members, rather than the majority. The second is that self-organization allows for flexible and dynamic structures to prioritize the shifting needs and concerns of its constituent members, rather than cater to the Rawlsian concept of stability, which eschews minority dissent for the maintenance of the larger structure [180, 244].

At the time of this writing, much HCI work relies on liberal democracy as the assumed model of democratic governance in the United States (as mentioned in 2.2.1 above). However, there is emerging work that is beginning to explore more radical models of governance, looking specifically at anarchism as a framework. Os Keyes, Josephine Hoy, and Margaret Drouhard describe anarchist HCI as a framework explicitly

aimed at dismantling oppressive systems and addressing imbalanced distributions of power. The authors outline three opportunities for incorporating anarchist principles into HCI research: how our work interacts with the world, inter-community relationships, and intra-community relationships [150]. Authors emphasize anarchist HCI as a framing that "demands to be brought into being" and echo the principles described above (non-hierarchy, anti-oppression, and autonomy) as crucial for affecting change. Additionally, they identify prefigurative counterpower as a core anarchist mechanism, which I describe in more detail below (2.3.2.3). The work of Keyes, Hoy, and Drouhard built on my own work, which has explored the value of anarchism for the HCI community. In previous publications, I have written about early versions of prefigurative design, which leverage design processes to actualize political or civic goals [10, 11]. These works place prefigurative design as a way to challenge or resist more normative understandings of political work—i.e. liberal and representative democracy—and suggests design practice as a mode of prefigurative work. I describe prefiguration in more detail in 2.3.2.3 and revisit it as a category of practice in light of empirical work that emerged from each of my fieldsites.

2.3.2. *Direct democracy as deliberative democratic mechanisms*

Many contemporary anarchist theorists apply their critiques of liberal democracy to representative democracy, as well, as the latter's practices can only afford choice within a larger, authoritative structure (i.e. the state). More recently, there has been a renewed interest in *direct democracy* as a collection of alternate democratic practices that

enable more liberatory and non-coercive modes of participation with anarchist writers like David Graeber and Cindy Milstein looking to the decision-making mechanisms of the anti-globalization movements from the early 90's and 00's [116, 198]. A key component of direct democracy is the negation of bureaucracy. (Here, anarchist theory draws a distinction between bureaucratic and administrative work, which I describe at the end of Section 2.3.2.1.) For Graeber, direct democratic practices ensure that "no one should be bound by a decision they detest;" he identifies representation and elected officials as "bureaucracies of coercion that hold existing structures of power together" [116]. Similarly, political economist Noam Chomsky has critiqued representative democracy as a system where "in principle, people rule, but effective power resides largely in private hands, with large-scale effects throughout the social order" [48]. Drawing from the ethnographic work of Graeber, as well as contemporary theory from Milstein and Lundström, I describe below three mechanisms of direct democracy to encourage more local and proximal decision-making processes and radical forms of governance, specifically *solidarity*, *direct action*, and *prefiguration.*

2.3.2.1. Solidarity

Solidarity is rooted in grassroots organizing and broadly describes practices where individuals rely on each other to accomplish their objectives rather than hierarchical structures or relations [126, 213]. Depending on the context in which it is used, solidarity can take on additional valences: for example, in the feminist writings of Chandra Talpade Mohanty, who writes extensively about the subject, solidarity is important for

decolonizing feminist projects by incorporating feminist resistance movements from the Global South. By "crossing borders," Mohanty argues that this mode of solidarity is crucial for expanding understandings of gender-based exploitation and introducing more nuance and complexity to what constitute feminist struggles or issues, the terms of which are often set by feminists working in Western contexts [188]. Milstein cites the work of anarchist theorist Kropotkin, who describes solidarity as forms of cooperation that "link all to all," resisting against capitalist competition to benefit both the individual and the group [198].

Milstein also describes solidarity as the opposite of charity, which aligns with work from Indigenous organizing communities, who also describe solidarity in contrast to charity as the latter is entangled with hierarchical relationships [199]. Charity carries with it an expectation that the recipient is beholden to the giver, either through the donated resource itself (e.g. monetary loans) or through coercive social relationships (e.g. patriarchal dependency) [198]. Indigenous Action Media writes about solidarity through the lens of *accomplices*, or people who "are compelled to become accountable and responsible to each other" by "becoming complicit in a struggle towards liberation" [138]. They also describe solidarity through a reference to Indigenous activist and educator Lilla Watson, who said "If you come here to help me, you're wasting your time. If you come because your liberation is bound up with mine, then let us work together" [238]. Through this framing, solidarity echoes some articulations of self-organization described above by reiterating notions of voluntary association and individual commitments. Thus, I refer to solidarity in this dissertation as *a willingness to*

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be complicit in another's struggle, putting in stakes to support others' projects to benefit others and advance collective liberation [139].

Within anarchism, solidarity is the means by which individuals ensure their own autonomy and is thus both a collective and individual project: by agreeing to support each other, solidarity reconfigures social relations and material conditions to avoid being subject to hierarchy or domination [155, 157, 164]. It can take a variety of forms depending on the form of domination and the availability of resources: for example, for mutual aid, individuals voluntarily share their resources, efforts, and labor with each other to benefit both individuals and the larger group [198]. Mutual aid relies on cooperation and reciprocity—for example, gifts, skills, and bartering—to explicitly undermine capitalist conflations of use value (i.e. its usefulness) and exchange value (i.e. its commodified market value) [96, 198].

Milstein's work is valuable for understanding solidarity in practice. Milstein describes how mutual aid can be between individuals, but also scales up to group contexts: for example, group members can rotate any unwanted or disliked tasks—like waste management—as part of their voluntary association with the group and commitment to address its collective needs [177]. In her description of mutual aid, Milstein makes an important distinction between bureaucratic and administrative work: the latter involves effort to document and track group efforts, and thus is important work that benefits the collective and can be shared work if no one does it voluntarily [198]. By contrast, bureaucratic work is a way to alienate people from their labor and additionally

creates positions for people to unjustly gain power over others. Bureaucracies introduce distance and abstraction, where people manage processes and practices that do not directly affect them, thus enforcing decisions on people who might oppose them (i.e. domination). Instead, solidarity, and anarchist governance more broadly, relies on work directly benefiting either the individual doing the work or the collective of which that individual is a member. Conflicts and inequities can be negotiated and resolved between parties directly affected, ensuring decisions directly serve their needs and interests and that interactions remain autonomous, consensual, and free.

2.3.2.2. Direct action

Through his ethnographic work, Graeber writes about autonomous groups engaging in direct action to resist globalization. His writing describes a spectrum of direct action, which relies on a variety of tactics to directly intervene and bring about change [116]. Depending on the intended outcome, direct action might rely on non-violence resistance to defy a form of domination, or it might engage with modes of production by disrupting or sabotaging a workplace or organization. Within the context of contemporary anarchism, direct action could take the form of a blockade, an occupation, or a teach-in. It is commonly deployed as a mechanism of direct democracy as the change is brought about by people directly affected by an issue, rather than relying on representatives, officials, or other intermediaries (e.g. bureaucrats, management).

Milstein describes direct action as having a "positive" and "negative" form, where the former is a more proactive means of democratic participating by making and

implementing decisions over their lives [198]. The latter aligns more with Graeber's definition where direct action prevents or hinders forms of domination from taking place. These two forms often take place in tandem—echoing Milstein's description of anarchism as a dual project—such as an occupation to disrupt and protest administrative decisions while those in attendance deliberating together in an assembly to determine a better outcome for the administrative decision [198]. Here, Milstein describes direct democracy and anarchism as "a lived political project" where direct action is a means of "countering humanity's estrangement from the world and each other with nonalienated relationships and organizations" [198]. Both Milstein and Graeber argue that direct action is ultimately more democratic (i.e. than representative democracy) as its deliberative processes both draws from and ultimately seek to improve lived experiences [116, 198].

2.3.2.3. Prefiguration

Prefiguration is one of the key mechanisms of anarchist governance and embodies core anarchist principles that stand in sharp relief to liberal framings of democracy. Returning to Rawls, he conceptualizes democratic societies as stable and segmented, where citizens prioritize reason and public good over any personal interests or concerns. Rawlsian democracy assumes majority consensus will inherently achieve equilibrium and that individuals have equal access to participation, rights, and services. Anarchism, by contrast, assumes constant negotiation so decisions benefit both individuals and the broader community. Anarchist deliberation is a means to acknowledge and incorporate difference; it is a constant process of reflecting and responding to new concerns and

challenges. Anarchist practices are valuable for broadening understandings of democratic governance, moving away from normative frameworks of reason and objectivity towards reflexivity and iteration. These iterations are driven by self-interest, where individuals voluntarily choose who to associate with and what work to do, working towards anti-oppression and equality rather than capital and individual gain.

Through these distinctions, anarchism is also valuable for HCI research, offering lens through which we can reconsider digital interactions and systems. The anarchist stance against domination, for example, is a rich space for evaluating digital artifacts, challenging design decisions driven by market values, which incentivize violent and extractive behavior and designs. Additionally, the emphasis on process points to an affinity between anarchism and technology design, encouraging constant updates to better suit changing user needs. I focus on prefiguration in this section to draw out the richness of anarchist practice, focusing specifically on the constant alignment across outcome and process that defines prefiguration. This frames prefiguration as a generative practice, which I return to in later chapters as a valuable opportunity from which HCI research and practice can learn and benefit.

The simplest definition comes from Chris Crass, who describes *prefigurative politics* as *political work that "expresses the political 'ends' of their actions through their 'means'"* [53]. That is: prefiguration envisions and articulates a future, and then enacts changes in the present to actively move towards that future. One example is a more feminist future: there are some practices that can be implemented in the present to

anticipate that future, such as offering more representation of women in organizations or workplaces, or respecting people's personal pronouns. While these practices are small in scale, they can change the dynamic of a group to more closely resemble their shared articulated feminist future.

At the core of prefiguration are *counter-institutions*, which are anti-oppressive relationships and structures that scale up to eventually replace structures of hierarchy and domination. Counter-institutions, per Milstein, are not an "end" as much as they are "the process of constructing new worlds," which will "again need to be challenged through new processes of expansive transformations" [198]. Graeber also writes about counter-institutions, using the recent Occupy Wall Street movement as an example of prefigurative politics in action [116]: rather than appealing to politicians or political institutions, OWS activists sought to bring about the radical democratic society they envisioned by implementing radical democratic practices through the OWS movement itself, like different decision-making processes, for example. For Graeber, prefiguration focuses on the organization itself as the site for political change; this kind of counter-institution transforms social relationships through internal and procedural change. Another approach to prefiguration comes from Carl Boggs, who argues for the need for economic counter-institutions [30]. He argues that prefiguration must extend beyond a community or organization to transform broader societal economic structures, arguing that counter-institutions must instead focus on transforming the relations of production and power. Boggs argues that creating parallel institutions to provide for and manage everyday needs is a more stable form of resistance to exploitation and unequal power

distribution than solely internal reflections that may not affect change outside a single group [30, 278].

Milstein builds on Graeber and Boggs to understand prefiguration as work that starts within groups and scales up through combining deliberative processes across other self-organized groups to form coalitions, communities, and federations [198]. Ultimately, the goal of prefigurative politics is to not only transform social relations, but to do so with the intention of transforming larger, more material structures, such as economic inequality [278]. As such, prefigurative processes also need to incorporate anti-oppressive practices throughout every mode of deliberation—to "model a notion of goodness even as we fight for it"—as prefiguration without an explicit radical orientation is likely to reaffirm and recreate the forms of hierarchy and domination it is trying to replace [198]. Here, Milstein and other theorists emphasize the imperfect nature of anarchist organizing: prefiguration is necessarily "a constant balancing act," not striving towards a stable state (contra Rawls) but rather "a challenge to continually approach the dazzling horizon of freedom by actually improving the quality of life for all in the present" [198]. Guided by anti-oppressive principles, prefiguration is the constant and consensual negotiation of individual and collective liberty to form non-hierarchical social arrangements ("easier said than done," Milstein admits) to perpetually build towards egalitarianism without the expectation of ever fully arriving at it [198].

3.   METHODS

In the previous chapter, I discussed anarchism as a *sociopolitical framework* that informed my conceptual approach to my research. I open this chapter with a brief discussion of anarchism as a *mode of inquiry* that complemented my research methodologies, providing more detail about the role of anarchism in my fieldwork below in 3.3. I return to anarchism as a mode of inquiry in Chapter 8 through a reflection on my broader body of work and anticipated contributions of this research.

Anarchist theory was valuable for my research in two main ways: the first was providing an anchor to continually ground my research in anti-oppression rather than a specific issue or community. As discussed in the previous chapter, anarchism focuses on *all* forms of domination, thus anti-oppression is not limited to a single issue or identity. Many of my community partners had a narrower focus through their organizing, thus an anarchist perspective was generative for me as a researcher as it enabled me to observe other forms of oppression that may be happening in other spaces beyond the activist work itself (e.g. organizational structures, interpersonal relationships). An anarchist perspective was valuable for my ethnographic fieldwork: it provided a wider lens through which I could make sense of my observations, revealing other means through which oppression and power were enacted across multiple sites and multiple levels of scale. Secondly, anarchist literature was valuable as an approach to work through some of the tensions between the myriad commitments of interventionist research methodologies and of research as a mode of academic production. In Chapter 5, I describe some constraints on

activist work (particularly in the American South) that posed new challenges for interventionist research methods, specifically around questions of labor, stamina, and exhaustion through fieldwork. When deliberating these challenges in the field, I reflected on my own *autonomy* as a researcher to think through who and what I was committing to, which helped me re-orient my priorities and stay engaged and energized through the research collaboration. Autonomy and anti-oppression are two example of anarchist concepts that enriched my research methodologies, which I will return to in greater detail in Chapter 8.

In the rest of this chapter, I detail the methodologies that anchored my research. Necessarily, there were differences in how I worked with each site; I briefly summarize these differences below and provide more detail in the method section of the chapter that corresponds to each fieldsite. Below, I describe the overarching frameworks and motivations for my work, as well as the challenges I faced when translating different research traditions to the unique circumstances and challenges of activist fieldsites. I conclude with a description of *prefigurative design*, including a description of the overall framework, as well as its anticipated contributions to HCI research and design- and community-based methodologies.

3.1. Methodology

My approach to my earlier ethnographic fieldwork was heavily informed by user-centered design, which led me to conduct research systematically, starting with needs gathering to work towards a digital artifact to address those needs [227]. The challenges I

encountered through fieldwork pointed to some of the limitations of user-centered design for particular research contexts, particularly resource-constrained environments where communities face challenges that can be unpredictable and urgent, like in activism. Additionally, the design work that emerged from my fieldwork pointed to issues that were more structural (e.g. racism), where the scale of user-centered design methods was not always appropriate, focusing too narrowly on individual needs at a given point in time rather than more collective needs as they might extend into the future. It was because of these contextual specificities that I decided to use more interventionist and design-based research methodologies, drawing heavily from *participatory design* and *action research*. Both were valuable for me to negotiate the challenges of collective civic work, with the latter in particular lending itself well to the kinds of capacity-building and organizational change I was hoping to contribute to my community partners through my research.

3.1.1. *Participatory Design*

Participatory design work has been a valuable resource for my overall body of research, specifically the focus on the meaningful and intentional incorporation of stakeholders into design processes. It is also valuable as a methodology for my particular research interests as it is fundamentally concerned with social and democratic practices within an organization. It is important to identify the historical roots of participatory design: emerging from Scandinavian workplaces in the 1960's, the methodology speaks to a significantly different sociopolitical context from my fieldsites, and as such my

research points to some of the limitations of this methodology under more politically and materially constrained conditions (i.e. activist communities in the American South).

More contemporary participatory design extends beyond traditional workplaces into communities, non-profit organizations, and more informal groups and organizational structures that share concerns or interests [225]. It maintains its central aims of trying to better incorporate stakeholders into design processes to better address their various needs and concerns, especially those who are the most impacted and least represented in the organization [225]. With the emergence of HCI in the 1980s, participatory design has played a strong role in the user-centered design tradition, paying more attention to the perspective of the 'user' [225, 227]. Additionally, participatory design has expanded its focus to include less traditional workplaces and other kinds of informal 'work' (e.g. activism, hobbyist communities [225]) to better understand the relationships between users and increasingly complex sociotechnical systems [34, 71, 225].

Bannon and Ehn describe two approaches to participatory design as a design research methodology: the *rational problem-solving* model and the *reflective practitioner* model [34, 81]. The former assumed designers using more formal, scientific methods for problem solving, such as systems thinking, logic, and physics. The rational approach to participatory design built on the work of Herbert Simon and *The Sciences of the Artificial*, who situated "the science of design" and its concerns with "artificial things" and "how things ought to be" alongside the natural sciences and their concerns with "natural things" and "how things are" [236]. Here, I refer to Simon's work not to position

design in opposition to the sciences, but to highlight modes of analysis that straddle the two. For example, Simon's notion of *satisficing* looks for design solutions that are 'good enough,' which challenge rational approaches as solely guided by optimization and efficiency. This approach challenged overly reductionist framings of rational models as inquiry is not solely driven by efficiency and optimization, but takes into account contexts where these efforts may be limited or constrained. My work draws from the rational problem-solving model as I tried to anchor my deployments and designs to satisfice problems as articulated to me by research partners. While my perspective of their broader organizational challenges and political work were necessarily limited through my outsider status, I worked with community members to identify smaller scale artifacts or interventions that were 'good enough' to support their civic work.

The reflective practitioner model differed from Simon's model in that it more explicitly incorporated complexities into its design work. Whereas Simon tried to introduce more stable conditions into complex systems, the reflective practitioner model acknowledged this 'mess' and instead focused its attention to a site's participants and their responses to the messiness of their work [236]. This approach drew from Donald Schön and John Dewey, both of whom privileged participant *experience* as primary sources of understanding, drawing from participant practices *in situ* to make sense of their work and organizational challenges [225]. This focus on practices "in the swamp" [225] contrasted the rational problem-solving model as it was more open to experimentation and reframing, where hypotheses were developed and iterated through the course of the work, rather than established at the onset [225]. This model of

participatory design lent itself to more interventionist modes of design research as observed practices and patterns supported more action-oriented solutions to directly benefit the research participants or community. This more flexible approach has been vital for my research to understand the more non-traditional forms of work done by activists and organizers. Additionally, by basing experience as the foundation of the research, reflective practitioner models also open up space for more non-traditional forms of design interventions, i.e. not strictly limited to a commodified good or designed artifact. This broader understanding of design has been valuable for my work to better address community concerns around anti-oppression, which does not always lend itself to product creation due to its basis in anti-capitalism and anti-consumerism [76, 253].

3.1.2. Action Research

Action research (AR) is a rich methodology that offers both the rigor and systematic approach of rational models of participatory design, as well as the flexibility and impact of reflective practitioner models. There are a variety of methods that fall under the umbrella of action research, such as participatory action research, community-based action research, and action science; here, I refer to them collectively as action research and will describe the distinctions across these approaches in more detail in later chapters. Hayes describes AR as a "systematic collaborative approach to conducting research" [127] that "aims to contribute both to the practical concerns of people […] by joint collaboration with a mutually acceptable ethical framework" [127, Hayes quoting Rapaport]. Herr and Anderson acknowledge a number of different approaches to AR, but

ultimately frame it as an evidence-based process where a researcher's actions are continually reflected on and revisited in order to intervene in and impact a community or organization [128]. This process is referred to as the action research spiral [128], depicted in Figure 6 below, which Kerr and Anderson describe thusly:

1. Developing a *plan* of action to improve what is already happening;

2. *Implementing* the plan;

3. *Observing* the effects of the plan as deployed in its intended context;

4. *Reflecting* on those effects to return to and iterate on the plan to restart the cycle.
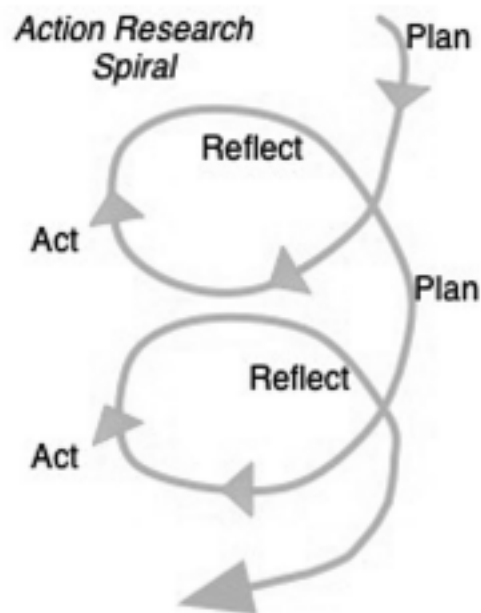
Figure 6 – The action research spiral is iterative, repeating based on new information acquired through inquiry.

Hayes describes the AR spiral as valuable because it positions action as a means for developing knowledge, which creates epistemological space for the lived experiences and histories of participants, decentering the researcher as the sole authority or source of knowledge production. The cyclical AR process also explicitly implicates the researcher as part of the research process, rather than being 'outside' of or impartial to the work. Thirdly, Hayes describes the AR cycle as distinct from other methodologies because it emphasizes local context and results that benefit the community partners instead of generalizable or universalized solutions. Herr and Anderson describe AR engaging with similar concerns, such as: complex insider/outsider dynamics; an explicit commitment to justice and democracy; and an emphasis on transferability (rather than generalizability). Below, I describe how these concerns are discussed in AR literature and why they have been beneficial for my research.

3.1.2.1. Insider/outsider dynamics

Like some framings of participatory design described above, AR relies on collaborative modes of inquiry and places at the center of its work the experiences and concerns of research collaborators. However, AR contrasts from participatory design—and most research methodologies—as it eschews any attempts at distance: it requires constant intervention and inquiry to ensure that research practices align with the stated outcomes and needs of the community [128]. For example, 'outsider' researchers may embed themselves more deeply within a research site to better understand that group's needs and concerns in order to better orient their research. Additionally, AR strives for

change within a group to be enacted from the perspective of members *within* that group. As such, 'insiders' gain more "cognitive authority" [128] as research practices rely on their expertise and experiences, thus having more impact and agency to shape research as collaborators. These more porous boundaries between 'insider' and 'outsider' complicate the commitments of all the stakeholders involved in a research collaboration—thus requiring more attention to these power dynamics—but also leads to richer and more impactful work.

Herr and Anderson argue that these fraught insider/outsider dynamics are not produced by AR, but that AR's focus on them produces richer and more rigorous research [128]. The boundaries between 'insider' and 'outsider' positions are already fraught because researchers occupy multiple positions simultaneously outside of research (e.g. ethnicity, gender, age, ability) [128]. By calling attention to these positions and explicitly attending to them through AR, researchers can better reflect on these power dynamics to better support community partners and create space for more trusting and reciprocal collaborations. In this way, the integrity of AR is not compromised but, on the contrary, bolstered as researchers become more attuned to their positionality through research and put these concerns at the forefront of their research interactions to avoid exploitation and coercion. By paying attention to power imbalances that predate a research project, AR echoes some anarchist principles described in the previous chapter: this is not to say that AR is immune to exploitation and harm, but openly acknowledging these different positionalities allows researchers to adjust their practices to better incorporate equality and provides participants with context such that they can consent to a research

partnership and be more informed of the potential challenges or limitations of working with the researcher.

3.1.2.2. <u>Justice and democracy</u>

Another point of distinction between AR and other interventionist or design-based methodologies is that it does not assume or strive towards neutrality: AR is explicitly value-laden and is often entwined with goals of justice, democracy, and anti-oppression. Given my work with communities invested in progressive social change, AR was an appropriate methodological fit to more explicitly support my community partners while also developing my own anti-oppressive practices as a researcher. In addition to its implicit emphasis on collaboration and mutuality, as described in the previous subsection, AR is also explicitly connected to justice through the literature. Hayes cites Greenwood and Levin as they describe AR as a way to "affirm solidarity with the oppressed and to declare an adversarial role toward the powers that be" [127]. Hayes also describes Friere as incorporating AR into his pedagogies to "liberate the oppressed" [127]. Herr and Anderson also acknowledge the connection between AR and liberatory pedagogy, additionally offering a definition of AR that centers social justice, where AR is a "form of collective, self-reflective enquiry […] to improve the rationality and justice of their own social or educational practices, as well as their understanding of the practices and the situations in which these practices are carried out" [128]. AR is further described to be necessarily collective and critical, the latter of which "can offend those with a stake in maintaining the status quo" [128].

While AR is not always explicitly described to have radical values, much of the way AR is discussed in the literature suggests that it is a methodology that would the most amenable to the more radical politics expressed by my research communities. Like participatory design, AR is described as having democratic goals and is valuable for improving conditions and practices within an organization, contributing to a general sense of "social good" [82, 128]. However, many of AR's goals align more explicitly with anarchist principles: in its emphasis on doing research "with," AR has a strong affinity with Milstein's power-together [198]. Hayes is unambiguous about these power dynamics and describes researchers as "co-design[ing] interventions and change with community partners not for them" [127]. Hayes also emphasizes the partnership throughout the research process, stating that "all involved are co-investigators of, co-participants in, and co-subjects of both the change and evaluation activities of the project" [127]. These descriptions challenge the researcher as the sole authoritative figure, thus creating opportunity for more horizontal relationships and organizational models to facilitate more just research interactions. Another trait of AR is its emphasis on "learning by doing," which encourages self-reflection and challenges the professionalization and distance inherent in PD work [127]. This action-based mode of knowledge production lends itself well to co-producing knowledge, and additionally opens up the possibility for practicing solidarity through research: Hayes argues that AR collaborations should work towards "greater understanding of the setting" and "potentially better solutions" rather than problem-solving, where the outcome is learning rather than an artifact or an intervention. This description similarly challenges

expectations of the role of the researcher in a collaboration, where commitments to learning can be a form of mutual aid rather than oppression. In this way, the researcher can position themselves to practice reciprocity rather than solely extraction.

3.2. Methods overview

Having described the main methodologies that informed my research, I will briefly describe some of the methods used in my research, specifically focusing on ethnography and why it was beneficial for my work. Figure 7 is a summary of the methodologies and a short list of design-based methods that informed the empirical research for each site. I describe these methods in more detail in the chapter that corresponds to the fieldsite, and additionally describe some of the challenges of using those methods.

Site	Methodology	Methods
Cycle Atlanta	Participatory design	Participant observation, ethnography, semi-structured interviews, surveys
OOHA	Action research	Participant observation, ethnography, semi-structured interviews, critical making
Playbook	Participatory design	Co-design workshops
PAD	Action research, service design	Participant observation, ethnography, interviews, service design

Figure 7 While I use different methods depending on the fieldsite, all my research is empirical and relies on design-based methodologies.

Ethnographic methods were common across my fieldwork; there is a strong tradition of using ethnography into HCI, particularly for empirical qualitative work and design research [28, 183]. Here, I describe the role of ethnography in my work not as a common mechanism for design research but for its more radical commitments that helped anchor my work to anti-oppression and liberation. I draw from the work of Brereton, Roe, Schroeter, and Hong who conducted participatory research with an Aboriginal community in Australia to argue for a reframing of ethnographic-based design to center reciprocity instead of techno-solutionism, which carries with it a legacy of colonialism and exploitation [36]. Through this work, the authors argue that basing their ethnography on reciprocity resulted in more trust in their collaborations, as well as novel perspectives on which they could base innovative and sustainable designs [36]. In later chapters, I elaborate on the constraints of doing ethnographic work at each fieldsite, and will return

to this concept of reciprocity and the complexities of trying to place it at the forefront of my research.

3.3. Introducing Prefigurative Design

Here, I briefly revisit my articulations of prefigurative design from Chapter 1 to introduce readers to the framework, which I will then revisit through my empirical chapters. The goal of prefigurative design is to leverage design and research practices to implement counter-structures to challenge oppression. Similar to action research, prefigurative design aims to incorporate community members as meaningful collaborators, and additionally commits to this partnership by basing research projects and practices on stated community needs and concerns. This builds on the action research commitment to contribute back to community partners, but also strives to affect change beyond the organization, as well, guided by the equity and justice work to which the community is committed. Prefigurative design is strongly motivated by anti-oppression work, which is a perspective it contributes to existing design-based methodologies, who are also concerned with equity and justice, but don't necessarily prioritize them through research practices. Prefigurative design encourages researchers to be more intentional about the impacts of their work, specifically by connecting digital designs and interventions to broader structures of oppression and violence, which helps ground our work throughout the research process. In the following chapters, I describe my fieldwork and research findings across four sites, focusing on community partners' use of ICTs to support their civic work. I also describe my design methods (see Figure 7 above) as

deployed at each site and reflect on these methods in light of my observations and research interventions. I return to prefigurative design in Chapter 8 to describe the framework in more detail and incorporating findings from my empirical work. I also return to the research methodologies described above to discuss the methodological contributions of prefigurative design for future HCI projects similarly concerned with the role of research to address oppression.

3.3.1. *Researcher self-disclosure*

While this dissertation does not explicitly draw from feminist methodologies, I wish to include a researcher self-disclosure to situate myself within my work and provide context for the knowledge produced through the case studies discussed in the rest of this document. I follow the lead of Jill Dimond and Shaowen Bardzell, among others, who appreciate the importance of incorporating underrepresented identities and experience in the academy, and to acknowledge the social construction of knowledge that has historically favored cis, white, and male experiences [17, 65].

At the time of this writing, I am a biracial queer cis woman in her early 30s. I am able-bodied, but suffer from chronic illness and struggle with my mental health on a daily basis. I am a refugee from the first Gulf War, but have dual citizenship in the US and Canada, and have been raised in a Western country and thus have learned to be fluent in white Western norms and cultures while struggling to maintain my own cultural heritage and traditions. Over the course of my PhD, I have experienced mental health crises, sexual harassment, rape, temporary homelessness, mobility concerns, and PTSD from

both childhood traumas and traumas experienced as an adult. I am not in contact with my biological family as a result of prolonged physical and emotional abuse and thus do not have intergenerational wealth on which I can rely.

These experiences have taught me to be highly attuned to the multiple and overlapping manifestations of oppression, across class, race, citizenship, gender, and displacement, among others. Anti-oppression and collective liberation are not merely research interests to me, but they are means of survival. My involvement with my research communities is a way to do research, but also to support others who may be struggling with similar crises of power, agency, autonomy, and domination. Given my past as a refugee, my work with housing justice activists has been especially important as I am intimately familiar with the trauma and disruption that comes with the loss of a house, home, and history.

At the time of this writing, I identify with Leftist politics and was introduced to anarchist literature and praxis through my connection to various organizing and activist communities, many of whom discuss various schools of Leftist thought and praxis, including socialism, anarchism, and communism. I also owe much gratitude to Black radicalism, both as discourse and as community: I am fortunate to have forged relationships with chosen family through my time in Atlanta who have patiently educated me on the oppressive and violent roots of this country, which has been invaluable for shaping my research trajectory and how I approach power dynamics and equality both within and outside of academia.

4.   FIELDSITE: CYCLE ATLANTA

When I began my doctoral research, I put user-centered design methods to use in a community setting to understand *how democratic ideals were enacted by existing forms of civic engagement* (R1). I did this through the Cycle Atlanta research project, which relied on a smartphone app to gather geolocation and demographic data to create a macro-level impression of where cyclists were riding in the city and what challenges they faced. As I facilitated design workshops to gain more insight into digital advocacy practices in the Atlanta cycling community, these data revealed the tensions between *existing* advocacy practices and *novel* modes of participation. That is: many advocates were interested in smartphone and social computing technologies to share *historical* information across the community. Many participants described desires to share with newer cyclists the embodied and tacit knowledge gained through their regular bike routes (e.g. locations of dangerous potholes, better quality bike facilities, or shortcuts). Through this work, my research shifted to focus on leveraging existing resources and expertise, rather than trying to discover or create new modes of knowledge or digital artifacts, which influenced how I thought about resources throughout my doctoral work, and ultimately formed the basis of prefigurative design Q4 (i.e. where can resources be marshalled?). Similarly, advocates described various strategies for improving the cycling community, which relied on an ecosystem of digital and non-digital systems and networks scrapped together to suit each advocate's needs.

This project was also my first encounter with concerns around equity in my research: common across my fieldwork was the concern that resources were not equitably distributed within a city. In some instances, this division was between bikes and cars, but many participants also pointed to larger structural inequities, such as redlining and systemic racism. For me, this emphasized the grounding of digital systems and projects in broader sociopolitical structures, specifically the local histories and narratives that may be underrepresented, yet are still highly impactful. This perspective helped me better understand the legacies of more normative democratic principles (e.g. representative democracy, liberal democracy), which I explored through Cycle Atlanta and R1 and set the stage for me to seek out 'alternative' or radical forms of civic engagement, which I describe in more detail in the next chapter.

4.1. Site

For this work, I was involved with a single digital artifact designed specifically for the cycling community. Cycle Atlanta is a smartphone application that asks users to record their bike rides around the city in order to share that data with city planners. The app was launched in Fall 2012 as a collaborative effort between academic researchers and Atlanta city planners as a way to gather data to help with the design and implementation of cycling infrastructure. It was explicitly promoted and framed as a tool to aid the city. Figure 8 below shows screenshots of the iOS app, including the landing screen (where users can start to record their ride), the trip purpose screen (where users can categorize

their trip for context), and the demographics screen (where users can volunteer personal

information about themselves, also for context).
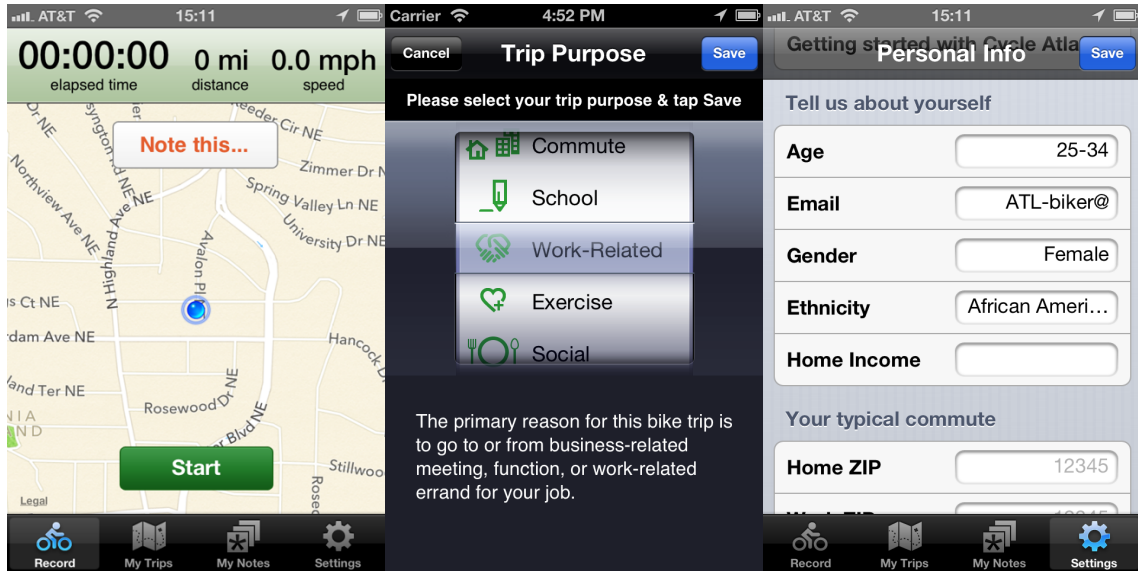
Figure 8 Three screenshots of the Cycle Atlanta iPhone app.

The app was heavily supported by the city's prominent cycling advocacy

organization, the Atlanta Bicycling Coalition (ABC); they promoted it at each of their

events, encouraged new members to download and use the app, and acted as a liaison for

researchers to present the app to new audiences. The ABC was at the forefront of most

cycling advocacy and programming in the city: they collaborated with the city to close

down public streets to host Atlanta Streets Alive, a cycling festival similar to Bogotá's

Ciclovia. Additionally, at the time of the research project, they coordinated a monthly,

law-abiding, low-speed group ride through the city that ended with patronizing a local

business. They also held safety and education classes multiple times a month that

spanned a variety of cyclist experience levels. The ABC also had a closer relationship

with the City, collaborating with them to fund and implement much of the in-town cycling infrastructure.

As a result, the app was well publicized to the local cycling community and was useful during our workshops as participants were all relatively familiar with how the app works, its purpose, and the authors' involvement with the project. The app was useful as it was known in the cycling community as a tool explicitly designed to help with planning processes and support cycling advocacy. As a result, the app operated as a baseline through which participants renegotiated and rearticulated their commitments to city cycling and, by extension, broader civic institutions (e.g. the planning department).

4.2. Method

From the spring of 2015 to the spring of 2016, I hosted design sessions with key figures in the cycling communities of two major U.S. cities, Atlanta, GA and Pittsburgh, PA. The cities were very different—in climate, in geography, in demographics, and in socio-economics—though they shared similar advocacy practices and motivations behind those efforts. Cycling was an important contemporary urban concern in major U.S. cities due to shifts in transportation policy toward more robust multi-modal transportation systems aimed at alleviating traffic congestion and the consequent ill effects of sedentary lifestyles and air pollution.

At the time of the project, Atlanta was undergoing a massive urban shift in an attempt to accommodate more multi-modal transportation. Cycling was a large focus of

this shift with various civic actors implementing infrastructure, policy, and advocacy efforts to support an active urban cycling community. Similarly, Pittsburgh had a small but vibrant cycling community and was comparable to Atlanta in many ways, including median age and income. However, Pittsburgh differed greatly in terms of racial demographics, geography, and size, with a population of 2.3 million in the metropolitan region comparing to Atlanta's 5.7 million. Pittsburgh also had a significantly different urban development history, providing a different sociocultural context by which I could compare findings from both participant groups. I was interested in contrasting the differences in advocacy practices across the two cities. However, even as specific street-level solutions would differ, or where political rhetoric reflected local conditions, the tools and techniques for outreach and building support were very similar in both contexts. Across both cities, cycling advocacy work engaged insider and outsider strategies, as well as diverse technological platforms to execute those strategies: from individual cyclists concerned with personal safety, to self-organized community events aimed at raising visibility and awareness, to institutional actors lobbying for specific bike-friendly policy changes.

To better understand the similarities in advocacy work, I collected data from cycling advocates through two main methods: public design workshops and semi-structured interviews with individuals. The public design workshops were publicly advertised through social media (typically through the bike advocacy organization) and encouraged cyclists to share their concerns about cycling in the city. Cyclist feedback was documented through audio recordings, fieldnotes, and worksheets, where cyclists were

asked to answer questions about their cycling habits (e.g. My most/least favorite thing about cycling is…). In addition to documenting participant contributions, I also took fieldnotes of common cyclist concerns and any discussions of digital tools or advocacy tactics [197]. These notes were combined and coded iteratively to produce common themes, which then informed the interview guides for my semi-structured interviews.
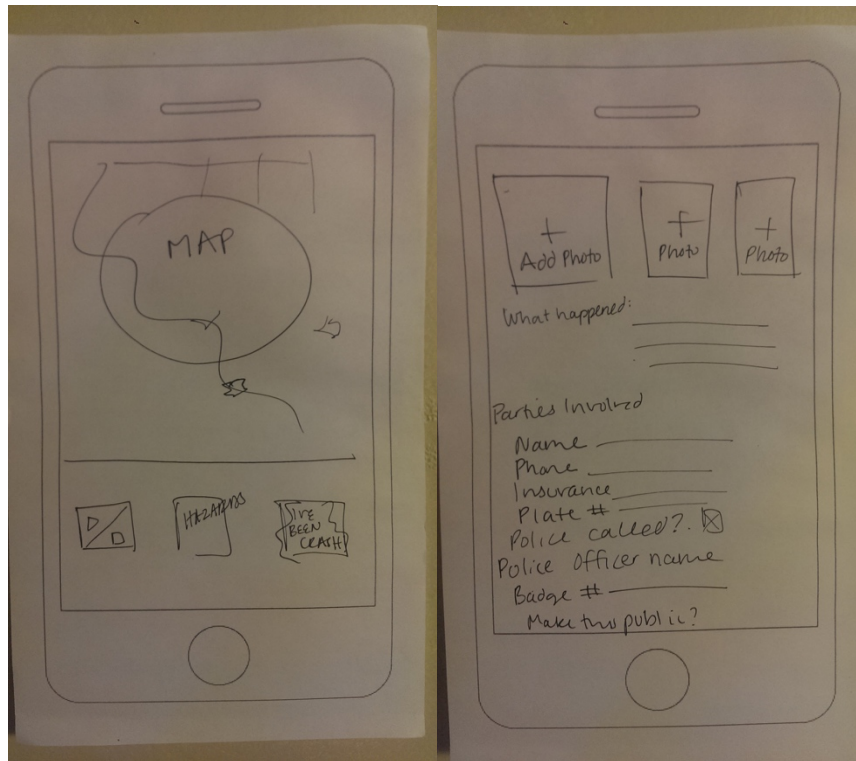
Figure 9 – Participants' prototypes were manifestations of how they envisioned the role of design in reconstituting their role as a cycling advocate.

These interviews were part of longer, one-on-one design sessions with individual cycling advocates to better understand their individual practices and to probe novel design approaches for social computing and mobile technologies that might support those advocacy practices. The individual meetings allowed me to develop a design dialogue

with each participant and to avoid the effects of dominant voices that can occur in group settings. The first half of each session was a semi-structured interview that established the participant's role in the cycling and advocacy community in their city and inquired into their relationship with technology in their advocacy work. The interview provided the scaffolding for the design activity conducted in the second half of the session. During the design activity, I asked participants to sketch concepts for a new or existing mobile application that would best support their advocacy work (see Figure 9). To do so, I provided participants with wireframes to sketch or draw their designs (see Figure 10 below) and asked them to describe those designs aloud. We conducted these individual design sessions across both cities. At each session, we took notes and audio recordings that we subsequently transcribed and coded to identify major themes and concerns across both sites.

Figure 10 – I asked each participant to describe their designs out loud as they drew them, which offered insight into their concerns and priorities within their advocacy work.

In Atlanta (n=8), I asked participants to design their paper prototype as an add-on to Cycle Atlanta as they were already familiar with the smartphone app and my role in the research project. In Pittsburgh (n=4), I asked participants to draw from their experiences using existing digital platforms and tools. I did not frame the activity around Cycle Atlanta as it was not targeted for use in Pittsburgh. I chose not to tell participants in Pittsburgh about the app until after their interviews in order to prevent leading or guiding their designs.

4.3. Approaches to Issue-Oriented Advocacy Work

Broadly, cycling advocacy aims to support projects, infrastructure, and policies that encourage people to adopt cycling as an alternative form of transportation. These

initiatives attempt to safely integrate bicycle traffic with vehicular traffic through civil and traffic engineering projects (e.g. bike lanes, bike traffic lights) or legislative efforts (e.g. requiring vehicular traffic to provide at least 3 feet when passing a cyclist on the road). They also involve more informal practices, such as organizing group rides to popular neighborhoods and landmarks to build cyclist confidence.

In service of these goals, advocates often make appeals beyond cycling as a means of transportation to include its impact on personal health and environmental sustainability. This points to two primary appeals advocates make—cycling as *identity* and cycling as *infrastructure*.

4.3.1. *Advocacy Work through Identity*

Many participants referred to cycling as a part of their identity, articulating ways that riding bikes both complements and challenges other parts of their lives. Almost all participants acknowledged their identity as a driver, as well as a cyclist. These two identities informed how they approached their advocacy work. Participants also acknowledged the importance of relating to and empathizing with non-cyclists, particularly because most people do not identify as cyclists. This had a pragmatic motivation as well since many of the engineers and policymakers who have influence over roadway projects or legal efforts to protect and promote cycling do not themselves regularly use bikes for transportation. Additionally, participants had a shared recognition that the label "cyclist" is applied to range of experience and willingness to ride on urban streets.

What is key is that identifying as a cyclist tends to occur after acquiring a fair amount of riding expertise. In the design sessions, participants in both cities spoke of "the 67%," referring to the national average of people who consider taking up cycling but do not ride regularly due to concerns with road safety [61]. These are people who are thought of as future potential cyclists: they do not identify as cyclists but advocates described thinking of them in and through their work for the reason that developing policy and road design to address the concerns of the 67% would have the greatest impact on cycling as a viable alternative mode of transportation.

4.3.2. *Advocacy Work through Infrastructure*

While advocacy work was done through the shared identity of "cyclist," the means to that identity was viewed through different infrastructures: this includes built infrastructure, like bike lanes, but also social infrastructure. Cyclists necessarily have to incorporate these other forms of non-cycling-specific infrastructure into their experiences as well, from urban roadways and the cars, trucks, and pedestrians who share them, to natural features like mud, hills, and weather. Together, these compose the material conditions that cyclists must surrender to in order to navigate the city and inform how and where cycling is discussed by advocates.

Over half of my participants also pointed to institutional infrastructures where cycling plays a role. For example, the distinction between leisure and 'invisible' cyclists —that is, cyclists who ride by choice and those who ride out of necessity—is bound up in discussions around class and socio-economics [179, 191]. This distinction was important

for participants trying to address social and economic mobility through transportation planning. Their observation was that bike advocacy efforts typically catered towards leisure cyclists and needed to better incorporate invisible cyclists. Doing so necessitates a conversation about the role that cycling plays in other urban infrastructures, such as property values, transit access, and the quality of public schools. Many of our participants emphasized the importance of orientating their advocacy to incorporate these other affected infrastructures as well. Here, we can see the participants' assumptions as aligning with Rawlsian views of democracy, specifically the role that cycling plays as a "common good," where improvements to cycling infrastructure were not described as benefiting only cyclists, but having a broader positive social impact, enabling healthier and more accessible modes of transportation and offering boosts to economic development.

Despite the variety in participants' cycling experience and professional roles as advocates, and despite the unique political, socio-economic, and geographic contexts of the two cities, a set of common themes emerged that point to shared strategies and computational affordances to support advocacy work across individuals, issues, and institutions. Even as participants in Pittsburgh did not have the benefit of an existing app to build on like those from Atlanta, all participants identified and described similar technological features and areas of concern: geolocative sensing to help increase visibility of cycling in the city; feedback loops to support sharing information with different actors to increase safety; and the mass communication affordances of a smartphone to empower the broader cycling community and encourage interactions

between different types of cyclists. These shared concerns enable us to more thoroughly understand the opportunities that ICTs—specifically, smartphones—offer to advocacy work.

4.4. Prototyping Digitally Supported Advocacy

While these design sessions were specific to the issue of urban cycling, the results speak to the broader relationships between technology design and how it transforms the inside/outside advocacy relations needed to influence a given issue. Across these design sessions, there were three common technological features that participants connected to advancing particular kinds of advocacy work: the first is using geolocation to improve cyclist *visibility*; the second is leveraging feedback loops to address *safety* concerns; the third is using annotations or commenting features to *empower* the cycling community.

4.4.1. Geolocation to Improve Visibility

Each participant described a mapping feature as part of their design concept, with nine of the twelve participants articulating the map as an integral part of their design. The mapping feature used the geolocative capabilities of smartphones to identify and visualize the specific locations of cycling infrastructure. One participant described their design as a way to make visible "insider knowledge." Other participants also spoke of "local" knowledge or "insider experiences" that similarly motivated the design of their mapping features: visualizing existing cycling resources was a way to share and distribute knowledge typically gained through experience and thus reduce barriers to cycling.

The design sessions pointed to another kind of visibility made possible through the technical capabilities of a smartphone: geolocation technologies do not only reveal cycling resources, but also cyclists themselves. This points to opportunities for new attachments to the issue across sites of advocacy: it renders individual cyclists visible to actors outside the cycling community. For the purpose of cycling advocacy, this has immediate impact by making cyclists visible to the municipal government as a community of political actors. When rendered through data, this increased visibility provides affordances for new dependencies and commitments to arise. That is: evidence of cycling becomes a case for latent demand for improving existing infrastructure and services and the absence of cycling becomes a focal point for advocates to concentrate outreach efforts to underserved or under-represented neighborhoods. In both instances, the visibility afforded by geolocation prompts new capacities to contribute to cycling advocacy efforts.

One participant was frustrated at the perceived imbalance in priorities in local transportation planning, specifically that transit-related resources only benefit car infrastructure, while officials often do not back commitments to cycling infrastructure via decisions on resource allocation. Other participants expressed similar frustrations, which challenges liberal framings of democracy as reasoned deliberations were not perceived to have impacted any decisions or lead to "fair" access to urban infrastructures. Many participants linked their frustrations to existing modes of civic engagement—in this case, public meetings and planning events—where they made a reasonable case for improved infrastructure but received no feedback about their participation or their concerns. Here,

we see how digital artifacts might play an interventionist role in these governance structures: the cycling community may be able to rely on sensing to prompt government commitment to allocating the appropriate resources to support cyclists' needs.

4.4.2. *Feedback Loops for Improved Safety*

Another feature common to many of the designs was the need for feedback loops as an important measure to address safety concerns. Seven participants each incorporated some kind of feedback mechanism into their designs. These mechanisms were most commonly posed as features to report safety issues to city departments, be they infrastructure repairs or vehicular crashes, which would in turn produce some kind of output enabling the cyclist to track the reported incident. When outlining these features, participants described each feedback loop as a digital proxy for more traditional forms of advocacy, such as writing to a councilperson or speaking at a public meeting. The digital feature, however, was conveyed as a more direct channel for citizens to interact with the city, advancing what participants described as the one-way communication channel of letters and even public fora, to a bi-directional interaction where user-submitted data would be incorporated into an appropriate response from the city back to the cyclist.

One participant described her feedback loop as a measure of accountability. By revealing some detail about the process by which input was received and acted upon by the city, the participant articulated feedback loops that provided complementary visibility for the advocacy community: instead of making cyclists visible to municipal officials, they gave cyclists visibility into city processes. This in turn works to increase advocates'

understanding of public services and build trust that the municipal government was responding to cyclist's efforts. Other participants envisioned similar kinds of reporting features as a way to provide feedback to cyclists, confirming that their data—in the form of a report or location—were legitimate contributions to the broader cycling community. The motivations for feedback were tightly coupled with the desire for visibility as discussed above: both were significant to the kinds of advocacy work our participants engaged in and were critical for validating an individual's contribution to that work. Here, we see a shift as participants describe more direct democratic modes of participating: we can see how these described motivations for sharing input can be a form of mutual aid as cyclists are complicit in similar struggles and voluntarily commit to sharing information to benefit others through cooperation and reciprocity [36]. Participant prototypes relied on existing and known technological features, but recast them to ascribe to alternative—and, by their accounts, more effective—democratic principles.

4.4.3. Community Annotations for Empowerment

The feedback loop concepts created by participants were designed to communicate information from cyclists to actors outside the cycling community. However, some designs intentionally focused on communications within the cycling community itself. For the participants that called out communication explicitly—rather than implicitly through feedback loops or via new visibilities in geolocation—community empowerment was the driving motivation. One participant described a barrier where members of the

cycling community did not have an avenue to express their concerns or have their voices heard. Designing communication channels between cyclists could encourage them to leverage their expertise and experiences riding in the city.

Similar to issues of visibility and sharing insider knowledge, our participants' motivation behind empowering the community as a whole by building communication tools was to help support and encourage new or aspirational cyclists to incorporate cycling into their routines to the point where they would not feel thwarted by potential encounters with dangerous riding conditions. To facilitate these different articulations of empowerment, the participants described features that allowed users to leave notes or annotations for other cyclists. Interestingly, many of these participants began their design concepts by situating them in relationship to municipal government or a formal advocacy organization. These proposed features started as kinds of feedback mechanisms encouraging users to leave annotations or comments for an external actor. As the design sessions developed, the focus changed to configuring the comments for other cyclists rather than external authorities. In the same way that cyclists rely on planners to design safer streets, cyclists also depend on other cyclists to be good community members. By envisioning and designing for communications between cyclists, the participants were also envisioning other forms of social practices to contribute to and improve their own community.

Here, cycling advocates describe practices that closely resemble autonomous self-organization approaches described in the previous chapter. As argued by Milstein, the

shift away from formal institutions and authorities suggests a shift to modes of governance that are motivated by both self-interest and the needs of the collective. Through the lens of anarchist literature, we can see how the participants describe their digital prototypes as prefiguring counter-institutions for cycling advocacy and city planning. They describe mechanisms that reconfigure decisions to be made by the members of the cycling community, rather than representatives or abstracted figures in planning departments. The imagined prototypes articulate a future where cyclists have access to city resources and are able to directly make decisions that result in infrastructure and improved cycling conditions, thus being considered valued members of the city and its multi-modal transit ecosystem.

4.5. Designing for Digitally Supported Advocacy

Throughout the design sessions, participants reimagined relationships between various actors and technologies, which prefigured different modes of governance, particularly around urban decision-making. These also highlighted how cycling advocates are not just made up of people who care about cycling, but of roadways, bike paths, policy agendas, and municipal organizations. Across the design sessions with participants from both cities, the idea of 'connection' drove many of the individual concepts and features—connections made through new visibilities, through new kinds of feedback and direct interaction, and through communication across the different sites of advocacy work. These connections emphasized strategic relationships between resources, artifacts, or actors in order to best leverage resources to support a particular advocacy goal or

community need. These connections bridged different sites—internal to the community or external with city departments—as well as social, computational, and physical forms of infrastructure to move people through civic and urban spaces.

Here, I connect this advocacy research to the broader space of digital civics, which "aims to support citizens becoming agents of democracy with and through technologies and in dialogue with the institutions that can actualize public will" [222]. Built into this definition is a recognition that civics is an ecosystem of institutions where communities, public institutions, and private interests are in constant exchange with each other. By looking at urban governance through the lens of digital civics, we can begin to see how these transactions and relations are impacting the rituals and assumptions of Western democracy by furthering presumptions of market transactions into how we interact with elected officials and conceive of the role of citizen within cities.

4.5.1. Connecting Resources

Through the interviews that set up the design sessions, I learned that participants consulted a variety of resources to go about their advocacy work, ranging from municipal websites to consult local traffic laws, to online fora like Reddit for local cycling knowledge, to crowdsourced review websites like Yelp. These disparate resources point to the variety of existing social, technical, and material attachments present in the cycling advocacy public. Bridging across these different resources is reflective of the variety of concerns captured by a heterogeneous public: cycling is not a unitary issue, but rather one made up of a variety of interests and concerns.

In light of this, these findings suggest that designers should not aim to create a single, all-encompassing resource, but should instead *build strategic connections and redundancies among these resources that can support the dynamism of a public as it renegotiates and rearticulates its attachments to issues*. These redundancies make room for a *plurality* of attachments, reaching people where they are, and creating new capacities for action by linking across a distributed collective. Building out connections —and supporting diverse attachments—allows information to be accessible by multiple publics—e.g. cyclists and non-cyclists—and creates new capacities to act as different parts of the civic ecosystem interact with each other. Building on the proposed features presented above, someone who is new to cycling could access popular local routes, thereby gaining more confidence in their urban riding and becoming a more invested member of the cycling community. Alternately, a city employee—who might not be invested in the cycling community at all—could access these same data in order to optimize which public services or infrastructure need to be deployed first. Finally, those same data could be used to inform more equitable distribution of resources through fairer and more accountable decision-making processes.

4.5.2. Connecting Identities

Just as members of publics span a variety of experiences, backgrounds, and values, the tools by which they engage with an issue must include capacities that accommodate those differences. An individual may use a single piece of data in order to marshal support for the multiple, simultaneous identities they inhabit: advocating for a

bike lane does not only benefit an individual as a cyclist, but also as a driver—separate facilities actually improve the flow of car traffic—and as a citizen—multi-modal transportation infrastructure is key to transit resilience.

In this way, HCI designers and researchers must consider how to share user-submitted information in order to serve multiple advocacy goals simultaneously. The user-submitted notes on a crowdsourced map, for example, can be curated to create attachments across different specific concerns: an individual's notes can be submitted along with other users to create a common dataset useful to issues adjacent to cycling. For example, a user might record curb cuts—the sloped sidewalks that transition from sidewalk to road—to share with cyclists. Sharing that same data with accessibility advocates concerned with wheelchair access supports the advocacy work of two publics around two different—but related—issues.

Furthermore, understanding and designing for the multiplicities of identities can make advocacy more widely effective. For example, incorporating multiplicities makes for more politically viable arguments as support for one issue can positively impact multiple constituencies: building attachments via data and shared practices can support political coalition building to achieve systemic change. There is also an economic argument to be made as the same data can be marshaled to meet multiple ends across multiple sets of actors. Understanding the differences within a single public can lead to more empathetic relationships and a more holistic perspective on the different commitments and dependencies that drive engagement around an issue or concern.

4.5.3. Connecting Issues

Building on the output from the design sessions described above, this work also points to ways that tools and advocacy practices can bridge disparate issues. Here, the issue is transportation planning to better support cycling, though issues evolve over time, which require more flexible and responsive modes of governance to accommodate these changes. Here, prefiguration becomes a strong mode of interaction through which members of an affected community—in this case, cyclists—are able to deliberate within themselves to best determine how resources and infrastructures can be dispensed. As participants described the intricacies of their cycling expertise, as well as their multiple motivations for sharing that information, this work revealed to me the wisdom and resources that already exist within communities, which can be leveraged to better suit their concerns. Moreover, it pointed to some of the limitations of existing modes of governance, particularly for addressing underrepresented concerns per liberal understandings of "fairness" and "justice." From my work with Cycle Atlanta, I was motivated to look to 'alternative' modes of governance to understand how communities were trying to enact change from outside more traditional structures of policy-making and liberal governance.

4.6. Building towards prefigurative design

Reflecting on this research retroactively, I can identify some themes that affected how I thought about and conducted subsequent research, and which ultimately contributed to what eventually became prefigurative design.

The first theme connecting to prefigurative design was reconsidering the role of research participants in my work. My fieldwork showed how resourceful and thoughtful my participants were; not only did they have a strong sense of the problems their community faced, but they also had ideas for how to address them. This became apparent to me through conversations around identity, particularly the nuance with which participants described their advocacy work, taking into consideration the perspectives and concerns of non-cyclists, inexperienced cyclists, and vehicular drivers. I found myself adjusting my research methods to accommodate the detailed, tacit information my participants shared with me, which not only led to rich qualitative data, but also identified potential opportunities for future research that would not have occurred to me otherwise. By the end of the Cycle Atlanta project, I became more interested in the role of digital artifacts to *leverage existing resources and expertise within a community*, rather than trying to introduce them to new resources.

Relatedly, my fieldwork pointed to the importance of *personal experiences as data*: I had approached the Cycle Atlanta project as a way to do more traditional, user-centered research, but found that idiosyncrasies in the data were just as meaningful for identifying edges and boundaries in research assumptions. During interviews, participants often discussed their favorite locations to visit on bike, or shared stories about something unusual they saw or experienced while riding. These moments were shared when discussing the app or other digital means of engaging with the cycling community, which challenged my assumption that cyclists would primarily use ICTs for strictly practical reasons, e.g. more efficient or shorter routes to frequent destinations. These anomalous

data points were a way for me to start thinking about intentionally misusing digital tools. I return to this point in Chapter 5.5, specifically through the context of subversion or resistance, but this seed was planted with Cycle Atlanta participants describing digital tools as spaces for personal expression.

Cycle Atlanta was also formative in directing my attention to equity concerns in digital systems. Beyond the distribution of resources, participants spoke about other forms of inequity they observed through cycling and their advocacy work. For example, participants speculated how planners decided where to implement bike infrastructure, and often connected the geographic disparity of bike facilities to other kinds of disenfranchisement, such as neglected properties and prolonged disinvestment. This prompted me to better situate my research in the local histories and contexts expressed by my participants, with a particular focus on *existing inequities that might be perpetuated or exacerbated through digital artifacts*. By contextualizing oppression through legacy structures, I wanted to be more intentional about what systems to deploy through future research projects. I continued to learn about existing systems of inequity and injustice through my fieldwork with OOHA.

5.   FIELDSITE: OCCUPY OUR HOMES ATLANTA

Occupy Our Homes Atlanta (OOHA) was an important fieldsite for me as this community provided valuable insight into *alternative forms of civic engagement* that were based on shared democratic ideals of freedom and equity (R2). OOHA members expressed similar frustrations as the cycling advocates from the previous chapter insofar as they felt their needs were not being adequately addressed by civic institutions. Specifically, their work addressed legacies of racial inequality, which were exacerbated by the 2008 mortgage crisis and disproportionately affected Black communities and Black wealth. Thus, the state was positioned as an antagonist, reaffirming structural injustices and further extracting resources from underresourced and vulnerable communities in the American South. This framing was significant as it did not understand the housing crisis to be benign, but rather a continuation of preexisting forms of racialized violence and exploitation. Given that the state was the *source* of the inequity, OOHA's practices were more self-reliant and insular, relying on the wisdom and resources of their members to forge networks and relationships to resist economic inequality and struggle alongside residents fighting to keep their homes.

This more radical reframing of the breakdown of democratic institutions also suggested a reframing of how research was done in this space: as an organization, OOHA faced challenges that were often unpredictable and urgent, and additionally relied on highly constrained resources in order to address those needs. These conditions pointed to an underrepresented mode of democratic governance and civic participation that was

more *ad hoc*, less formalized, and more antagonistic than more traditional kinds of non-governmental organizations, like non-profits or advocacy groups. Thus, my research questions needed to place at their center these unique circumstances and modes of work to better understand the motivations for getting involved in such hostile practices and how more traditional digital tools and systems (e.g. social media) might play a role. Here, I adapted my research practices so I could better observe the unpredictable work of OOHA activists, while simultaneously being a stable enough presence in the organization to understand its histories, motivations, and challenges.

5.1. Site

OOHA was an outgrowth of the Occupy movement that developed in 2011 to protest social and economic inequality. OOHA focused specifically on housing justice and provided foreclosure and eviction rights education. They were driven by a belief that decent housing is a universal human right, that disenfranchised communities have the right to self-autonomy, and that politicians should be held accountable to their constituents rather than to corporate stakeholders. The tactics that OOHA deployed were often antagonistic and attention-seeking, which created a complex relationship with supporters, the public, and private officials with whom they interacted. The group engaged in non-violent direct action, such as protests and sit-ins in public spaces. These activities were sometimes illegal, but were not always intended to break the law. OOHA only engaged in illegal activities strategically to forward political causes in service of justice. OOHA's work was largely in resistance to established institutions that they saw as

major players and responsible parties with respect to housing issues (*e.g.* banks, local authorities).

The group was a rich research site because of the unique role they serve: their strategies were deliberately enacted in what they refer to as "the public court." They conducted their work publicly, rather than through less visible services that might be directly provided to home owners at risk of foreclosure and eviction. This approach was based on a commitment to creating an infrastructure of engaged and informed citizens inspired to take action in instances where institutional politics had failed. In addition to embodied political action on the streets, much of OOHA's work dealt with information gathering and management: their protests were in direct response to exploitative—in many cases, illegal—and generally invisible actions taken by banks following the housing-market collapse [43]. The banks that OOHA confronted were large, established institutions, that had a vested interest in making invisible the knowledge about their unjust practices: it was the predatory practices of the banking industry in the late 2000's that motivated the group to engage in direct action.

5.2. Method

I spent over a year and a half deeply involved with OOHA, participating at least three hours a week in organization meetings and protest events. During this time I conducted ethnographic fieldwork and documented my observations and participation through extensive field notes and memos [246, 248]. Some of this fieldwork was done with a former colleague, Sarah Fox, and I am indebted to her for her guidance and

support during these early research efforts. During time spent with OOHA, research was done through: design workshops to explore specific questions of technology use [7]; action research in the form of in-kind design work (*e.g.* flyers, infographics), archival work (e.g. internal documentation, like by-laws, codes of conduct), administrative work (*e.g.* note taking, data entry), and skillshares (*e.g.* tutorials on how to use social media, volunteer training); participant observation through attending major actions, such as marches, court auctions, and press events. The time spent with the group has offered insight into their organizational norms, motivations, and the activists' perceptions of their own work [7]. Below I describe some of the observed digitally-supported practices in light of the group's stated political goals and the two categories of work that supported their activism, one of which was more banal, and the other occured in moments of crisis.

We began early research with the group by facilitating design workshops, which were meant to probe activists about their own technological goals and expectations while researchers gained insights into their various concerns and practices. These workshops were speculative in nature, drawing from critical making methods [7, 223] to gain insider knowledge and motivations through tactile crafting and physical prototypes. Building on Ratto's work, the design workshop began with some discussion of existing digitally mediated activist practices, which scaffolded a brainstorming session on the potential role that imagined technologies might play in supporting their work. This workshop was repeated twice: the first was done with OOHA (co-facilitated with Sarah Fox) and the second was done with a group of activists from different backgrounds through a session at the Allied Media Conference (AMC). AMC was a national conference dedicated to

media practitioners and grassroots organizers who use media to advance their justice-oriented work. As such, the workshop at AMC was helpful as participants created prototypes that echoed common concerns and practices in their own kinds of justice work that affirmed themes that emerged from our OOHA workshop, which was focused on the group's housing justice work.

These workshops were valuable for understanding the general landscape of information and knowledge management practices in activist contexts, specifically during moments of crisis during protests or direct actions. I was particularly interested in the specific information needs and information sharing practices during a protest and pursued that as an under-explored venue of collaborative work. It is important to contextualize these more urgent or 'rapid response' practices, which are intricately connected to and part of OOHA's work outside of actions; these two kinds of work are both integral to their civic work. Below, I document these various information practices observed and that were described to me during my time spent with the group. I describe three activist information practices—situating, codifying, and scaffolding—and describe them within the context of rapid response work and the more banal activist practices (more akin to community organizing) to advance what one activist called the 'long game.'

5.3. Activist Information Practices

5.3.1. *Rapid response*

Rapid response work refers to the more urgent practices needed to respond to a crisis. For OOHA, these crises were often due to residents being evicted from their home. Below, I describe activist information practices as I observed them during a 6-hour window from a resident eviction. This intentionally narrow timeframe shows the density and complexities of activist practices, as well as the heavy cognitive load and foresight required ahead of time to facilitate less tumultuous rapid response work.

5.3.1.1. <u>Situating</u>

ICT use in the service of *situating* entails the strategic positioning of resources in order to broadcast information to audiences outside the housing justice group. Specifically, OOHA activists typically used ICTs to *situate* information strategically to reveal counter-narratives and underreported information. Researching and disseminating this knowledge created an argument about the resident's individual eviction within the context of the larger housing crisis and situated this immediate work within the broader scope of their other activism. Part of the group's work writ large was making transparent banking practices that were viewed as exploitative; this information sharing practice typically dealt with financial information from banks, deeds and related ownership documents, or internal organizational structures that could identify accountable parties.

Situating practices played a much more pointed role on the day of the eviction protest because it set the context for the action itself: ICTs were used to uncover and share what the group argued to be predatory banking practices, which showed what led to the eviction of that particular resident that day. The motivation behind this was the hope

that it would create a powerful statement and act as a compelling call to action for others to join the protest and the organization's longer-term work affecting housing policy and institutions. Searching for information and making it public may resemble research practices in similar organizations, like advocacy or policy groups, but a key distinction was that OOHA activists believed institutions were deliberately hiding information; revealing these bodies of knowledge was what justified and legitimized the group's actions, which were commonly seen as hostile or antagonistic. It was the severity of the hidden information—both the efforts in keeping it hidden and the gravity of the exploitative practices themselves—that directly informed why the group felt it necessary to take any action at all.

During the eviction protest we observed, the activists used Twitter to communicate general updates about the individual resident's eviction. The updates themselves were not a unique use of Twitter, but the group did take advantage of the affordances of the medium in order to craft a particular argument about the protest to other audiences. The rhetoric heavily relied on the Twitter feeds of affiliate housing justice groups, as well as an intimate knowledge of the content of affiliate group feeds, such as Right to the City or the Home Defenders League (HDL). HDL is a national organization working with smaller scale groups to offer strategies and tactics for defending homes. They can be seen as more of an advocacy group that deals in bureaucracy and policy changes rather than direct action. Their feed combined different kinds of knowledge around the same topic and incorporated different modes of information delivery, including Facebook pages, MSNBC video clips, New York Times

news articles, economics blogs, and a widely used progressive hashtag. The hashtag use can itself be seen as a kind of situating practice, but one that is built into Twitter itself and does not deeply engage with the affordances of the medium. The HDL feed already participated in a process of revealing and informing; this is key to understanding the role of situating during the protest action.

Figure 11 – The tweets on the OOHA timeline show how information was intentionally situated for impact.

Consider the tweets in Figure 11. The argument created through the tweets is through juxtaposition: the resident's eviction was framed as part of a national crisis, which was a direct result of the practices of large banking institutions. The rhetoric afforded by the Twitter feed is possible because the activist tweeting on the ground was intimately familiar with the HDL feed and its contents: by her own admission, posting on Twitter the day of the eviction was almost entirely driven by the certainty that it would be retweeted by HDL and similar groups. This did more than just boost the signal of communication going out from the protest: it leveraged online content strategically as a way to situate the resident's individual eviction within the larger context of housing justice. The on-the-ground updates showed some of the very material, embodied impacts of the crisis (images of personal belongings thrown on the lawn, crowds of supporters, etc.), but also the more factual, data-heavy tweets from affiliate organizations demonstrated the vast scale and magnitude at which housing injustices occur.

The situating process is not without its stipulations: when it is not made explicit what information can and cannot be shared, situating can fail and effectively work against the group. During the action, a non-member was present with a video camera livestreaming the day's events. It was discovered that he had posted sensitive, internal material online and energy had to be diverted to redact the information and do damage control. In that moment of recovery, it demonstrated how important curation was for this

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practice: situating can be counter-strategic and potentially dangerous (e.g. revealing personal information) if the group's boundaries are not closely and intentionally maintained.

5.3.1.2. Codification

Codification refers to the ways group members tailored their communications to different audiences; this act of translation ensures that specific bodies of knowledge were directed to meet particular ends. While there were a few OOHA members who had participated in similar eviction actions previously, that knowledge still needed to be distributed in some capacity to the other volunteers and supporters. Codification made it such that people who were present learned practices that could then be adapted to best reach different recipients. On the day of the action, this took the form of political solidarity; volunteers recruited people to be physically present at the residence to offer support to the resident and to shame impending authorities into not carrying out the eviction.

Supporters at the eviction were given a standardized text message to send to their contacts and a general script for voice conversations to invite people to the residence. Beyond the script, however, there was some instruction as to the subtleties of recruiting: there were a number of factors that would impact how politically palatable the call would be, such as the strength of the relationship with the caller and the respondent's political persuasion. The activist leading the *ad hoc* training on-site claimed that the most influential factors was the selection of communication technology.

As seen in the previous section, Twitter was used to broadcast a blanket invitation for affiliate groups to signal boost. However, this was described to be helpful as a way to share counter-narratives, but less effective as a means to achieve direct, on-the-ground participation. The recommended modes of communication at that time were text messages and phone calls; the decision to use one over the other was complex. Some contacts preferred entirely text-based communication, so a phone call might potentially backfire; some volunteers thought that, in this context, a phone call would impart a sense urgency, which would better garner political support. Some group members, having engaged in recruiting before, were familiar with rebuffs and shared with the group some tactics for preempting negative responses. Text messages might be more effective with people who were ideologically aligned, whereas phone calls were a medium better suited for having conversations, like explaining the unfairness of the eviction or the importance of having physical presence at the house.

In addition to phone calls and texts, volunteers were encouraged to share with their Facebook networks a member-created image macro, a short caption (typically white, bold, sans-serif text) superimposed on an image. The genre is typically humorous or witty, historically drawing from early 2000s meme culture such as lolcats. OOHA had often co-opted macros as a form of broadcast information, though they typicaly relied on the image to communicate irony or satire rather than humor. Memes were described to be

a helpful tool to communicate brief information quickly, and there was care taken around when they were deployed as the ironic tone could have been seen as inappropriate given the gravity of evictions and broader housing-related injustices.

Figure 12 – This meme was created on-site at the resident's eviction and scaffolds instructions for how to participate in a phone campaign.

Figure 12 offers another mode through which volunteers tried to recruit supporters at a different scale than phone calls or text messages: a posted image on Facebook reached a larger audience at once. The image tactic casted a wide net, like Twitter, but activists suggested that Facebook readers would have stronger relationships to the resident and the action. The existing relationships and/or social capital of the on-site volunteers were thought to improve the likelihood of the meme encouraging people to garner support in varying capacities (*i.e.* making a phone call, sharing the image, showing up at the residence). The hope was that the digital affordances of Facebook would spread the meme to people who may be politically or ideologically aligned with the eviction or the issue and would engage them to respond to the meme and spur some form of action.

The challenges of codification can be attributed to the speed of communication afforded by each technology: if a volunteer was prompted for more information than she had been given by a more experienced member of the group, the conversation falters and the communication structure begins to break down. This has severe implications when trying to build community support for the resident. If the distributed knowledge was not

enough for the volunteer to be persuasive in a conversation, the entire action was impacted. A lack of information might demonstrate ignorance about the subject, lack of dedication to the cause, or—worse—might result in misinformation, defeating the driving force behind codification efforts entirely.

5.3.1.3. Scaffolding

Scaffolding refers to ICT use that creates space for non-group members to participate without prior knowledge of or history with an activist group. The motivation behind this observed practice was to strategically distribute information via ICTs so that people who were politically aligned could participate in the group's actions without being physically present at the residence. On the day of the action, scaffolding was intended to harness the momentum of allies, community supporters, and affiliated social justice groups so they could take action for and with the resident with minimal delay and through various capacities.

The aforementioned image macro was not pre-planned, but was created at the residence after the action had already started. The creator of the macro stated that her intention was to broadcast eviction information to as many people as possible in hopes they would take up the call to action and help save the resident's home. She also explained that she opted to use a meme in spite of its reputation online (*i.e.* as a visual punchline) because "it worked." The creator explained the different ways in which Facebook, as a platform, offered the most opportunity for reach and visibility. Visually, the macro used a striking image, which was an effective hook into the textual content. A

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mundane 'like' on the image was meaningful to the resident and was seen as a form of emotional support or political solidarity. The image also communicated more than a text description of the event—it was affective as much as it was informative—which the creator hoped would lead to it to be shared more widely. She described the 'share' function as relatively user friendly and requiring minimal Facebook expertise. Scaffolding was incorporated into the image through multiple layers of invitations: as posted via Facebook, the image was a link to a wall post on OOHA's Facebook page that explained the details of the resident's eviction. The macro was also an invitation to multiple forms of action: in addition to Facebook's 'share' feature, there was a script provided in case someone called the Fannie Mae phone number. There were also links to the resident's online petition and various blogposts about his story leading up to the action, both of which could have been 'liked' or 'shared.'

The ultimate goal of using ICTs during the action was to draw out more people to support the resident in person during the eviction process. The scaffolded Facebook macro, however, provided some flexibility to allow for varying kinds of engagement: whereas the codified Facebook macro relied on existing resources (*i.e.* the strength and closeness of interpersonal relationships), the scaffolded image operated autonomously and allowed for supporters to participate in the action remotely without prior training or needing to be assigned tasks. The posted image on Facebook was a way to instrumentalize political support and resulted in a high post reach and an organized campaign to flood Fannie Mae with phone calls voicing support for the resident. To date,

the macro reached 359 people and has 182 comments, 317 likes, and 2,893 shares, compared to the 50 or so people who were physically present the day of the eviction.

5.3.2. *ICTs for "The Long Game"*

OOHA drew from its roots in Occupy insofar as it believed in the strength of public demonstrates and on-the-street protests to build support and draw attention to housing injustice in the city. However, it also dedicated a lot of its efforts into its more banal practices, such as raising awareness, educating folks about housing injustice, and doing outreach to build a stronger and larger membership. These practices were more like traditional ICT-supported office work, and included activities such as fundraising campaigns, public pressure campaigns, and reporting back about past protests and broader organizational work to maintain membership. Below, I describe some engagement practices I observed that did not take place during protests; I situate them within the technological use themes above to draw parallels across both kinds of work, both banal and in crisis. These commonalities show how these practices support each other to work towards "the long game" of material institutional change.

5.3.2.1. Situating

ICT use in the service of *situating* entails the strategic positioning of resources in order to broadcast information to audiences outside the housing justice group. Specifically OOHA activists typically used ICTs to *situate* information strategically to reveal counter-narratives and underreported information. Typically, I observed OOHA

folks also using text-based media to do this work, including Twitter posts, Facebook posts, and email newsletters. The organizational approach generally relayed two kinds of content: data-heavy information and personal narratives. The group described the former as content that made them look "legitimate," which increased their appeal to wider audiences. By deferring to "data," they hoped their work would gain some credibility and act as an entry point to discourse through reason and objectivity. Activists situated information by sharing similarly unjust housing data from other cities or sharing local housing data for allies to use as evidence to their legislators. Personal narratives were seen as an important way to situate the broader housing crisis within a more local context; per [64], it was an entry point for people to make sense of structural dynamics and institutional injustices through the details and narrative arc of an individual account.

5.3.2.2. Codification

Codification refers to the ways group members tailored their communications to different audiences; this act of translation ensures that specific bodies of knowledge were directed to meet particular ends. I often observed activists codifying their messaging by sharing scripts or talking points on Google Drive. Scripts would be organized by the audience meant to read them, such as members, non-members, press, etc. They were also organized by location, such as local, regional, or national. This ensured that information was appropriately codified for tone and content: information about the same event or campaign would be tailored to include more or less context as appropriate. For example, to codify information about a resident who was recently evicted, a national press contact

might not be as familiar with the different county sheriffs in the metropolitan Atlanta region. By contrast, it might be strategic to include these details in messaging to metro Atlanta homeowners so that they can vote against them in upcoming elections, contact them to apply pressure around an upcoming bill or policy decision, etc. By storing these documents in an organizationally shared online space, it can encourage some consistency across communication strategies for different political goals.

5.3.2.3. <u>Scaffolding</u>

Scaffolding refers to ICT use that creates space for non-group members to participate without prior knowledge of or history with an activist group. Both social media and Google Drive were important to scaffold information for new OOHA members as they functioned as an organizational history and archive of past tasks and practices. For example, early in my involvement with the organization, I was given access to the shared folder containing the talking points mentioned in the previous section. I was helping proofread a press release, but was also encouraged to look through other materials (e.g. press releases from past actions, newsletters about similar actions) to 'do my homework.' Similarly, OOHA members frequently referred to past posts or activities on social media as examples for newer members to refer to when crafting messaging or content. Internal and historical information were scaffolded through Google Drive and social media platforms via their shared access and availability to past documentation.

5.4. Activist Design Orientations

As detailed above, there are unique constraints that activists face that makes their political work different than more traditional advocacy or public service work [35, 247]. These constraints must also be incorporated into the design of tools meant to be used by activists. This poses a complex challenge: how can a single design encompass all the *ad hoc* practices an activist might resort to for their kind of unpredictable work, both banal and in crisis?

As mentioned above, designing systems to support more banal activist work might pose similar challenges as designing for traditional office work: practices are dynamic and emergent, environments are contingent, and plans must be tailored to the specificities of each use case. However, because of the unpredictability of housing justice work and activism writ large, OOHA faces unique challenges in trying to do their particular kind of democratic work. Returning to van Dijk, his participatory democracy model assumes that information is freely available for a polity to self-inform [120]. However, the situating example above demonstrates that what constitutes 'knowledge' is contestable and can be interpreted to have different implications for civic work, such as the role the banks played in the housing crisis. It is not enough to design a system for activists that reveals information, but it must also be assembled and contextualized. These counter-narratives are crucial for activist work as they must be legible and credible enough to challenge the dominant, hegemonic narrative, while also set the stage to invite further participation and action around the issue at hand (i.e. scaffolding).

Additionally, activist work relies on *ad hoc* practices and quick responses: the Facebook macro would not have been as impactful had it been posted the day after the eviction, for example. This environment of unpredictability refuses system designs that rely on stability and persistency.

Rather than try to force structure onto the inevitable uncertainties of activist work, designers of activist ICTs should embrace these inconsistencies. It would be more beneficial to design for existing activist practices instead of imposing design onto activist communities. This reorients the typical design process: instead of identifying particular activist-specific problems (*i.e.* to solve through design), how can we design infrastructures to support an activist context? I argue for a move away from artifact- and outcome-centric ways of thinking about designing systems for activists. I instead propose *flexibility* and *process* as two examples that do not prescribe specific solutions or artifacts, but suggest approaches that can better support activist work.

5.4.1. Flexibility as an Activist Design Orientation

Flexibility affords a less rigid relationship between how something is *designed* to be used and how it *might* be used; designing towards flexibility is to cultivate more of a possibility space to encourage creativity and interpretation. Thinking beyond outcome-oriented design, Gmail's delegation feature is an example of a more flexible approach: one Gmail user can allow another access to their account such that the chosen delegate can view and send email from the delegator's email address. The delegation feature is specific or detailed enough to center on a particular goal or value—such as efficiency or

collaboration— but caters to certain *circumstances* that might suggest how the feature is used, like constant absenteeism or distributed communication responsibilities.

I draw a parallel to Bill Gaver's work when designing for ambiguity [102]. Gaver argues that the design of artifacts can be intentionally vague to be provocative and engaging: a product can draw attention to inconsistencies, which resists a transparent or legible reading and in turn encourages users to be reflective and thoughtful. This approach would be beneficial to activists if there was a move away from the construction of artifacts and ambiguity was instead treated as a kind of design logic. Instead of an activist using ambiguity in a system to arrive at a conclusion or form their own interpretation, I encourage ambiguity as a means to communicate an *argument*, much like the strategic use of Twitter and its retweet mechanism. I observed many instances of information gathering during the protest, but it was not until it was synthesized—that is, finding the ambiguities in the knowledge and leveraging them to create arguments—that the information became valuable and instrumental. In Gaver's work, ambiguity was an attribute designed to create particular interactions between the user and the artifact [102]. To design with flexibility in mind, I argue for ambiguity between different components or interactions, which creates space for activists to use a system for their own purposes, rather than a prescribed one.

5.4.2. *Process as an Activist Design Orientation*

Process refers to designs that operate more like a platform than a single, deterministic service. This approach emphasizes the relationships between and

integrations of existing components, rather than individual components themselves. An existing example might be IFTTT (If This Then That), which links various services together: the platform relies on actions and triggers in order to connect and enable various web applications. For example, if a photo is posted to Instagram with a specific hashtag, that might trigger an automated post to Facebook and Twitter simultaneously, which would reduce labor spent on menial online updates when urgency is required elsewhere on the ground.

The emphasis on generative interactions invokes Björgvinsson, *et al*'s framework for participatory design: they argue that design should be a process of democratization by pursuing ways to "organize milieus for innovation" [23]. Activist work could benefit from specific services that afford them more agency and control, but the activities would still be confined to the parameters and constraints of the platform. This kind of logic could be seen through the use of the Facebook meme: the activist acknowledged the limitations of the platform in communicating the group's message, but was also savvy enough to leverage its different features (*e.g.* sharing, liking) to garner multiple kinds of support for the resident in a time of need, resulting in a dynamic that supported multiple forms of participation (*e.g.* political, emotional, organizational).

These two approaches might be at odds with particular values held by an organization—such as privacy concerns with flexible design—so they should not be applied indiscriminately. Instead, these approaches should be implemented within the context of a specific group's practices and values. We focus on process and flexibility as

ways to better support activist work through *under*deterministic design. Dourish points out that people do not encounter technology as designed rather but situate them into practice [77]. Indeed, this appropriation is the basis of activist work and should inform the design work that is done with or for activist communities. When designing systems to support activism as a kind of collaborative work, didactic principles, guidelines, or frameworks are overly prescriptive and would not adapt well to the fluid nature of their work. I encourage thinking beyond deterministic outputs to reconsider how ICTs might better facilitate existing activist practices to work more towards democratic principles rather than explicit and specific results.

5.5. Building towards prefigurative design

My work with OOHA was extremely influential for my broader approaches to research and design. Firstly, it drew my attention to the *stakes of doing political work* outside the status quo: OOHA's on-the-ground activism was a stark contrast to the policy work that cycling advocates described in many ways. Firstly, the conditions of conducting fieldwork were often unpredictable as resources were extremely scarce. Where previous fieldwork took place in meetings and offices, OOHA work sometimes took place in family living rooms, and almost always took place outside of traditional business hours. These measures were necessary as OOHA members were largely unpaid volunteers who took on this work because the organization was the only option for folks experiencing certain kinds of housing crises. This influenced prefigurative design by affirming the importance of *placing participant experiences at the center of the research*: as an embedded researcher, I was not impacted by

the outcomes of my research in the same way that OOHA member and residents were, so I adjusted my research practices to prioritize their needs and concerns to *minimize the risk of inflicting harm through research intervention*, especially given the precarious positions of many of the residents.

Observing OOHA's radical work was also significant for prefigurative design as it made material the limitations of existing mechanisms of civic engagement, which necessitated alternate practices to collaborate, such as solidarity and mutual aid. On the macro level, the failure of multiple civic institutions led to large numbers of individual homeowners experiencing housing instability and financial turmoil despite their compliance with banking and housing policies. On a more local level, homeowners could not address these injustices through these same structures as legal action often moved too slowly to evade eviction or accrued even more debt for the homeowner through legal fees and representation. As a result, OOHA members heavily relied on each other (as well as allies from coalition groups) to do their housing justice work, which could not be supported through more traditional means, such as grant money or state funding. I observed acts of mutual aid as OOHA members shared resources such as personal vehicles, office space, and social capital in order to support each other through various housing campaigns. This also manifested through skillsharing, which I used as an opportunity to incorporate mutual aid into design interventions. With consent from OOHA members, I deployed digital prototypes and facilitated internal organizational processes to teach OOHA members various digital skills (by request). In this way, I was practicing different strategies to *leverage research practices as forms of solidarity* by using design methods to address organizational needs; as I inquired

into different uses of ICTs within the group, I did so by working with more experienced members to share organizational knowledge with newer volunteers [109].

Moreover, observing OOHA members use ICTs to respond to these crises put into perspective the stakes of using digital tools for these non-traditional kinds of political work. In the same way that OOHA members could not rely on formal institutions to address the foundational housing needs of residents, OOHA members could not rely on a single digital system or tool to support the complexities of their more radical work. Like the scaffolding example described above, OOHA's use of ICTs had to do different kinds of work simultaneously as they used different systems and tools *ad hoc* to best suit their needs at a given moment. Continuing a theme that started with Cycle Atlanta, it became crucial to leverage existing resources within OOHA as organizational resources were so scarce: activist practices were rich for learning about their strategies to manage resources, but they also pointed to ways that ICTs might exacerbate these concerns. For every digital tool or practice introduced by an OOHA member, it also *imposed the need for additional training, maintenance, and support*, which detracted from their abilities to address crises. This observation made me aware of the added labor imposed by digital systems, which influenced prefigurative design by opening up framings of design interventions to include non-digital artifacts, skill development, or internal organizational processes (e.g. for more efficient communication or information management). This is important to acknowledge *the very real labor my community partners were already putting into their work*, and to be intentional and reflective around research interventions that were meant to help them but could potentially impose other forms of harm or oppression.

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As I observed these more urgent moments in OOHA's work—and participants shared the emotional and physical tolls the work took on them—these also impressed on me the importance of sustainability: OOHA was doing activist work long before I started to do research with them, and would continue that work after I had left. As such, it was important that *my research respond to their practices*, rather than the other way around. Because of the urgency of their work, as well as the significant impacts described above, OOHA members did not have as much capacity to contribute to my research in terms of effort, time, or resources. This shaped my work with them as I had to ensure that any interventions or digital tools met the capabilities of the group members: they did not have the time or energy to learn new software when there was so much urgent work to be done. Additionally, it would not be appropriate to deploy custom software or tools with the group as I could not reasonably maintain any systems after the conclusion of the research project. Many of my interventions with OOHA relied on cobbling together digital systems they already used and codesigning internal processes. These processes were meant to support existing practices to build organizational resilience and capacity so OOHA could better respond to moments of crisis and could more effectively work to sustain "the long game."

Finally, I return to Chapter 4.6 where I started reimagining digital systems as less rigid, looking for space for expression and creativity. I observed OOHA activists subverting digital systems and coopting them to better suit their changing needs, which suggested to me that prefigurative design should be similar flexible, encouraging *underdetermined designs and systems* that can accommodate community practices as their work changes and, again, without relying on designers or researchers as gatekeepers. These designs would operate

more like platforms rather than tools, resisting overly prescriptive uses to leave space for

emergent practices. I wanted to focus on this flexibility through future research, and return to

this point in Chapter 7.6.

6.   FIELDSITE: ATLANTA COMMUNITY ENGAGEMENT

PLAYBOOK

This fieldsite was where I began to intentionally engage with prefiguration through my research. With OOHA and Cycle Atlanta, I had learned about different practices for enacting radical social change: with the playbook project, I sought to try and model change through prefiguration. This project was a way to explore *the role of prefiguration in design research* (R3), specifically to try and center participant needs by creating counter-structures. Like my work with OOHA, the playbook project was a valuable space to understand the importance of lived experience: through our design workshops, participants described long-term civic breakdowns through their personal and community histories. Here, building on my work with OOHA, the expertise of the community became a source of richness, both articulating the more just future they envisioned for themselves, as well as providing the material through which we could design interventions to move toward that future. The playbook became a physical artifact through which a counter-structure was articulated and alternate social relationships and civic practices were shared across various municipal stakeholders and residents.

6.1. Site

This fieldsite was part of a larger, year-long research project led by my advisor and my brief participation in it was an opportunity to put to practice my theoretical understanding of prefiguration, and to do it in conversation with design strategies. The

broader research project was an explicit collaboration between Georgia Tech researchers, the mayor's office, and specific city neighborhoods to acknowledge and address historic and sustained disenfranchisement from civic processes. Specifically, a stadium was built via opaque processes that did not appropriately include or consider the needs and concerns of the affected communities and residents. This playbook project was an important acknowledgement of those failed community engagement processes and a means to try and repair those for future urban projects.

The playbook was meant to serve as a locally rooted guide, describing both the obligations outsiders have when approaching a community and the responsibilities communities have once approached. While the initial motivation for the playbook was to produce a corrective artifact following the breakdown during the community benefits process, there was a mandate from the Mayor's Office to produce something that would be useful more generally as several of the city's neighborhoods were facing similar challenges managing changing economic conditions, redevelopment, and gentrification. An organization called the Living Cities Initiative (LCI) led the charge on this initiative by inventorying local and existing assets, including service groups, faith-based organizations, service providers, public agencies, and non-profit organizations. That inventory set a foundation for starting to address and correct current civic breakdowns by acknowledging that there were cultural, historical, and economic dynamics at play within these local communities that were meaningful and impactful, despite not having been previously included. It was also an important step in acknowledging the fraught political dynamics that underscored the stadium project: the community outcry was not about the

implementation of a structure, but the sociopolitical and economic ramifications that would be felt across the neighborhoods as a result, impacting housing markets, job opportunities, resources allocated for infrastructure improvements, and other civic systems, resources, and infrastructures.

It is important to contextualize these failings within the history of the city: the stadium process was not apolitical. While the stadium was not the first instance of a public development project gone awry, it was not just the result of miscommunications or engineering processes that inadequately accommodate public input. Specifically, the failings around the stadium process were fraught with the sustained and historical disenfranchisement of majority Black neighborhoods, which have always been entangled with the urban development history of the City [149, 210]. This context is especially important to consider around the playbook process because it was an experiential lens through which many of our participants spoke from and acted around. These locally entrenched patterns were a major factor in the power dynamics in our workshops—we were essentially asking participants to participate in yet another public deliberation process *about* public deliberation processes. This context was extremely valuable as it heavily informed our approach to our design work: knowing the failings of the past was key to creating new processes that would explicitly address them.

The playbook project was a rich site to deploy prefigurative design as it was already so strictly structured: there were already expectations to participate in ongoing processes and meetings was a good opportunity to—as informed by prefigurative politics

—try and create alternate and better meetings. That is: re-designing the playbook process was a way to experiment with counter-structures and put to the test some of the theoretical frameworks around which I was speculating.

6.2. Method

In order to develop a playbook that would reflect the broad range of experiences and needs of community stakeholders—and that would be relevant to a staggering range of professional and administrative practices across city departments, service agencies, and active non-profits—we developed a multipart design intervention around the playbook. The process involved: interviews with community members, a more public 'solution session, a series of working sessions, and a public playbook launch. I was involved with all stages of the design process *after* the community interviews.

The first part of our process involved collecting interviews from representative stakeholders in both the target neighborhoods and across city government and other public or quasi-public entities with official responsibilities, projects, or programming active in the area. To collect the interviews, we recruited community members from the five target neighborhoods and provided training and equipment so they could interview fellow residents about their experiences with the city—everything from dealing with the day-to-day operations of waste management, watershed, and public safety, to specific development projects and longer histories of engagement around economic and social mobility. Altogether, eight community members interviewed forty other residents about

the current state of community engagement and their experiences with the many forms of outreach, communication, and collaboration different city agencies might engage in.

In parallel, members of the research team along with two additional community members interviewed forty-two municipal employees and officials about their community engagement practices. These interviews focused on the kinds of projects that involved different forms of community engagement and details about how those different kinds of engagement practices were brought to the public and, in particular, to the residents of the five neighborhoods.

Collectively, these interviews formed the basis for both a large-scale public event we called the "Solution Session" as well as a series of working sessions that followed. Together, these events were conducted in order to understand the challenges and breakdowns of community engagement and to develop a set of shared expectations and obligations.

6.3. Designing for Digital Civics

The playbook we developed, and the collaborative process that produced it, provides a roadmap for thinking through the kinds of systems that might populate the design space of city-scale digital civics. As a fieldsite, it was a good opportunity to revisit and reimagine some of the civic processes and interactions I had experienced through earlier fieldwork, specifically through Cycle Atlanta. Whereas Cycle Atlanta work was formative and important, it was more squarely situated within more traditional digital

democracy, which was more rational and deliberative, and contained precisely the processes and practices that led to failing the communities we were working with for the playbook. A turn to digital civics gave us some tools by which we could start to reimagine these civic processes.

Digital civics, as it has recently emerged, is an evolution and synthesis of research in community informatics, digital democracy, and smart cities that looks explicitly at the ways technology mediate the range of civic interactions. By taking a longer view of civic interaction, it moves beyond models of rational deliberation and discourse present in community informatics, past the support of democratic rituals present in digital democracy, and through the transactional assumptions underpinning smart cities. Instead, digital civics focuses on the relational elements comprising the fundamentals of civic interaction [222]. As such, it opens a more comprehensive approach to designing for civics, one that seeks integrative design efforts that treat civic interactions not as siloed encounters with particular entities, but, like user experience, one that pervades across all touch points of civic life.

In a move beyond the privileged and professionalized versions of democratic participation, digital civics seeks to understand and design technologies for a wider range of civic interactions and experiences. There are two key elements to digital civics. The first is a turn to participatory systems. These kinds of systems and experiences provide an encounter with speculative future worlds that, according to McCarthy and Wright [222], enable "an open, empathic, and critical questioning relationship... [that] construct[s] new

imaginaries through mutual learning." Digital civics seeks to enable this mutual learning and transformation by engaging in conflicts and counter narratives [222, 266]; it also points out that the transformative nature of participatory systems deployed for civic purposes is felt incrementally rather than immediately.

The incremental impact of participatory systems leads to the second element of digital civics: a shift from transactional to relational interaction [222]. By attending to the relations that underpin our civic lives, this work continues to try and open the design space to include novel modes of public participation, especially those produced by activism [9, 35]. This shift from transactional to relational interactions confronts the assumptions that government, or city (as a unitary entity), is simply engaged in *transactions* to *service* constituents. Instead, it enables us to begin to view governments (local or national) as *composed* through *relations* with constituents. Further, it is precisely these relations—not the deliberative transactions—that matter most in day-to-day civic life [222].

It is precisely these relational and reflective interactions of everyday civic life that Korn and Voida have begun to animate in their outline for friction as an important design frame for civic systems [154]. Instead of focusing on the privileged moments—voting, council meetings, public hearings—they bring to our attention the ways in which civics, and the community engagement practices it comprises, span multiple sites and are enacted at multiple scales. What follows is an account of our design-led intervention to bridge these sites and scales. Just as service designers recognize that the way to

understand large systems is through the touch points we have with them [266], we have set out to map and inform the many civic contact points in our urban setting by designing a comprehensive guide to community engagement meant to be relevant both for city residents and for the different kinds of organizations and institutions that make up a diverse civic landscape.

6.4. Processes for Friction-ful Community Engagement

The goal was to design for a generous definition of community engagement—one that derived from the experiences and desires of community members and also included interactions with elected officials, municipal departments, public agencies, non-profit service providers, community associations, and resident-led civic organizations. Throughout our process, we attended to the challenges of designing for community engagement across the scales and sites of interaction between government and communities, including: time, geography (space), neighborhoods (place), socioeconomics, and the breadth of civic actors involved. Below I provide some operational details about our multi-step design intervention, including motivations behind our design decisions, how we responded to participant engagement, and how we incorporated the neighborhoods' histories and contexts to try and create a more meaningful counter-structure for community engagement.

6.4.1. Solution Session

The solution session was a large public event attended by approximately 100 people composed of residents from the impacted neighborhoods as well as municipal employees. The goal of the event was to juxtapose the main challenges that the city was facing against the issues with which the community was dealing. To do so, we provided a set of scenarios taken from the interviews that described either community resident experiences when approached with engagement or the experiences of municipal employees when trying to engage. We then had attendees identify the community responsibility in the scenario and the municipal (or service provider) responsibility in the scenario.

The responses we solicited asked attendees to define priorities and formulate clear, specific actions that either city officials or community members should take to resolve breakdowns more adequately. The actions that attendees documented established a system of ground rules to achieve a desired end—good community engagement—and to help bridge the gaps between the experiences municipal employees or community members had in the past with the engagement experiences they wanted to have in the future.

By focusing on specific scenarios and asking session attendees to think through shared responsibilities, we were working to create an environment that both acknowledged the distrust and skepticism from decades of strained relations while illustrating how the underlying breakdowns were not the result of individual malice or neglect, but from both the city and the communities working from systemic constraints

deeply rooted in complex racial and economic histories. Ultimately, we wanted to make the social and organizational infrastructure of community engagement visible so that we could then set about reimagining how that infrastructure might be created to support the desired experiences, processes, and outcomes expressed throughout the evening.

6.4.2. *Working Sessions*

Over the next nine weeks, our research team hosted eight two-hour working sessions with a group of residents, city employees, and project personnel. Each working session was composed of five to eight community members who responded to our open invitation to participate at the solution session. In total, twelve different community members attended at least two working sessions and a group of four individuals attended four or more meetings. At least two community members were present at each gathering.

The working sessions—hosted in two accessible locations within the community— were developed to establish a shared definition of community engagement grounded in the experiences of residents and municipal employees. Each session was structured to identify and co-develop the core principles of the playbook and to create and refine the content of each play.

6.5. **Early prefigurative design**

The modes of collective engagement described above pointed to the boundaries and limitations of current digital democracy practices that rely on rational and deliberative frameworks. The messiness and contention—the righteous anger at injustice—that

motivates widespread engagement is not a measured enactment. It requires social capital and tools for managing a diverse set of relations [62]. Instead of transactional services and practices—the exchange of information or resources for others—I argue that the relational nature of digital civics—that is, *the accumulation and strategic alignment of information and resources*—points to a wider spectrum of civic practices benefiting existing work, organizations, and initiatives.

The work of alignment—finding opportunities for mutually beneficial work—echo models of civic interaction found in radical activist and organizing literature as discussed in Chapter 2. Specifically, these point to autonomy and coalition building, two core anarchist principles. Here, autonomy refers to the agency to pursue work within an organization or movement that speaks to an individual's interests. Coalition building refers to the practice of multiple organizations collaborating to advance similar goals. In the same way that concepts discussed above seek to expand the boundaries of civic action, prefigurative politics "express[es] the political 'ends' of their actions through their 'means'" [53]. If organizers envision a more inclusive future society, they incorporate more equitable practices in the present in anticipation of that future.

We can begin to imagine a corollary to prefigurative politics through a notional prefigurative design, where design work that is explicitly oriented in service of political or civic goals does not only articulate or represent these goals as design objects, and instead *structures design processes to do the work of trying to actualize them*. This stands in contrast to human-centered design practices which position themselves outside the

frame of use—experience, use, and values are extracted through an attenuated design process as raw material to inform the design. Prefigurative design, on the other hand, exists within the design frame and enacts the experiences, uses, and values in the design *process* rather than only in the articulation of the system or artifact.

The design work we have presented here follows the traditions of participatory design with some affinity toward speculative design. From the former, it borrows the mechanisms of stakeholder participation and collaboration to build outcomes that both reflect and benefit those involved in the process. From the latter, it borrows the vision, creativity, and radicalism of imagining and creating an alternative future. Returning to the anarchist roots of prefigurative politics, prefigurative design both anticipates an alternative future and changes current circumstances to better resemble this anticipated future [199, 278].

Elements of prefigurative design emerge from the design process we described here in three material ways: first, we built in mechanisms of accountability and ownership to ensure the same participants showed up week after week in order to build on past conversations and activities and establish a trajectory toward common goals (i.e. building a playbook of best practices); second, we built in flexibility and space to support sustained and meaningful participation, such that the resulting artifact served the needs of the participants that differed from the needs we outlined as designers and researchers; third, we provided channels for participants to do work that matched and built on their

own interests and skills to encourage sustained participation and ownership over the final content of the playbook.

While each of these elements may seem modest, they reveal the relational dynamics that offered opportunities for more fruitful civic interactions. The cumulative efforts across multiple actors and sites generated the momentum for civic engagement to intervene in more entangled, networked, and complex urban processes. Similarly, friction, alignment, and the underdetermined system of plays operated as mechanisms for communities to make space for their needs and concerns to be adequately addressed. In this context, prefigurative design becomes a way to explore and experiment with civic interactions, examining the intersections and affordances of activism, advocacy, deliberation, and engagement.

7.   FIELDSITE: PREARREST DIVERSION INITIATIVE

My final fieldsite was an opportunity to try and deploy a prefigurative intervention in a more intentional way. PAD was an ideal site as it emerged from grassroots activism to become a non-profit intermediary organization that directly intervened in more traditional institutions, such as the criminal justice system and local police precincts. Knowing this about the site, I thought PAD would be a good fit as it bridged both the more radical and more institutional modes of democratic participation I had been considering throughout my research. Additionally, the PAD staff had a clear, shared vision to work towards: non-punitive services for vulnerable populations disproportionately affected by recidivism. Given this explicit orientation towards liberation and justice, PAD was valuable to better understand the *limitations and opportunities of prefigurative design* (R4). At this site, I hoped to leverage existing resources and networks to co-create counter-institutions to build up the capacity of the organization to better go about their justice work.

Described in more detail below, there were interpersonal relationships and power dynamics that posed challenges for testing prefigurative design at that point in time. However, my time with PAD revealed spaces for radical intervention even in the most rigid of civic institutions as I observed PAD staff engage in radical trauma-informed care through their social work. The principles that underlie their approach to social work were

vital for me to synthesize prefigurative design into a more cohesive framework, ultimately placing at the core of its design practice an emphasis on healing and repairing harm.

7.1. Site

PAD was a criminal justice organization that worked with local law enforcement to divert vulnerable populations to social services instead of arresting them. The organization itself is an official partnership with the city, the county, and two zones of the local police department; they also work with other actors who are part of the criminal justice systems that touch the geographical pilot areas, as well as stakeholders that might champion or advocate for the program, such as business owners or neighborhood associations.

The organization does three kinds of work: the first is coordinating personalized social services with individuals who enter the program, specifically addressing the unmet needs faced by the city's most vulnerable populations, such as lack of housing, job development, or mental health concerns. Another kind of work, relatedly, is maintaining a vast database of service providers, resources, agencies, and programs that functionally deliver social services to program participants. I was tasked with creating this database, which is described in more detail in Section 7.5 below. This database also includes legal partners and other criminal justice actors (e.g. city and county prosecutors, attorneys), community partners (e.g. grassroots/advocacy groups, neighborhood associations, business owners in the pilot area), and police commanders and liaisons.

The third kind of work is the main mechanism of the program, which are referred to "diversions." Diversions are when beat officers choose to offer social services to a participant instead of arresting them; a participant avoids another charge on their record and is turned over to PAD staff to begin receiving care and services. Diversions are meant to intervene *before* an arrest happens, thus interrupting cycles of recidivism within the criminal justice system. It is also a way to reach out to the most vulnerable and underserved populations in the city, often unable to qualify for existing social services due to quality of life circumstances. Beat officers receive training from PAD staff on how to recognize a potential participant, such as looking for potential signs of substance abuse or extreme poverty. Trainings also include cultural competence education, such as respectful behavior around various gender identities, and non-coercive ways of starting conversation. At the core of the training curriculum is consent: participants are not successfully diverted until they provide lucid, sober, and explicit consent to join the PAD program. In trainings, PAD staff and officers engage in roleplay to identify and practice successful diversion situations, as well as circumstances that would 'void' a diversion, e.g. if a participant were having a mental health crisis and thus unable to provide clear consent.

Once participants have consented to enter the program, they directly interface with a small team of social workers (referred to as "care navigators") who engage in non-invasive, dignity-driven methods to support participants. These include, but are not limited to: non-punitive program requirements (i.e. re-arrests and relapses will not put participants at risk of 'getting kicked out' the program); harm reduction techniques;

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housing-first policies; and working with trans-inclusive and non-religious partners. Successfully diverted participants continue to work only with PAD's care navigators and service providers, who are intentionally curated to be culturally competent and aligned with the organization's progressive approach to care and wellbeing. The program formally launched (i.e. started diversions) in October 2017 and as of the time of this writing is open for diversions 4 days a week (typically spanning late-to-overnight shifts when many quality of life crimes occur). As of February 2019, there are 85 participants in the program.

7.2. History

The scope of the pilot covered two neighborhoods—Midtown and Old Fourth Ward—and only accepts participants in a set geographical area as determined by Atlanta Police Department beat patrol zones. These neighborhoods were chosen based on local criminal justice datasets showing that many non-violent misdemeanors are found in these areas [181]. While PAD initially launched only recently, it is the result of many years of grassroots advocacy campaigns and policy work. Specifically, it grew out of the efforts of a local sex workers justice activist group called SNAPCO [142], short for Solutions Not Punishment Coalition. SNaPCO was a community-based response to the targeted and repeated arrests of sex workers who operated out of a specific intersection in Midtown. The group advocated for sex workers' rights and non-punitive ordinances to address the high sex worker activity in the area. They worked with local police and municipal partners to better respond to circumstances under which some sex workers engaged in sex

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work and argued for better treatment for those who charged and incarcerated for engaging in sex work [142]. This campaign eventually grew to include other survival/quality of life crimes—such as loitering, panhandling, or possession of illegal substances—and lead to the formal creation of PAD [27].

In its current iteration, PAD is meant to explicitly address more systemic issues, such as extreme poverty, mental health concerns, or substance abuse [27]. Included in its organizational mission is the acknowledgement that these issues impact some communities more than others, and how these issues have resulted in the breakdown in relationships with criminal justice and municipal actors, specifically the Atlanta Police Department. One of PAD's organizational goals is to push culture change, not only around vulnerable populations and the hardships they endure due to shortcomings in social and welfare structures, but also changing norms in police culture around how non-violent offenders are approached and treated. These goals drive much of PAD's work, from their culturally sensitive trainings to compassion-driven care in-house to the careful curation and selection of service partners who are sensitive to different kinds of traumas, gender identities, religious identities, mental health needs, etc.

7.3. Methods

I conducted fieldwork with PAD from August 2017 to May 2018, spending an average of 6-20 hours a week in the office. Earlier fieldwork was more regular, being present during business hours 3-5 days a week with later fieldwork thinning to check-in meetings every 1-2 weeks. I was referred to the executive director by a mutual colleague;

they identified the group as having radical political goals and data management needs that would be relevant to my research and coordinated an introduction. After an initial meeting with PAD's executive director, I was invited on site to design and implement various digital tools, as needed, and to generally help support organizational stability and growth, working closely with both the director and the team. I disclosed my position as a doctoral researcher at Georgia Tech, described past research projects with justice-oriented organizations, and gained verbal consent from the staff to show up to the office regularly and conduct research while supporting their organizational needs and practices.

I documented my observations through extensive field notes. I analyzed my notes based on the fundamentals of qualitative data analysis [197] and used inductive codes to analyze notes and iterated on codes to organize my findings. I took photos and screenshots to capture the project status over various points in time and backed up the shared drive near the start of the fieldwork to compare it to later versions of the organization's information architectures as time progressed. I was granted remote access to PAD's shared drive and have only accessed them via secure network connections at home or on campus.

My observations were based on my time spent at the PAD office. I was given access to most of the organization's meetings, events, and daily work practices and, while I was consulted on largely technological questions and concerns, they were also involved in broader organizational decision-making processes and took on non-technological responsibilities. I attended staff and partner meetings, created internal documentation

(e.g. inventory, communications plans), and developed digital and non-digital prototypes to deploy on-site. Some of the prototypes were longer term projects, such as the participant/partner database described below, which would be regularly used by social work staff. Other prototypes were more focused on management or organizational practices, such as designing forms and templates. I describe these prototypes in more detail in Section 7.4 below.

It is important to make clear that I did *not* conduct any fieldwork nor have any interactions with the field site's participants. I did not study the diversions themselves, but instead the organizational norms, expectations and practices of PAD staff, as well as their information and data practices. Their data were varied, ranging from handwritten forms and legal documents to images, videos, street addresses, and contact information. They captured organizational history, contained procedural and institutional protocols, and archived the current work of the organization, including meeting minutes and events. I was given access to these data via the organizational shared drive, though permissions were set such that we could not access private or personal information (e.g. hiring documents, participant medical files).

7.4. Prototypes

My tenure at PAD was initially based on my implementing two digital prototypes: a communications interface and an internal case management database. Given that my time with PAD aligned with a period right before, during, and right after their official launch, I also ended up taking on some artifacts to support internal organizational practices,

categorized below as 'minor' prototypes. Per Hillgren, et al [129], I consider these minor projects to still be prototypes as they did the work of infrastructuring existing resources to address pressing organizational needs and supported social innovation within PAD to better formalize different roles, responsibilities, and power dynamics.

Below are brief descriptions prototypes deployed on-site.

Major Prototypes		Minor Prototypes	
Case Management Database	Salesforce: custom classes, report creation, fields, classes.	Internal organizational practices	e.g. submitting reimbursements, timesheets, orders, shared calendar, boundaries, conflict resolution, in-house IT (Powerpoint, projector, scanner, printer, phones, AT&T for internet and phone lines, Wordpress, job postings on Idealist), strategic planning, hiring processes/forms, weekly time/goal management processes.
Case Management Databases	Prototyped case management using other software: Clio, Apricot, Airtable.	Organizational visuals and branding	APD/PAD workflow for external stakeholders; shared drive maps; workflows for internal processes (e.g. inventory ordering)
Organizational resource guide/new employee manual	Paper manual similar to the Atlanta Community Engagment Playbook	Instructional guides	Keybase, Salesforce, meeting facilitation
Communications platform	Keybase, Asana	Miscellaneous documentation	Participant experience survey for internal evaluation teams, meeting minutes, templates for internal documents.

7.5. Findings

Below I share my observations on how the organization's staff both talked about and actually used different digital artifacts and platforms in the office, both in the course of their daily work and also as situated within the broader goals of the pilot project. We outline three kinds of incompatibilities within the organization that were the result of the competing needs and agendas of an intermediary group. Firstly, there were *inconsistent requirements* for the *technology* the team wanted to incorporate into their work.

Expressed criteria were variable and often manifested as contradictory asks of the researchers working as in-house tech support. Secondly, these technological differences made clear the larger *conflicting priorities* around who the *organization* was for given that their work was in service to multiple stakeholder groups. Finally, we describe how the digitally supported *work* ended up *performing collectivity* as the varied technology use and group dynamics created tensions within the context of combined social service and policy work.

7.5.1. Technology: Inconsistent Requirements

Staff expressed similar concerns about technology in their work, though there were differences in how they both discussed and implemented digital tools to best address these concerns. First I describe three shared concerns across the organization—security, sharing information, and usability—and outline the tools and practices that staff were already using in their work. Next, I describe the technological features and/or criteria staff wanted and how they wanted to use them as ways to address their concerns. Finally, I trace the inconsistent requirements behind the discussed tools and practices and how they were incompatible with or contradicted their expressed concerns.

7.5.1.1. Security

One of the top expressed concerns was *security:* the team needed to both securely store data internally and safely share them with multiple external partners. The entire team was consistent and vocal about the need to keep participant data secure as their

participants were among the most vulnerable (e.g. experiencing extreme poverty) and the data to be shared were extremely sensitive (e.g. sending arrest records to legal partners to advocate for participants in court). Staff had contracted a third-party IT contractor to set up a server in the office to store participant data locally, which was only accessible via the password-protected wireless network. They were also using email as a way to share participant information to various partners, which by the staff's own admission was highly risky.

The executive director suggested two digital platforms to address security concerns: the first was Salesforce, which I return to in the next subsection. Asana, which was a project management web client that offered different 'boards,' which each had sections to store files, display task lists, and chat with other users via posts on a timeline. Staff were already using Asana to track their daily tasks; the team had separate boards for social workers, operations, human resources, etc. The director wanted to create a board for each participant, such that each contained their own file storage, conversations, etc. Partners would then create password-protected user accounts to securely access the same boards alongside staff. Tasked with finding software options for this issue, I suggested alternative platforms to use and recommended two in particular: Option A was another project management client similar to Asana, but offered 2-factor authorization that was a step up from the security of a username/password alone. Option B was software that was included with the IT package the organization was already paying for and integrated into other digital tools the team was already using. It also did not store files but accessed them

from the secure internal server already set up in the office; users would have to create aliases with the IT contractor and use a VPN to securely access the files.

I suggested trying Option B for a while as it had the highest level of security and was visually similar to Asana. The director, however, refused to try either option: her concern was that users could access any file they wanted on Option B and Option A wasn't secure because all the participant data and files would be stored "somewhere on the cloud." Despite our explaining that Salesforce and Asana both contained similar unwanted features—storing data on the cloud and granting all users access to the same files—she still dismissed the options on the grounds of "security concerns." When the director ultimately decided that the team use Salesforce to store participant data, there were again concerns expressed about security:

> MANAGER: I'm a little worried about storing data on the cloud— remember the Equifax [data] leaks?
>
> ED: Yeah, but this [cloud storage] is what they [Salesforce] *do*.

The social work manager's concerns—specifically around data and the cloud— echoed the director's earlier comments about the platforms I had previously suggested for internal use. By contrast, the director framed the cloud as a security *benefit* to justify the implementation of Salesforce.

7.5.1.2. <u>Sharing information</u>

Staff also expressed concerns about *sharing information*, specifically ensuring that any digital tools used to share participant data was HIPAA-compliant[2], thus abiding by the federally mandated standards for protecting personal medical information. These conversations were entangled with discussions of security—and indeed revolved around the same tools—though the staff expressed different technological needs. In addition to securely sharing data, those data needed to be tracked such that the correct and most accurate details were being used to discuss participants across both internal staff and external partners. The director described their current modes of sharing information as a "vortex of emails" that was difficult to track across multiple partners, social workers, and threads. Furthermore, files were getting lost as multiple versions were circulating at any given time, resulting in miscommunications with participants and inaccurate details.

The director made the two same suggestions—Asana and Salesforce—saying that she liked how they both structured multiple kinds of information (e.g. participant demographics, PDFs) such that both internal staff and external partners could update and refer to data in a central location. She also liked that both platforms made clear who was accessing what file so that any changes could be traced back to specific people for accountability. We were again tasked with finding alternative options, with the director referring to the tool interchangeably as a "contact management system," "case management system," and simply a "CMS." We spoke with the social work manager to

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[2] HIPAA refers to the Health Insurance Portability and Accountability Act of 1996. It is US legislation that safeguards patients' personal health information and requires strictly defined parameters for the collection, access, and usage of medical data. Personal health information must be protected by various security measures to be HIPAA-compliant.

see if she had HIPAA-compliant file sharing strategies or concerns that would assist us in our search. She was surprised to hear that Asana and Salesforce were potential options. In fact, she was under the impression that the team was going to use an entirely different digital system altogether because it was a state-mandated system to track and coordinate all social service information in the state. She also shared additional requirements that she wanted in the software that the director did not communicate to us, specifically text fields to capture the experiential data of participants describing their interactions with servicers.

The director's emphasis on a hosting files on a centralized platform was itself inconsistent with previously expressed security concerns about users having access to all the files on a platform. Despite contradictory requests, we delivered two alternative platforms, the aforementioned Option B and Option C. Again, the director rejected Option B, concerned about Option B's instant messaging feature: "anyone can just send a message to anyone else on here." She asked for something where "roles are clear" because she "didn't want it to turn into Lord of the Flies." Her contradictory requests pointed to a need for detailed control over permissions, not unlike prior desires for careful control researchers have found in similar kinds of service environments [39, 40]. In the end, because the director could not keep some users from seeing some files, she eschewed Option B because it shared too much information.

We additionally suggested Option C, a contact management system specifically made for legal organizations with an information architecture based on capturing and tracking common kinds of legal data, such as case numbers, court dates, and arrest

records. While it was the only software that was explicitly HIPPA-compliant—and secured its data with end-to-end encryption—the director refused Option C because the team needed "a case management system, not a contact management system." As mentioned, the director committed to using Salesforce for her participant information tracking needs, although its HIPPA compliance has yet to be confirmed at the time of this writing. The director asked me to focus my Salesforce design less on sharing information externally to partners and more as a way for the team internally track and maintain up-to-date information about participants, as well as the service providers they interacted with. After building a Salesforce prototype per these specifications, the director responded with previously unmentioned technical requirements:

> ED: I just took a look at Salesforce and I think we need to reschedule. The database is too complex and it won't make sense to the team. I thought you were going to show us a database with a case management template.
>
> RESEARCHER: Okay, whatever you say.
>
> ED: Are you frustrated?
>
> RESEARCHER: A little, yeah.
>
> ED: What happened here?
>
> RESEARCHER: I didn't realize I was supposed to use a template.
>
> ED: Well, I don't know if there is a [CMS] template, but it looks like there are.

The director dismissed the database based on unmet needs that were not communicated to the researchers—the use of a Salesforce template—the existence of

which she was not entirely sure, much less if it would be relevant or useful for tracking the right kinds of information. In addition to asking for a template, the director asked for a case management template to apply to Salesforce, which is itself software for customer relationship management (CRM). At its core, Salesforce is not designed for case management, but rather customer retention, which are fundamentally different use cases. The director's choice of sales-driven software contradicted her described technical specifications: CRM are designed to extract profit and increase sales, which call for fundamentally different software design decisions than the organization's actual work of delivering free social services and personalized care to disenfranchised participants.

7.5.1.3. Usability

The third concern is *usability*, though it was the concern that was described by staff with the least amount of detail. In the conversation quoted above, the director described Salesforce as "too complex," both in its interface and its terminology, which wouldn't "make sense to the team." The director used similarly vague language when she did speak to usability needs, often making reference to the interface and aesthetics, asking for "simple" and "fairly straightforward" tools. While this can be seen as a typical ask by someone unfamiliar with user experience, usability concerns were mostly invoked to reject my suggestions.

The decision to use Salesforce demonstrated the director's weak commitment to usability concerns as I explained to the director the inaccessibility of the UI. Staff members later affirmed my criticisms by commenting on the difficulty of reading and

accessing the UI. Additionally, it did not use many features or visual elements present in the other platform options that the director had expressed interest in, such as Asana's visually separate boards, Option B's persistent sidebar with customizable links, or the layout of yet another rejected suggestion, Option D, which other staff members had praised for its "clear menus" and "good colors." While the director largely dictated the technical requirements, I was intentional about soliciting and incorporating as much input from other staff members, who shared technological preferences and needs, but generally deferred to the director's asks. Interestingly, as I worked with the director to find options to replace Asana, conversations with other staff revealed that the director's technical needs were not always specific, or even clearly expressed. The operations manager revealed to me that she chose to implement Asana—*not* for its security or file sharing capabilities—but because it was the first result from an online search for the "best free project management software" and she thought it "looked cute." The director did not reference the arbitrariness of Asana when insisting its use over options that were better suited to expressed, if inconsistent, technical needs.

7.5.2. *Organization: Conflicting Priorities*

In observing discrepancies in technical requirements, I noticed how conversations around digital tools pointed to different non-digital priorities among staff, more specifically what the organization's purpose was and who it was meant to serve. From the onset of our fieldwork, staff and leadership consistently described the goals of the organization as politically progressive: the director described their work in terms of

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policy. Working with local police was an opportunity to "push for culture change" around rearrests, recidivism, and the stigma of survival crimes (e.g. sex work or panhandling). The director also described the in-house social work approach as using "radical love" to support participants through personalized care, striving to build political support for social service providers to influence policies to better allocate resources. The social work manager made unambiguously clear the purpose of the group during my first staff meeting when they reminded the team to "always keep in mind that we're a justice program." I noticed how the staff was consistent in using progressive terms to describe their work and participants: after one partner meeting, a staff member was upset at an attendee's condescending description of a homeless person's behavior and defended the participant to the team, saying he was "doing what he had to do because he was surviving."

Given the intermediary nature of the organization—coordinating information across various legal partners, police departments, municipal departments, service providers, and political representatives—I also observed how the team acknowledged the nuanced and contesting motivations driving their work. The director had repeatedly described the group's goals as having to "course correct" and "broker relationships" between police departments and "directly affected residents," acknowledging the historically fraught relationship between police departments and Black communities, especially in the American South. The director once described the importance of documentation as "want[ing] the political cover to say 'it's [stored] on the whatever [platform].'" This suggested that at least some of the work of the group was work that might seem

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contentious to their partners. Similarly, the social work manager spoke to the complexities of their social work approach:

> MANAGER: People look at [the organization] negatively and positively, [they say] 'oh, they're only funding it to get rid of homeless people'—and that's true, but at least they're funding it.

Here, the social work manager was responding to a colleague, who didn't understand skepticism around the program. She went on to talk about the "compromises" that social workers might have to face in their work and that they would have to make judgement calls over "what's right." This conversation pointed to the competing motivations and agendas characteristic of a multi-partner collaboration, but that nevertheless result in the material resources to do the "justice" work.

Staff conversations also brought into question who their work was for, given that they provided social services to participants, training to police officers, support to legal partners, and advice to municipal employees, among other stakeholders. In one staff meeting, the director described the organization as "putting power in officers' hands" so they could better deal with folks they encounter on their beats. In another meeting, the director rearranged the staff meeting agenda to plan an upcoming police appreciation event to solicit feedback and "celebrate and incentivize officers to do more diversions." While police officers were key to the success of the pilot project, the director often oriented both her own work and the staff's work to cater to and support officer's needs.

My observations of the director's priorities are in stark relief to the social work manager, who often spoke of the importance of prioritizing the participants. When asked about her availability for a future meeting, the social work manager responded: "calls [from participants] change everything," referencing the social workers' closely maintained contact with their participants and reinforcing that the participants' needs come first. The social work manager's emphasis on participants was consistent across both internal and external interactions, describing their in-house social work with radical terms and concepts. She repeatedly described their approach to participants as trying to afford them "dignity," to be "non-judgmental," and to guide all their clinical work with "harm reduction" techniques, which "meet them where they [participants] are at, but doesn't leave them there." Harm reduction approaches were described as ways to avoid punitive measures and to be forgiving of relapses or rearrests. In one meeting, the social work manager referred to organizational success as being guided by the platinum rule— rather than the golden rule—where staff "do unto them [participants] as *they* would do to themselves" (i.e. instead of doing to others what *you* would do unto them). The manager described their social work model as orienting services around participant's choices for their own wellbeing and recovery, provided those choices did not cause further harm. In the same meeting, the director described organizational success in very different terms, stating that "if they [the police department] feel like this is their program, we've done our job."

These tensions were both reinforced and magnified through conversations around digital tools, specifically the design and deployment of the participant/partner database.

As mentioned above, the social work manager asked me to include text fields so social workers could qualitatively describe the participants' goals, rather than using a predetermined set of checkboxes or dropdown menus. She explained that she had seen participants in other organizations receive "overly prescriptive care" and she wanted to keep the focus on the participants' self-determined progress and self-reported experiences. She emphasized the importance of recording the quality of each participant's interaction with a social service provider, saying that how participants *felt* about delivered services were crucial to their wellbeing, as well. She told us about transphobic agencies she had previously worked with who delivered services to cis-gender participants, but trans participants reported completely different, traumatic and harmful experiences.

I noticed the manager's sustained commitment to participants during a partner meeting, describing one challenge of data collection as having "to be creative with how we track certain progress goals, like showering everyday." Other staff members demonstrated commitment to care, as well. The ops manager expressed concern at partners having blanket access to participant data: "we say 'confidentiality,' but health is something so specific." Here, she questions the necessity of sharing participants' HIV status by default, arguing that it was information to be shared on a need-to-know basis. She warned that, at best, prejudiced partners might discriminate against participants based on their status and, at worst, in case of a data breach, it would be devastating and traumatic to the participant. Here, the staff member privileges the participants' dignity and privacy over the perceived conveniences of sharing data. Whereas the team expressed concern over participant wellbeing and quality of care, the director, by contrast, described

data collection in more utilitarian terms. She wanted to track information that would be beneficial to partners accessing the database, such as rearrests or case numbers; she was not concerned with tracking participants' experiences, but rather their location and logistics, i.e. tracking which service provider they're with and whether or not the organization was still responsible for that participant. The director's priorities were consistent with her description of the Salesforce database to staff as a "way to manage your own work and manage participants' tasks too." While our observations showed that each team member was undoubtedly committed to the success of the organization, the difference was in what they prioritized: the success of the pilot program or the success of the individual participants.

7.5.3. Work: Performing Collectivity

When comparing the organization's conflicting technological needs with its competing priorities, these tensions build such that the group's *work* ended up *performing collectivity* instead of aligning efforts to support their combined social service and policy goals. While the team discussed decisions, they were ultimately made by the director. It was difficult to initially notice this gatekeeping; it was obscured by the way that digital tools were discussed as means to support collective efforts. Many of my tasks and responsibilities were framed as documenting and sharing organizational knowledge to build organizational capacity. The director initially described one goal of our intervention as helping the team "vote on decisions," for example. Other staff members responded to my prototypes with enthusiasm and thanked me for supporting the whole team, who often

referred to each other as "family." While the director shared the enthusiasm—and was often a source of it herself—she typically made decisions on her own, effectively undermining collective efforts and maintaining her power as gatekeeper and sole decision-maker.

As described above, the director decided most of the office's technical requirements, such as choosing to house the participant/partner database in Salesforce. She made this major decision despite my protests, acknowledging that she brought me into the organization specifically to consult on technology design and implementation. Additionally, she made this decision without consulting the social work manager, much less the staff who were going to be using the database as part of their daily work. I noticed similar power dynamics with the deployment of smaller technological interventions, such as the team's shared calendar and shared drive, which I was tasked with setting up and reorganizing, respectively. I immediately ran into challenges as I needed an alias under the organization's domain to access both the calendar and drive. When I requested access, the director "didn't even realize" it was needed and put in an IT request for a researcher-specific alias. Researchers spoke to staff members individually to request their permission to be part of the network, explaining it was necessary to complete certain tasks and set up certain systems, though researchers would not have access to HR files; though they enthusiastically consented, the decision had already been made unilaterally by the ED.

The director maintained her role as gatekeeper both through organizational decision-making and by prescribing the ways that the team used digital tools. For example, the director delegated the calendar task to a different staff member while I waited on my alias (delayed due to contract limitations with the IT contractors). The staff member tried to complete the task, but permissions were set such that only the director could create calendar items. When the staff member requested editing rights, the director in turn instructed the staff member to email all the calendar item details to the director, who would then create the calendar item. Later conversations with the same staff member revealed she had to follow similar protocol for meeting invitations where the director approved her copy and list of attendees before she sent the email.

The greatest disconnect between collective work and gatekeeping practices was around Asana: the operations manager described how its purpose within the organization changed over time, saying the tool had "gone from a way for me to track me to for her [the director] to track me." This surprised me as the operations manager was the most active user of the platform. She revealed that it was originally framed as project management software, but that most of her Asana tasks were in fact verbally assigned to her by the director during a private meeting at the start of each work day. The operation manager explained her lone activity on Asana as an artifact of the director's "corporate" management style, saying that "no one [else] feels empowered to use it."

Staff also pointed out how email was used in similarly performative ways: whatever decision the director sent via email overruled any prior offline decisions. I

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noticed this pattern around meeting scheduling, specifically: the team would verbally agree to a date and time in a staff meeting, but scheduling changes or cancellations were decided by the director and communicated via email. Staff described the often surprising emails as "frustrating." The operations manager described the director's emails as a way "to document she said something but not actually say something." The director's practice of emails as a proxy for group decision-making extended to larger organizational decisions, as well. The operations manager described an instance where she was chastised for not completing a task because it was referenced in an email the director had sent her, but was not one of her verbally assigned Asana tasks. That same email was referenced as evidence of the operation manager's incompetence when the director eventually fired her.

Staff meetings increasingly became sites of contestation. They were the only other remaining mechanism for collective decision-making in the organization after the director had coopted digital tools as means to deliver and enforce her decisions. Staff meetings became spaces where the team negotiated power dynamics and both enacted and challenged collective efforts. I usually noticed this tension in discussions of the social worker team's practices:

> ED: What's the status on the [important social work document]?
>
> MANAGER: I'm going to send it out to the [social work] team for comments.
>
> ED: Can you include my comments when you do [send it out]?
>
> MANAGER: I planned to send it out [without ED's comments] so folks can weigh in.

ED: Okay, but I think my comments should be in there.

MANAGER: [starts explaining her decision]

ED: [squints at social work manager]

MANAGER: [stops midsentence] Never mind, okay.

Here, the director prescribed how the social work manager should complete a social work task, which is technically not the director's purview. The director enacted her power in two ways: her comments are a way to exert control over social work practices, but she also prescribes how the social work manager should use ICTs to complete her own task (i.e. by including the director's comments on the first round draft).

Contrast this to my observations of another staff meeting, which was instead the site of pushback against the director-as-arbiter. The social work manager had called her team in to meet with them when the director entered partway through to suggest that the manager focus on a different task instead of the current meeting. The manager responded: "Everyone debriefed with *you*, but *we* didn't debrief." Here, she insists on managing her team collectively despite the ED's hierarchical management style. The manager leveraged the meeting as a shared, public space to assert her priorities—that is, providing care to participants through their progressive social work approach, made possible through the collective efforts of her team.

I conclude this section with a nuanced moment of contestation, where the team collectively upheld the director's position of power as a way to actually assert their

collectivity. Here, a social worker asked the team for advice on how to communicate a nuanced situation in an upcoming partners meeting:

SW: I don't want to go up there and say the wrong thing. Should I say [it this way]?

ED: Well…

SW: What about [a different way]?

[rest of the team is silent and looks at ED]

ED: This is shared work, we're not going to let you fail.

SW: Okay, but what should I *say*?

The staff member invokes the director's position of power by asking her for a decision directly. Unable to address this specific question, the director invoked the "shared work" of the team to solicit suggestions, but the team remained silent until the director responded with an answer. After the staff member deems the advice "not helpful," the rest of the team responded with suggestions that satisfied the staff member's concerns. In an interesting reversal, the rest of the team sustained the organizational hierarchy by withholding their comments and deferring to the director. This, in turn, demonstrated the strength of collective work—each staff member offered her perspective and advice—when the director was unable to advise her colleague on her own. Here we see how the tension between "empowered" collective work and "corporate" decision-making—from "for me to track me" to "for *her* to track me"—can be malleable and contested in light of inconsistent and competing organizational priorities and practices.

By the end of my fieldwork with the organization, I did design and build the custom Salesforce case management system originally solicited from me as a researcher, but ended up doing so after adjusting my research practices to better reflect and respond to the tensions described in the above sections. Ultimately, after speaking with participants, we decided to conclude our fieldwork as a *service design* collaboration rather than an action research project [244]. This decision was largely made because of concerns around *temporal scale*—fieldwork was taking longer than agreed upon but researchers had academic commitments that had to take priority (e.g. teaching) and the organization had pressing concerns in order to fulfil the requirements for their pilot phase. This fieldwork pointed to the operational and proximal tensions common to community-based research—that is, what kind of work can we commit to and to whom are we responsible?—and was an important exercise in balancing different organizational needs we observed and that were described to us in light of our research commitments and priorities.

7.6. Reflecting on prefigurative design

PAD was a valuable site to deploy prefigurative design as it pointed to some emerging limitations, including navigating the tensions of collective work, prefiguration across scale, and the challenges of relying on more interventionist research methods in certain community settings.

As discussed above, there were myriad tensions present through the relationships and collaborations within PAD. As I observed different staff members struggle with the

expectations of their organizational model—working collectively versus working in a hierarchy—it pointed to a limitation in prefigurative design as friction did not serve as a productive catalyzing practice in the same way that it did for the playbook project. With OOHA, I adjusted my research practices to incorporate different technical capabilities and skills; for PAD, I had to *adjust my research practices to incorporate the organizational power dynamics* within the organization. The challenge was to 'read the room,' so to speak, to identify what kinds of change were appropriate to support and when. For example, there were many instances where staff members conceded to the authority of the executive director because they did not have time or energy for conflict or because operational needs took priority over organizational or interpersonal concerns. There were other moments where staff privately expressed to me frustrations with different leadership decisions, which I additionally noticed through changes in behavior (like the "what should I say" exchange described above). In this context, I tried to *leverage my privileged position as an outsider* to advocate for staff needs knowing that I would not be affected by organizational friction in the same way they would be.

Given the fraught interpersonal relationships within PAD, I adjusted my research practices to *address different sites of prefiguration* in response to different organizational needs. As described above, one site for prefiguration was the organizational structure itself: with the consent of staff, I relied on my (perceived, and also contested) position as an expert to try and affect less hierarchical relationships across the team. However, this was only work I did with staff consent; on days when they were 'over it' or did not otherwise have the energy to engage in conflict, I turned my attention to affecting other

kinds of change with the consent of and direction by staff. These included: the introduction of prototypes to scaffold and standardize work (e.g. meeting notes, task management); filling in as needed to support internal operations (e.g. administrative assistant, tech support); and gathering resources to support internal decisions (e.g. product comparisons, research summaries for similar criminal justice reform projects). Here, the prefiguration took place on a very local scale as my research interventions sought to *build more equitable and sustainable organizational practices*.

Since I had started my fieldwork under the impression that the organization was more horizontal than its actual structure, I had not anticipated the challenges of trying to support change in an organization that had fundamentally different visions of what that change looked like. These differences were present through daily operations as team members were constantly deciding what work to prioritize in response to more urgent and pressing needs. Without a cohesive vision driving their work—and with staff members constantly negotiating the success of the pilot program with the wellbeing of their vulnerable participants—the *prefiguration work broke down without some semblance of a consistent goal to build towards*. Contrary to the playbook project, the PAD team did not have the *social infrastructure, stability, or capacity* to support collective decision making, which was not a critique of the organizational staff or their skills, but rather an artifact of the *temporal pressures to focus on the short term demands* of the pilot program. Whereas playbook participants had committed to a set period for working sessions, as well as a shared vision for the final deliverable (i.e. the playbook), PAD staff had to focus energies on immediate organizational tasks.

For example, when deploying early prototypes of a digital system, I tried to position it as a means to support more radical and compassionate care social workers were trying to create for their vulnerable program participants. Staff disagreed on different design decisions as social workers requested text boxes (i.e. to describe individual participant progress with more care and nuance) but the ED insisted on checkboxes to collect the same data in order to more easily generate reports to show potential funders as evidence of the success of the pilot. Because organizational staff were polarized on the goals of their work, it was *difficult to leverage design artifacts to prefigure change in support of many different envisioned futures simultaneously*. This was exacerbated by staff having limited capacity to deliberate these decisions with each other. Similar to OOHA members, PAD staff had myriad concerns to address simultaneously; however, unlike OOHA members, PAD staff did not yet have enough experience with their work to be able to adequately plan for or anticipate what these different tasks would be, such that the organization was (by their own admission) not yet at the point to engage in prefiguration work.

Because of PAD's position as an intermediary, they were trying to affect sociopolitical change across different levels of scale, which complicated my commitments as a single researcher to respond to and support these different kinds of civic work. For the majority of my fieldwork with PAD, the organization sought to affect macro-level change around criminal justice reform through building relationships with legal actors (e.g. attorneys, judges, senior police officials), while additionally influencing smaller scale policing practices through officer training and enabling meso-level change

through curating and building networks of more radical and progressive service providers in the region. In addition to the temporal pressures of the pilot program, as previously mentioned, PAD was also still trying to negotiate how to approach these different categories of political work simultaneously. Ultimately, PAD staff determined it was *inappropriate timing for collaborative research* as staff were not yet at the point where they had a shared vision for the kind of prefiguration they wanted to build towards.

8.   DISCUSSION

In this chapter, I return to my research questions in light of findings and outcomes from my fieldwork, literature review, and deployment of digital systems. I then return to prefigurative design to describe it in greater detail, building on the empirical work described in previous chapters and offering a series of prompts for researchers to put prefigurative design into practice. Prefigurative design is the major contribution of this dissertation, and offers an approach to design research that explicitly seeks to challenge systemic and structural injustice through more collaborative research with radical communities. Prefigurative design is not meant to be a totalizing framework, nor is it meant to be applicable for all research projects and contexts. Instead, it is a model to guide scholarly work to more explicitly support collective efforts around anti-oppression and liberation. It aims to build more just counter-structures to replace harmful institutions complicit in violence, oppression, and exploitation.

Prefigurative design is meant to add to and enrich other modes of design research by recommitting to the wellbeing of our community partners and explicitly aligning itself with values of anti-oppression, liberation, and justice (drawing specifically from transformative justice, discussed below in 8.2.2). As such, it anchors research practices in community autonomy, solidarity, and minimizing harm, encouraging researchers to be more critical of their roles as complicit in larger harmful structures and to orient their work towards anti-oppression. Prefigurative design is grounded in anarchist principles and politics, which offers more generative modes of inquiry to challenge assumptions

that may hinder our research practices and design work. Specifically, I offer prefigurative design to HCI researchers interested in supporting the justice work of their community partners and who are interested in broader understandings of digitally-mediated civic and political work to more explicitly address structures of oppression and violence. Next, I return to my research questions as outlined in 1.2 and revisit them in light of the empirical research presented in previous chapters to introduce a more in-depth discussion of prefigurative design as a framework and its anticipated contributions.

8.1. Research Questions

8.1.1. R1. How are democratic ideals embodied by existing forms of civic engagement?

I return to the democratic theory introduced in Chapter 2 in light of my work with the cycling advocacy community to identify how democratic ideals are meant to be enacted through existing, more status quo forms of civic engagement. Many civic processes rely on deliberation that follows Rawlsian understandings of democratic governance, specifically relying on informed and engaged citizens to participate in decision-making processes. These deliberations are assumed to rely on reason and evidence to lead to the best outcome for the common good. My fieldwork looked into these deliberative processes in the context of transit planning, where advocates put forth reasoned arguments to argue for increased bike infrastructure. Participatory design research pointed to the tensions of relying on status quo forms of civic engagement, where participants described opportunities for digital tools to both exacerbate and

ameliorate existing, legacy issues, such as access, inequity, and improved service delivery.

8.1.2. *R2. What are alternate forms of civic engagement that emerge from similar democratic ideals?*

Next, my work with OOHA pointed to more radical forms of civic engagement as alternate modes of democratic governance, like solidarity, mutual aid, and counter-structures (e.g. underrepresented resident narratives as counter-structures to highlight institutional failure). These practices revealed the boundaries of traditional civic engagement practices: where banks and courts could not keep residents in their homes, OOHA members and their communities offered resources and solidarity to emotionally support residents, offer stability through traumatic displacement and disruption, and organize to try and resist evictions. The use of ICTs through these practices also revealed the limitations of digital systems, which OOHA members subverted and coopted to support their more antagonistic activist work. As discussed in chapter 2, radical democratic mechanisms like solidarity and mutual aid rely on the accumulation of resources to support mutual needs; similarly, OOHA activists accumulated digital and non-digital resources to support their housing justice work independent of support from formal or legislative institutions. The organization itself served as a counter-structure to more status quo forms of governance (e.g. advocates relying on elected officials) and this work was an opportunity to begin experimenting with solidarity practices through research and design interventions.

8.1.3. R3. What is the role of prefiguration in design research?

After my work with OOHA, I shifted my research to be less exploratory and be more of an intentional deployment to explore the role of prefiguration in design research. My work on the playbook project was a way to synthesize key principles of prefiguration and enact them through design and research practices. Key to prefiguration—and thus prefigurative design—is the anarchist commitment to anti-oppression and collective liberation via material contributions. That is, prefigurative design does not engage with these values merely as a research interest or a theoretical framework, so the playbook design process was a way to identify spaces for anti-oppressive research. One way our research team enacted this through the playbook process was to revisit the traditional relationship between researcher and participant by holding ourselves more accountable to participant needs and concerns as expressed through our collective work. This fostered a culture of co-ownership and cooperation where community partners were more active agents through design, rather than being *subjected to* design by researchers. The playbook process was valuable to experiment how to prefigure more equitable relationships with research collaborators.

Prefigurative design leverages design processes and practices, first to generate and imagine what more liberatory practices and relationships could look like within the constraints and context of the organization. Through the playbook, we used design activities to explore more equitable and accountable modes of city/resident interactions, particularly in the context of planning and development. The design activities generated

best principles, which were the basis of the designed artifact; in this way, the playbook itself was a mode of prefiguration as it set alternate terms of civic interactions and made transparent the expectations and commitments of all involved civic actors (e.g. residents, elected officials).

Throughout the playbook process, researchers and participants experimented with more just modes of mutual aid and cooperation, such as more compassionate conflict (and conflict resolution), more transparent and accountable communication, more equitable organizational processes, etc. Beyond our affiliations with neighborhoods and institutions, researchers and residents also had individual agendas, resources, and expertise. The interactions from our design workshops was also a way to prefigure the strategic alignment of existing resources to build counter-structures. The playbook process was valuable for considering prefigurative counter-structures across scale: from the micro- level, residents brought histories and experiences to build a shared vision of better citymaking and engagement. The artifact itself was a way to scale this vision up, making transparent and accessible resources and capacities within each organization or community to build cumulatively towards larger, more impactful, and more radically progressive change on the scale of a large American city.

Through my cumulative fieldsites and observations, this body of work suggests that there are many different kinds of prefiguration that can be facilitated through design interventions: in the Cycle Atlanta project, participants described technical features that could be incorporated into digital systems, rendering the *artifact* the vehicle for

prefiguration. In this way, artifacts can store forms of knowledge and underrepresented narratives through which a community can be more autonomous and begin to create counter-structures that diverge from institutions that don't serve their needs or address their concerns. Through OOHA, the group's work was aimed at *prefiguring* different organizational structures to be more robust and sustainable in the face of unpredictable change and turbulence. Supported by digital tools, the group tried to imbue redundancy and flexibility in their digital tools and technology practices to better weather the hostile circumstances of their political work. The playbook was valuable as a kind of testing ground for prefiguration where the artifact contained documentation to prefigure alternative modes of *governance*. Here, the playbook was not the vehicle for prefiguration itself, but instead disseminated the expectations and modes of participation in order to prefigure public processes, decision-making, and interactions with elected officials. Finally, PAD was an attempt to incorporate multiple kinds of prefiguration simultaneously: through organizational structures and social relations, digital artifacts, and organizational processes and capacities.

8.1.4. *R4. What are the limits and opportunities of prefiguration in design research?*

Prefigurative design relies on certain conditions and circumstances to exist that may facilitate more just modes of research production and collaboration. As such, there are limitations if those conditions are not ideal: for example, with PAD, there was a strong hierarchical organizational structure that was a formidable barrier to enacting certain kinds of change within the organization. Additionally, this structure enforced

ensured the group was committed to institutional obligations, which further challenged

the possibility for internal progressive change. Here, a significant limitation of

prefiguration in design research is if there are not preexisting structures or networks to

support that work: the playbook project was successful because there was a team of

researchers working with participants who had bought into our collaborative work.

However, prefigurative design is not likely to have meaningful impact for research

projects undertaken by a single researcher, or with more skeptical or resistant

participants. Additionally, as Western institutions swing more to the 'right' of the political

spectrum, these more harmful institutions will likely require more coordinated and robust

collectives to resist them. This is not to say that counter-institutions are not possible in

these conditions, but to highlight the additional support and resilience needed to survive.

My work with PAD, despite its many challenges, also pointed to a rich opportunity

that prefiguration brings to research, which is a focus on *minimizing and repairing harm*.

Through their emphasis on dignity and autonomy, the PAD approach to social work was

an important model for how to approach my own work in HCI and design. Contrary to

more traditional user-centered approaches, which focus solely on local concerns and

needs, the staff's radical care work connected local concerns (e.g. the individual

challenges of program participants) to more structural institutions and patterns. This

showed me the role that smaller-scale prefiguration can have on larger scale issues: many

community-based research projects encounter challenges that are shared across different

issues and contexts (i.e. different forms of oppression) and addressing these common

concerns through local sites is a way to explore more restorative approaches to these

concerns as they exist beyond these settings. Prefigurative design thus became an approach to challenging oppression both on local and larger scales.

8.2. Contribution: Prefigurative Design

8.2.1. Prefigurative design

As mentioned in Chapter 3, prefigurative design borrows heavily from prefigurative politics, which is strongly motivated by collective anti-oppression work and is operationalized through counter-institutions. Prefigurative design is a way to imagine a more just, liberatory alternative future, to adjust current practices to better align with that vision, and then– incrementally, with much iteration, and adjustments– to build towards that alternative future by bringing it into the present. Prefigurative design manifests as three kinds of work: *envisioning*, *acting presently*, and *building counter-institutions*. These three practices are oriented around the vision and practices of a community partner, and thus requires negotiation and realignment throughout the research process, both within the researcher themselves, but also with the community, as much as resources and constraints will allow. Next, I will describe each kind of prefigurative design work in more detail, describing how they emerged from the empirical work presented in previous chapters.

8.2.1.1. Envisioning

The *envisioning* work asks the researcher to learn about the community's vision of a more just future as configured through their sociopolitical concerns and modes of anti-

oppressive practice. For example, the housing justice group I worked with envisioned a future where everyone had a safe and healthy home regardless of race, socioeconomic status, income, etc. They described housing as a human right, which informed the shared future they were building towards. Additionally, OOHA operated through an organizational model that was also a shared articulation across members of the group: the goal was for all organizational information to be distributed equally across members, thus more experienced OOHA members worked on sharing information with newer members and newer members tried to learn more from older members. Likewise, digital interventions were deployed within the group to try and support this more horizontalist approach to organizational information, like *scaffolding* information to better distribute internal knowledge or storing information across multiple spaces to ensure redundancy and allow for more *flexible* points of access.

In some cases, an organization or community may have a vague vision of the future, or may not have articulated a common vision across all the group members, as was the case with PAD. In this case, the researcher might choose to base their work on enabling the group to articulate this shared vision, or to use their research practices to help the group identify a few principles they might continue to work towards after the researcher leaves the site. Through my fieldwork, I facilitated some prototypes and processes to encourage group consensus around organizational tasks. Knowing there were larger challenges for PAD to work out beyond the scope of our collaboration, these smaller scale interventions were a way to try and articulate shared visions for how the organization should be run and how to model interpersonal relationships (and conflict).

8.2.1.2. Acting presently

Many prefigurative design projects will likely focus on *acting presently*, in which the researcher supports the group as they adapt current practices to better align with their vision of the future. Here, interventions or artifacts may be deployed to help scaffold new knowledge or practices for community members, or to prototype alternate social relationships, organizational models, or practices. PAD prototypes focused on acting presently in response to the temporal pressures of the pilot project. By contrast, the playbook project was explicitly future-oriented as the artifact was designed for use predominantly after the research project had finished. In this case, we based the 'plays' in the current practices of our participants, which helped connect their present work to future goals. Additionally, it was a generative prompt to demonstrate how present work could shift or transform to better meet the civic needs and challenges expressed by participants. Acting presently is a valuable opportunity for the researcher to facilitate different processes or activities, reflecting back to the group their observations on deviating from or conforming to their articulated future.

8.2.1.3. Counter-structures

As these present practices solidify and are incorporated into more regular practice for the community, they will scale up to *build counter-institutions*, which are alternative structures that fulfill community needs using methods that are most just and less harmful. These counter-institutions incorporate local contexts, histories, and resources to address the specific ways in which violence is enacted on a community. With OOHA, there was a

strong drive to share information across members and mutually educate each other on activist ICT strategies, which acted as a kind of counter-structure to the existing forms of inequality across organizers. For example, younger members are more likely to rely on digital systems and men are likely to occupy leadership positions in radical organizing spaces [53], which OOHA tried to address through skillsharing. The playbook served as a more local counter-institution to structure more transparent and accountable civic interactions across residents and service providers where, previously, those interactions were perpetuating disenfranchisement and exclusion.

In Figure 13 below, I summarize some of my reflections from previous empirical chapters to demonstrate how my empirical work built up different principles of prefiguration design. In contrast to the examples above, the findings in the table do not refer to individual actions, but instead to broader patterns of interactions; the table is not meant to be overly formulaic or prescriptive (e.g. this specific interaction led to this prefigurative design rule). Both research findings and prefigurative principles correspond to findings from multiple sites simultaneously. Additionally, these prefigurative design principles are not an exhaustive list, but rather a set of circumstances and conditions which have emerged from my work thus far and are meant to be iterated on and expanded through future work. I then connect the findings and principles to the three kinds of work described above to identify opportunities to deploy prefigurative design with a community partner.

Research findings	Prefigurative design principles	Prefigurative design work
Personal experiences as rich sources for data Radical work is done with constrained resources to meet multiple goals simultaneously	Underdetermined designs and systems to accommodate more local concerns and needs Consider different sites of prefiguration with community partners for meaningful and sustainable impact	Underdetermined systems to support acting presently Underdetermined systems as counter-structures Acting presently to prefigure alternate organizational models Envisioning different kinds of prefiguration for a group to explore
Digital artifacts may perpetuate existing inequities Design interventions risk imposing additional training, maintenance	Minimize the risk of inflicting harm through research intervention Leverage research practices as forms of solidarity Design processes should lend support to community partners rather than extract from them	Research practices to experiment with different ways of acting presently Design processes to articulate and/or negotiate shared visions across a community Design practices to scaffold present practices into counter-structures

High stakes of doing political work outside the status quo	Research should respond to and build on existing community practices	
Acknowledging the labor that community partners already put into their work	Strive to align resources and efforts for mutually beneficial work	
Researchers occupy privileged positions as outsiders, have different stakes than participants		

Figure 13 I summarize findings from my fieldwork and synthesize them with anarchist principles and practice to produce different core principles of prefigurative design.

8.2.1.4. Ideal circumstances for prefigurative design

Because of its explicit political commitments, prefigurative design is not meant for more traditional design research environments—that is, corporate, for-profit research—as these sites are deeply rooted in capitalism and collaborations with these partners would necessarily bring with it the baggage and violence of capitalist structures. Prefigurative design is for researchers who are interested in directly engaging with concerns of oppression and injustice through their work, and who are willing to put stakes into this work [151]. Because of the nature of these research interests and personal investment, prefigurative design is also likely to be a slower approach to research, prioritizing equitable social relationships over more traditional modes of academic production and/or progress and being more accepting of non-digital intervention [102], and researchers

deploying prefigurative design should be willing to end a project with a community partner if asked.

Like action research, prefigurative design asks the researcher to share the concerns of their community partners; however, prefigurative design differs in that it prioritizes community needs and bases the research process around them, which adds more labor to the researcher's responsibilities with little to no additional professional benefit. This is a non-trivial concern as I am not responsibly suggesting that researchers sabotage their professional development in pursuit of moral purism. Instead, I suggest that researchers find opportunities to invest in their research collaborations where they can. The impetus here is to change the stakes of research projects: like anarchist framings of solidarity, prefigurative design asks researchers to become "bound with" participants, putting stakes into collaborative work to be more committed to and responsible for the impacts of our design and research interventions. By becoming complicit with our community partners and their anti-oppression work, we can minimize harmful effects of our own work and better orient our own research and design practices towards equity and liberation.

Despite the additional and uncompensated efforts, prefigurative design aims to build sustainable and more generous research partnerships, ceding more agency and control to community partners to more effectively leverage research practices and resources to advance their work. As such, it may be more strategic to consider prefigurative design at the onset of longer term research collaborations or partnerships. Ultimately, these 'bounded' relationships can lead to richer research, learning from

practices and perspectives that are not traditionally represented in HCI communities due to added investment of time, material resources, and researcher effort. Additionally, prefigurative design can lead to more expansive modes of knowledge production as it actively seeks to support communities who are typically underrepresented in computing work.

Simultaneously, however, these raised stakes introduce the potential to incur violence to potentially vulnerable communities. Although prefigurative design centers anti-oppression conceptually, it does not inherently practice it; researchers are constantly at risk of being complicit in different structures of oppression. This risk became more apparent through my work with PAD as the stakes of research interventions were higher (e.g. hindering staff working with vulnerable participants). As I observed the PAD staff and their approach to social work, I learned from their radical care principles and looked to organizing practices that more explicitly and intentionally resist reenacting violence and oppression. Below, I describe *transformative justice* as one example of a counter-institution currently practiced by radical communities that is based on *healing harm*. I then incorporate principles of transformative justice into prefigurative design and describe how the framework can be deployed to particularly focus on practicing anti-oppression throughout a research partnership.

8.2.1.5. Transformative justice as example of prefigurative counter-structure

As mentioned elsewhere in this document, one of the challenges of prefiguration is a question of scale: Milstein describes the tendency of direct action to dwindle beyond

the momentary physical space or period of time in which it is practiced. She describes these "flashes" of direct action as "street democracy," where deliberative processes are practiced as mobilizations but not maintained: "that power not only needs to be contested; it must also be constituted anew in liberatory and egalitarian forms" [198]. Here, the challenge to prefiguration is how to maintain it as a perpetual process while still remaining dynamic and flexible enough to respond to new forms of domination and oppression. As mentioned in previous chapters, this particular tension of stability/dynamism can manifest in different ways depending on the goals of the community, if there are shared visions of anticipated change, current work practices and organizational models, competing professional obligations and political agendas, etc.

Transformative justice specifically addresses the oppressions and violence caused by the criminal justice system by *acknowledging and repairing harm* caused by current structures of policing, incarceration, and the legal system. These practices focus on healing to prefigure more equitable relationships across members of a community. Prefigurative design draws heavily from transformative justice, which echo the more compassionate and radical approaches to social work I observed at PAD. Prefigurative design does not necessarily aim to build counter-structures at the same level of scale as transformative justice (i.e. I do not think it is reasonable to replace the criminal justice system through a single research project), but instead to experiment with smaller scale structures that might build up the capacity of a group to continue their work towards more radical, systemic change after a research collaboration has ended.

Transformative justice prefigures more equitable social relationships by imagining and practicing care and healing as alternatives to incarceration and prosecution. Participants first identify what harm has been done; who is involved and impacted; what their resulting needs are; and what future actions are needed to heal the traumas resulting from an act of harm and address the needs of those affected [200, 211]. Transformative justice focuses on harm to recontextualize crime not as an individual transgression or inherent deficiency, but rather as the product of other forms of oppression and existing systems of violence [211]. As such, an offender is understood to also be a victim, who may be perpetuating harm as a result of past trauma from harm done to them [219]. Transformative justice is strongly advocated by many radical communities—some of whom are explicitly anarchist—particularly around the issue of prison abolition. The Transformative Justice Law Project of Illinois (TJLP) advocates for transformative justice models to "ultimately replace State systems of control with community empowerment in matters of conflict resolution" [254]. Through this lens, transformative justice identifies the State as source of harm; there is overwhelming evidence of existing criminal justice practices that cause harm, including but not limited to racial profiling, broken windows policing, and the prison industrial complex [56, 135, 164]. Transformative justice thus functions as a counter-structure for communities to have autonomy from these existing justice-oriented institutions that cause them harm.

Transformative justice-as-prefiguration reconceptualizes justice through anarchist principles: (e.g. autonomy, anti-oppression, anti-hierarchy) and implemented as practices across different issues and levels of scale (e.g. prison abolition, colonialism, labor). I

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build on prefigurative literature and the model of transformative justice to describe prefigurative design, a framework specifically for community-based design research that centers anti-oppressive practice through research to support communities working towards liberation.

8.2.2. *Prefigurative design as design methodology*

Prefigurative design is an approach for researchers to materially support community partners in their work advancing justice and collective liberation. Because of its roots in anarchism and anti-oppression, prefigurative design is applicable to equity work beyond a single issue (e.g. food justice, housing justice). It is meant to provide an entry point for researchers to challenge and resist more structural and systemic forms of injustice. As such, I offer prefigurative design as one way to approach interventionist research with issue-oriented communities, especially those who are concerned with anti-capitalism and anti-oppression and who work towards systemic change through more radical tactics, e.g. protests, grassroots organizing, direct action. Prefigurative design is not as a totalizing framework, but rather as a set of concerns and practices to help guide scholarly work to better support community-based efforts around anti-oppression, with the ultimately goal to build more just counter-structures to replace the harmful institutions that are complicit in various forms of violence and oppression. Prefigurative design assumes that circumstances underlying a research site and collaboration are constantly changing and require iteration and realignment.

Below, I describe five questions as prompts for researchers to begin doing prefiguration work with community partners. To adhere to the dual commitment to both process and outcome, both researchers and community members are meant to return the prompts and their responses to ensure their work is still aligned with expressed concerns (and that those concerns have not shifted, or to adjust accordingly if they have). The questions articulate a shared vision to better identify opportunities for researchers to then leverage existing justice work through design and research interventions.

Prefigurative design asks:

Q1. Who is being harmed and by whom?

Q2. What does healing look like?

Q3. Which needs should be addressed first?

Q4. Where can resources be marshalled to support the healing?

Q5. How can interventions support healing while minimizing harm?

When asking *who is being harmed and by whom*, this first and foremost provokes a discussion of what the harm *is*—and including multiple kinds of harm—which is vital for communities to articulate what their needs are and for researchers to begin negotiating what their contributions might be. This also begins a conversation to identify the communities, individuals, and/or entities affected by the harm. Together, these set the foundation to envision more just, alternative futures that the community wants to work towards and that the researcher(s) can help support.

The community partners then take the lead with the envisioning step by imagining *what healing looks like* for them. This step focuses the work on healing, rather than the harm, which emphasizes generative alternatives, which is especially important if the harm is not something accessible. Here, I draw from the work of transformative justice as focusing on undoing harm might lead to even more difficult challenges: what happens to a community if you are unable to change—or heal—the police? Thus the focus on healing for the envisioning step is to focus on *possibilities* and emphasize the autonomy of the community by identifying what they *can* or *might* be able to do. Relatedly, this step is important to consider the sustainability of the project. While communities may envision a wide variety of healing practices, naming them all is a way to identify with the researcher what *scope* or *scale* of intervention might be appropriate for the partnership. It may be that the researcher supports the community to achieve a very small piece of their envisioned healing work, but it ensures the community has ownership over the process—especially after the researcher leaves—as it will have been guided by their visions.

The next question is meant to address the scope of the shared work as well by asking *which needs should be addressed first*. This is important to prioritize the tasks and actions necessary to move towards the community's vision, which can guide the researcher in making responsible and reasonable commitments for the partnership. This step is also crucial for researchers to articulate to their community partners the role of research, more broadly, especially if the community is unfamiliar with academic practices or scholarship. This step can be a source of friction, as well: it may be that the most immediate needs of the community cannot be addressed through a research collaboration,

or that there is any place for a research intervention of any kind. In this case, it would be pragmatic to have a discussion about this to avoid wasting resources and efforts. If it is the case that the community and/or the researcher decides that it would not be appropriate to continue the partnership, ideally the community would be left with the outcomes of the first two steps, which can guide their work independent of researcher intervention. The researcher will also have benefitted by identifying the limitations or boundaries of their current approach to their research, which they might adapt for later collaborations, grants, etc.

If the partnership continues, the next step will be to identify *where resources can be marshalled* to support the collaboration. The first two steps outline the various roles and commitments of researchers and community, while the third prioritizes and structures the shared work. This step is meant to build accountability into the partnership as the actors involved and invested in this work identify what resources are needed to *do* the work. I use "resources" in a broader sense, identifying the myriad ways in which different kinds of capital and materials can leverage different outcomes [89]. This is a particularly important step for the researcher to reflect on their position and how they can leverage that in serve of justice and local impact. For example, many researchers—particularly in computational disciplines, like HCI—might carry with them a degree of legitimacy, which might be valuable to build or amplify public support for the community's cause, e.g. with local press, policymakers, elected officials.

The final step of prefigurative design asks *how interventions might support healing while minimizing harm*. I refer to "interventions" to refer to a variety of things, including digital artifacts and systems, but also to processes, organizational models, and non-digital artifacts. This step reiterates the importance of centering community needs and autonomy, which may ultimately call for non-digital interventions as a way to support their work [102]. These interventions are also an avenue to build counter-structures: if the intervention is not itself a counter-structure, the intervention could build towards a counter-structure. This ensures that the partnership with the community results in something that contributes to their work, be it a deliverable like a digital tool or documentation, or something that otherwise builds their capacity to continue doing the work after the researcher has left. This negotiation process is also a way to better incorporate community concerns into the research project as the shared work becomes a way to uplift and work alongside the community as an accomplice [138], rather than the intervention as a mode of extraction that only benefits the researcher.

It will be key to document the discussion produced by the above questions, which will serve an artifact for all parties to commit to being accountable through their respective work, not unlike practices already used in community-based research, such as a memorandum of understanding. This artifact will guide researchers as they acclimate to the practices and norms of their community collaborators and reflect on their progress, adjusting and iterating on their research practices as necessary to better align with the work articulated through the prefigurative design framework. Co-creating this artifact with the community is crucial to minimize further harm on the part of the researcher,

especially as they necessarily bring with them the politics, agendas, and power of their academic institution [170].

8.2.3. *Methodological contributions*

I anticipate prefigurative design to be meaningful for researchers interested in interventionist modes of research and who are interested in supporting work around justice and equity. Below, I describe some of the contributions prefigurative design can offer to the current state of HCI research, specifically focusing on design research approaches to concerns of injustice and democracy.

8.2.3.1. Participatory design and action research

Here, prefigurative design makes contributions to participatory design and action research through its explicit set of political values that aims for autonomy and equality both within and beyond the partner organization. In this way, prefigurative design hopes to continue ongoing efforts to focus HCI research on problems outside traditional workplaces and to address research interests that extend beyond corporate and capitalist goals. Participatory design in particular has become increasingly popular as a mode of profit-driven research, soliciting input from current or new users that might expand the market reach of a product or system [76]. By contrast, prefigurative design aims to contribute to sociopolitical impacts on a greater scale, not only benefiting the 'users' or direct stakeholders but to influence larger structures and systems that affect wider populations. I am not positioning prefigurative design as a panacea to extremely complex

and fraught social concerns, but rather my hope is that it can function as a way to orient research to more directly address these issues and support ongoing work around them. In this way, I hope that this approach can help broaden the scale of how we do research, considering not only the historical contexts of a research site, but to also be more conscious of the impact of research and interventions into the future, envisioning and incorporating potential harms and benefits to guide scholarly collaborations.

The prompts described above are a way to help build more just collaborative relationships with community partners, acknowledging the ways that research has historically benefited from the efforts and experiences of vulnerable communities [63, 256]. On a smaller scale, this dissertation would not have been possible without the generosity and patience of various communities in Atlanta. As such, prefigurative design tries to be more conscious of the asks we make of our participants—from uncompensated time to emotional labor—and encourages researchers to be more pointed and intentional about how community efforts are used to support research work. By articulating community needs and concerns, and by basing research projects around them, the hope is to model more reciprocal and mutually beneficial collaborations where research directly benefits those who are impacted by it, rather than further privileging those who are conducting it.

8.2.3.2. <u>Value sensitive design</u>

There are many similarities and distinctions between prefigurative design and value sensitive design (VSD): like VSD, prefigurative design is concerned with similar

principles of autonomy, human rights, and the role of researchers and participants in collaborative projects. Additionally, prefigurative design is similar to VSD through its concerns around process and iteration, adjusting both social behaviors and designed artifacts to improve the material and abstract conditions of an impacted community. There are, however, some key distinctions between the two and, in this way, prefigurative design builds on ongoing scholarship in response to VSD as a way to build on and expand the methodology in light of changing sociopolitical circumstances and modes of democratic governance. These distinctions are: the *values* driving the research agenda, the *sites* of inquiry, and priorities for *evaluation.*

Prefigurative design is in line with more recent scholarship around VSD in that it strives to center local concerns as the values motivating the research: Le Dantec, Poole, and Wyche argue that VSD's classification of values can be enriched by letting these values emerge from *within* the research site, rather than imposing the values *onto* the site [166]. Similarly, Borning and Muller challenge the universalization of values espoused by VSD, calling for a more flexible and *pluralistic* approach to values [32]. Prefigurative design draws from anarchist theory and practice to affirm these critiques: prefigurative design structures how values inform the research project both from *within* and through *pluralism*. It does so by framing values through the lens of anti-oppression, which is itself pluralistic (i.e. oppression can manifest in myriad forms) yet simultaneously open to the specificity of individual communities and their issues of concern. Here, prefigurative design complements VSD by providing a consistent framing through which research is

conducted (i.e. anti-oppression), while still providing space for more specific concerns to emerge.

Prefigurative design can be valuable for expanding the sites of inquiry considered by VSD: specifically, VSD argues for a tripartite methodological structure that includes conceptual, empirical, and technical investigations. Prefigurative design does not strictly adhere to these commitments and instead relies on the needs of the community partners at the time of the collaboration to determine the most appropriate site for analysis and intervention. Given the limited temporal engagement of a research partnership, researchers and collaborators may work towards increasing the capacity of individual group members or of the broader community, which may not fit neatly within traditional heuristics, and may require many conceptual or technical frameworks simultaneously. VSD acknowledges how artifacts impact various stakeholders, both as they are directly related to the research project and others who may be indirectly affected [34]. Prefigurative design builds on this by situating research within broader sociopolitical contexts (focusing specifically on oppression), which researchers can address by learning from and incorporating the issue-oriented work of their community partners. Thus, it is not enough to consider the limitations of technical systems; prefigurative design argues that we should consider the broader collective capacity of the group to help advance their civic work. Prefigurative design aims to do this by addressing both the local challenges posed by organizational resources, skills, and shared constraints, as well as the larger sociopolitical issues our community partners try to address.

Prefigurative design also provides a wider perspective to reconsider questions of *evaluation* as outlined by VSD: Friedman, Kahn, and Borning outline usability and human values as the two parameters through which empirical investigations can evaluate the success of a design or artifact [34]. This dual approach has been problematized in HCI and design literature, pointing to the limitations of these evaluative criteria. For example, JafariNaimi, Nathan, and Hargraves discuss the role of values in design work, reframing them not as principles to be *applied* but rather *hypotheses* through which values are interpreted, expounded, and produced [143]. Through this framing, values are *generative,* producing additional lenses and perspectives through which design and research practices can be evaluated. Prefigurative design builds on this work on values-as-hypotheses by providing a lens through which these myriad perspectives can be narrowed down to be enacted in a community. This affirms the argument of JafariNaimi, Nathan, and Hargraves, which understands values to be laden and variable, or "sometimes appropriate and sometimes problematic" [143]. The lens of anti-oppression, then, becomes a means through which this assessment is made: what a value "serves" [143] is evaluated based on who *benefits* and who is *harmed* by a design intervention, process, or system. Because prefigurative design focuses on local circumstances and practices, there is a constrained context in which harm can be evaluated, thus leading to a locally situated understanding of a particular value, as well as local situations and judgments that can evaluate the efficacy of that value and/or intervention (i.e. the community collaborators).

8.2.3.3. Critical/speculative design

Prefigurative design borrows heavily from speculative/critical design in that collective action draws from a shared articulated vision of the future. In this way, prefigurative design would be a strong complement to speculative design projects as it can translate the visioning process to actionable practices for the researcher. To be clear, this framing is not meant to dismiss visual representations as not taking 'action,' but instead I seek to more explicitly connect the visual design work at the core of speculative design with the organizing work of issue-oriented communities. Thus, prefigurative design can also incorporate visual representations in the community prompts/research questions described above, using images as additional means through which roles, expectations, and contributions are articulated and negotiated. Prefigurative design thus acts to bridge more traditional design work with community efforts, offering the designer richer experiences and perspectives that they can imbue into their visual works and additionally providing community partners with artifacts or images to potentially incorporate into their media practices.

8.2.4. *Methodological limitations*

I wish to reiterate here that prefigurative design is not an all-encompassing framework, but rather an approach to research that takes into account certain political sensitivities and sociopolitical concerns (i.e. the sustained oppression of identities and communities across race, class, etc.). I describe here the limitations I've encountered through prefigurative design, which I will return to in the discussion section to elaborate on how to expand this framework.

One of the biggest challenges of prefigurative design is the added labor to both researchers and participants: while prefigurative design encourages more sustainable and mutually beneficial research partnerships, it also asks stakeholders to commit to working through conflict, negotiating boundaries, revisiting agreements and processes, and to do so with no compensation. In this way, this framework draws from the anarchist principle of autonomy, where people agree to share work without being coerced, which keeps them intrinsically motivated but also susceptible to overwork and burnout. Like some of my observations in activist spaces, the intention to 'do good' does not prevent additional harm from taking place; prefigurative design asks researchers and participants to undertake similar emotional labor with minimal victories (Hayes describes this as common to AR, as well [127]) and no compensation.

Additionally, because prefigurative design aims to cede control to research partners, another labor concern is that prefigurative design relies on an engaged community that already knows, to a certain degree, the kind of justice work that needs to be done for their particular issue of concern. Prefigurative design aims to support collective work, and so there are limitations when deployed in settings that are not collectively organized, e.g. that rely on hierarchical organizational models. As such, prefigurative design is not as effective in communities that are not already radical, such as non-profits or advocacy groups. These organizations tend to embody more neoliberal or capitalist principles (e.g. a CEO, strong reliance on marketing or consumerism, individualist ideologies, etc.), which are antithetical to the goals of prefigurative design and not an ideal fit for this design approach. Similarly, where other methodologies can

adapt well to corporate research environments (e.g. codesign, participatory design), prefigurative design cannot 'convert' more traditional or neoliberal organizations to more radical ones. This is not to say that prefigurative design does not have a place in research settings that are experimenting with more radical practices; rather, I wish to be clear that prefigurative design is not a deterministic approach and researchers should not expect radical principles or anti-oppressive practices to be an *inherent* outcome of using this framework.

8.3. Reflections and Future Work

I briefly return to some methodological concerns and questions raised in previous chapters to reflect on my own work and how prefigurative design might extend to other research projects or interests.

8.3.1. *Researcher/Participant Power Dynamics*

There were many tensions that arose as a biracial researcher from an engineering college in the American South working with largely Black communities around issues that did not directly impact me. I am grateful that many of my community partners imbued a degree of trust in me, and granted me access to privileged conversations around sensitive topics, particularly given the stakes of some of the political work (e.g. with OOHA, PAD). This pointed to a dual position I occupied, one of an observer but also as an expert: there were many instances where participants turned to me for solutions despite my unfamiliarity with organizational norms, practices, or goals. In these

instances, I reflect on the challenges of embedding myself in urgent situations with high stakes and material impacts, as well as the delicate negotiations of offering many potential approaches to solutions rather than one singular authoritative 'answer.' Here, part of the work of the researcher is to also inform their partners of the possibilities of research interventions, which the researcher herself might not even fully understand. This underscores the immense difficulties of undertaking interventionist research as a pre-tenure academic as the burden of responsibility can be too great to manage without adequate support [176]. Moreover, there is the risk that certain kinds of research projects may conflict with academic responsibilities and obligations, spanning from banal concerns like time management to potentially being complicit in illegal activities in violation of approved IRBs. This fraught positionality must be interrogated through the unique circumstances of each research partnership, and negotiated within the personal morals, capacities, and commitments of the researcher herself. Finally, I wish to highlight the role of research itself as a potential vehicle for exploitation and harm. My more recent work interrogates with this challenge more deeply [8, 10] and I hope to continue these discussions with colleagues to gain the benefit of their experiences and expertise.

8.3.2. Challenging Technocratic Hegemony

I wish to also address the possibility that digital artifacts and systems become vehicles for harm: without intentional attention to justice, history has shown how technologies can become mechanisms for entrenching hegemonic forces, oppression, and violence. Here, I emphasize a commitment to *the material* when assessing the use of

digital systems or artifacts in a research project: if assessed based on rhetoric alone, digital systems are likely to usher in increased privatization, corporate control, surveillance states, and massive privacy violations [91, 151, 273].

8.3.3. Prefiguring the Academy

One opportunity for prefiguration is its role within the academy itself as an institution complicit in harm and oppression. There are research projects that use radical rhetoric (e.g. solidarity, intersectionality), but end up recreating the very power dynamics they are supposedly critiquing. As researchers imbued in various institutions and structures—like funding, citation practices, publishing, conference organizing, etc.—it behooves us to consider the role of prefiguration to change our own institutions such that we can better align our research practices with our research concerns of justice, equity, and liberation. These larger structures implicitly encourage harm and oppression within our scholarly communities, be it the competitive drive to publish or pressures to secure funding sources and grants or creating partnerships with industry for student career development. We must reflect on these professional practices and similarly ensure they are done through the lens of reducing harm so that we are not complicit in broader trajectories of violence and do not perpetuate them to generations of academics to come.

APPENDIX A. GLOSSARY OF KEY TERMS

Term	Definition
Anti-oppression	A commitment to reducing the unique, negative effects of different overlapping hierarchical structure.
Civic engagement	A proxy for "citizen power," where citizens seek inclusion in political and economic processes as means to better share in the benefits of a democratic government.
Deliberative democracy	Governance that relies on decision-making practices informed by reason and debate as determined by an educated and engaged citizenry.
Status quo	Normative frameworks, used in this document to refer to liberal democracy and representative democracy as dominant understandings of deliberative democracy and democracy more broadly.
Radical	Aligning with Leftist schools of thought, specifically more socialist notions of critiquing capitalist economic structures and practices as barriers to freedom.
Solidarity	A willingness to be complicit in another's struggle, putting in stakes to support others' projects to benefit others and advance collective liberation.

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