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Building Ideal Workplaces: Labor, Affect, and Identity in Tech for Good Projects

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Nascent organizations emerging from a mixture of public and private interests are attempting to collaboratively innovate new ways to build digital technologies premised on the robust support of citizens and public goods—known broadly as "Tech for Good" initiatives. Drawing on 6 months of participant observation and in-depth interviews with civic technologists in the San Francisco Bay Area, I argue that Tech for Good initiatives are thoroughly structured by technologists' affective attachments to their careers. While participants work to build digital technologies to benefit the common good, they simultaneously work through feelings of disillusionment, unfulfillment, and disappointment with their jobs in the high-tech sector—a set of practices that I call repair work. By engaging in repair work, participants repurpose civic technology organizations into idealized versions of their workplaces. Accounting for the constitutive role of repair work in Tech for Good projects is critical for future design justice efforts.

Keywords: labor, affect, Tech for Good, civic technology, design justice

In response to growing calls to make digital technologies more equitable and democratic, dozens of professional and academic fields have emerged claiming to design technologies for social justice. "Tech for Good" is a label commonly used by companies (Zendesk, 2022), nonprofits (WE Charity, 2022), and news outlets (CNN, 2022) to refer to the intentional building of digital technologies to have a positive impact on the world. Others use the term "public interest technology," which the Ford Foundation (2022) defines as "a growing field made up of technologists who work to ensure technology is created and used responsibly" (para. 2). Yet another nascent field is civic technology, which is "a loosely integrated movement that brings the strengths of the private-sector tech world (its people, methods, or actual technology) to public entities with the aim of making government more responsive, efficient, modern, and more just" (Harrell, 2020, p. 13). Dozens of nonprofit organizations, such as the Center for Humane Technology, Code for America, and All Tech Is Human, are working to bring together public- and private-sector workers to collaboratively innovate new ways to build digital technologies premised on the robust support of citizens and public goods.

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Despite civic technology's rapid growth, we still lack in-depth empirical research explicating how and why participants get involved in such initiatives, how they think about their relationship to Tech for Good projects, and what consequences their engagement has for the kinds of technologies that get built. As Boehner and DiSalvo (2016) point out, existing definitions of civic technology—including those used by practitioners themselves—are largely aspirational, reflecting more what civic technologists hope to accomplish rather than what they do in practice. The absence of a robust, empirically grounded understanding of civic technology is at least partially because of the lack of data on civic technologists' practices (Johnson & Robinson, 2014; McNutt et al., 2016).

To fill this gap, this article draws on interviews and participant observation with civic technologists in the San Francisco Bay Area to argue that some high-tech workers get involved in civic tech as a method for repairing their affective attachments to their labor. The civic technologists who participated in this study felt disenchanted and unfulfilled in their high-tech jobs. As a result, they sought out opportunities, outside of work, that would allow them to recapture the passion and drive to create better societies that motivated them to enter the high-tech industry in the first place. Their attachment to their professional life—to jobs that led them to feel disillusioned, lonely, frustrated, and alienated—became a motivational and productive object of repair via volunteering. To capture how tech workers negotiate professional disillusionment in civic spaces, I propose the concept of *repair work*: a set of practices whereby workers attempt to recapture, reconstruct, and reinvigorate affective states that they privilege while working. I demonstrate that when volunteers and staff engage in repair work, they leverage civic tech nonprofits to build idealized versions of their workplaces: spaces where participants can pursue their passions among like-minded individuals while contributing to the common good and securing employment.

This article proceeds in five parts. First, I walk through the literature on affect, labor, and identity in high-status cognitive workplaces to establish the types of promises high-tech companies make to their employees, why workers become invested in them, and how they respond when those promises go unfulfilled. Second, I briefly explain the study's methods and the basic organizational structure of civic tech nonprofits in the Bay Area. The third section presents the study's main findings. I then conclude by summarizing the article's contributions and outlining potential limitations.

Affective Attachments in High-Tech Workplaces

Silicon Valley has long depicted itself as a bastion of ideal workplaces for technologists who want to collaborate with like-minded individuals, follow their passions, and change the world for the better (Cockayne, 2016; Crandall, Brown, & McMahon, 2021; Dror, 2013). Google (2022) boasts that its offices are "designed to inspire innovation, big ideas, and community" (para. 3). Meta (2022) promises to provide job applicants with "the most meaningful work of your career" because "you'll have the opportunity to work with great people, tackle big challenges and make real impact . . . while being your unique, authentic self" (para. 1). Twitter (2022) reminds prospective job seekers that "life's not about a job, it's about a purpose" (para. 1). The industry's vision for the future of work is supported by American federal policy, which for the past few decades has invested in the high-tech sector as providing the jobs of the future (Ames, 2019; Greene, 2021; Schulte, 2018).

Despite the high-tech sector's bucolic visions of the future of work, there have always been cracks under the façade. Since 2016, several former Facebook employees have publicly expressed regret over their involvement in the platform and its "unintended consequences" (Karppi & Nieborg, 2021). Books such as *Uncanny Valley* (Wiener, 2020) and *Abolish Silicon Valley* (Liu, 2020) chronicle the authors' growing disillusionment with the high-tech industry after working for years under the assumption that their employers were fundamentally good and trying to change the world for the better. Disillusionment with waged labor is certainly not restricted to employees of high-tech firms, but it is notable that the employees at some of the ostensibly best places to work—at least by their own telling—are expressing alienation from themselves, their colleagues, and the products they are building. In fact, 4.5% more tech workers quit their jobs in 2021 than in 2020, the highest increase of any sector during that period (Cook, 2021).

The expectation that workers can, and should, pursue careers that allow them to be their true authentic selves, pursue their passions, and find deep personal fulfillment is not universally but socially, historically, and spatially contingent. Cech (2021) argues that college-educated workers in the United States subscribe to the "passion principle," which is "a morally laden cultural schema that elevates self-expression and fulfillment—in the forms of intellectual, emotional, and personal connections to an occupational field—as the central guiding principle for career decisions" (p. 4). Pagis (2021) provides a similar definition of the "self-work romantic utopia" (p. 40), but as an imaginary rather than a schema. The self-work romantic utopia has three guiding principles:

> (a) Work is the sphere where one should strive for happiness and actualize the self; (b) love, passion, and chemistry should guide one's choice of work (in contrast to pragmatic considerations); and (c) excitement and enthusiasm should accompany daily work activities. (Pagis, 2021, p. 44)

For Boltanski and Chiapello (2018), these principles have coalesced into a moral order through which participants judge their own and each other's moral worth. The "projective city" is a moral order that stipulates "good" workers to be those constantly connecting with others, hopping from project to project, and engaging in as much activity as possible, whether in or outside the workplace (Boltanski & Chiapello, 2018).

Workers experience the previously mentioned schemas, imaginaries, and moral orders at the level of affect, or the "structuration of feeling, or infrastructure of desire, that is materially produced and circulates alongside subjects and commodities in the workplace" (Cockayne, 2016, p. 457). Imaginaries of what work should be produce affective attachments to specific hopes for the future that are often not realized. Counterintuitively, workers' failure to inhabit these affective states can reinforce not only the existence of the imaginary but also workers' moral judgments of it as good and desirable (Pagis, 2021). For example, workers who feel disappointed, unfulfilled, and dispassionate about their jobs seek out career and life coaches who then help workers pursue at least partial fulfillment of the imaginary (Chen, 2022; Pagis, 2021). In cases where workers might not be able to switch careers because of economic concerns (e.g., they are the sole income-earner in their household), they elect to reimagine their relationship to their current job by, for example, reconceptualizing their work as contributing to the common good at a more abstract level (Pagis, 2021). Such a concern with feeling passionate about one's job emerges early in workers'

careers; Cech (2021) found that undergraduate students frequently fret about whether to change their major because they worry that they are not passionate enough about their current field.

Spaces outside the workplace proper are critical outlets for repairing employees' hopes and passions for their work. Under constant pressure to network and build skills (Neff, 2015; Shih, 2004), potential and current employees in the high-tech industry attend open industry Meetups in the hopes of connecting with others and learning skills that will lead to improved employment prospects (Alarcon, 2022). When workers attend "learn to code" Meetups, for example, they are acting on hope: they are "learning to code as the way toward a future career, the need for networking in person to find that future job, and finding the right professional niche" (Alarcon, 2022, p. 3). In addition, events such as Burning Man serve as "cultural infrastructure" for the high-tech sector by providing a venue for tech workers to reclaim the artistic elements of their labor (Turner, 2009). By attending Burning Man, high-tech employees recast their work as being toward "community building rather than profit-seeking" and in doing so "reimagine themselves collectively as autonomous creators and restore to their labor, if only for a while, the sense of social value that is so often falsely claimed for it by corporate marketers" (Turner, 2009, p. 88).

High-tech firms are also increasingly invested in ensuring their engineers are fulfilled in all areas of their lives, including their personal relationships and spirituality. Chen (2022) demonstrates that many human resource professionals with Silicon Valley companies believe employees are overwhelmed with burnout because workers are not engaging in sufficient self-care. As a result, human resources professionals engage in corporate maternalism, "where companies provide for the personal care of their employees in order to make them happy, healthy, and (therefore) productive" (Chen, 2022, p. 60). Corporate maternalism is based on the principle that "the personal is the professional," which is "the widely accepted idea among Silicon Valley human resources professionals that human workers are 'integrated' and 'whole people'—not automatons who leave their selves at home—and that because of this, their personal lives bear on their professional performance" (Chen, 2022, p. 63). This includes helping men workers develop the skills to ask women on dates, improve workers' spirituality by providing access to meditation programs and Buddhist retreats, and optimizing employees' nutrition by supplying them with healthy food at work (Chen, 2022).

Such attachments to work, fostered as they are by human resource professionals, educators, and colleagues, can be cruelly optimistic. Cruel optimism is a "relation of attachment to compromised conditions of possibility whose realization is discovered either to be *im*possible, sheer fantasy, or *too* possible, and toxic" (Berlant, 2010, p. 94). The pursuit of what many would call "the good life" creates an attachment to the "conditions of the attrition or the wearing out of the subject": the very thing workers desire undermines their flourishing (Berlant, 2010, p. 97). For example, when workers in the video game industry distinguish between "good crunch" and "bad crunch," they legitimize the continuation of excessive overtime work at the expense of their mental and physical health (Cote & Harris, 2021). When the personal becomes the professional, work absorbs all other areas of life such as religion, family, and leisure while making it difficult to criticize company practices; "long work hours, ambitious quarterly goals, continuous market growth—nothing needs to change so long as employees are happy" (Chen, 2022, p. 85).

In this article, I argue that high-tech employees are responding to pressure to be passionate and fulfilled in their careers, as well as internal conflicts that emerge when workers fail to occupy these affective states, by getting involved in civic technology. The technologists who participated in this study started volunteering in civic tech after gradually becoming disillusioned with their jobs. Not only does affect play a significant role in prompting high-tech workers to volunteer or switch jobs into civic tech, but it also shapes how they structure and engage in volunteer projects. I argue that participants structure their volunteering experiences to repair their affective attachments to their labor—attachments that have been damaged by disillusionment and disenchantment. Namely, they do so by leveraging civic technology organizations toward creating idealized versions of their workplaces: spaces where workers can pursue their passions while contributing to the common good. In trying to repair their attachments to their labor, I argue, volunteers repurpose civic technology organizations to build idealized versions of their workplaces, or what they wished their workplaces looked like. For participants, these idealized workplaces are what high-tech workplaces would, and should, look like if current industry promises were filled: spaces where participants can pursue their passions and find economic security while contributing to the common good—in short, what they originally believed the high-tech sector to be.

To capture these dynamics, I propose the concept of repair work: a set of practices whereby workers attempt to recapture, reconstruct, and reinvigorate the affective states that they privilege while working. These are not individual, idiosyncratic desires for particular affective states; rather, such affects are embedded in broader moral economies and the structural production of expectations about what "good" and "successful" careers look like, as well as they these careers are important to attain.[2] The concept draws from, first, Ames's (2019) study of the One Laptop per Child project as it was rolled out in Paraguay. Failure played a constitutive, yet ambivalent, role in this Tech for Good project, and faith helped sustain continued investments in the laptop. Ames (2019) refers to the XO laptop as a "charismatic technology," an object that draws together faith—a persistence in the face of failure and an aversion to rational thinking and evidence—and technological determinism to make promises about a future which the technology will inevitably bring about. A technology's charisma is not static or inert but rather is constantly being upheld by designers and teachers. Second, the concept of repair work draws from Sims's (2017) ethnography of a high-tech public school that was intended to "disrupt" American education. Despite the hopes of its technophilanthropic backers, the school ended up operating more like the schools it intended to replace and reinforcing the same social problems it was designed to address. Even so, supporters continued to act as if the school was the disruptive institution that they originally hoped it would be. Acting as if relies on "sanctioned counterpractices," or "the periodic orchestration, documentation, circulation, and ritualistic celebration of practices that appear to fulfill the intervention's innovative philanthropic promise" (Sims, 2017, p. 18). Both the concepts of charismatic technology and sanctioned counterpractices highlight that investment in Tech for Good projects requires active effort rather than passive subscription to technological determinism or utopianism.

[2] Repair, as a set of practices, has received increasing attention in Science and Technology Studies (e.g., Vinsel & Russell, 2020). This research emphasizes the importance of maintenance, repair, and care in ensuring the health of economic, political, and sociotechnical infrastructures, drawing attention to oft-overlooked invisible labor. This body of work has a different aim than this article; here, I am focused on workers' efforts to maintain and repair desired affective states rather than material infrastructures.

Methods

This article presents selected findings from a broader study of technopolitical activism in the San Francisco Bay Area. The larger study explores how different nonprofit and activist groups shape the development and deployment of digital technologies in the region. I conducted interviews and participant observation with members of organizations addressing a range of social issues, including surveillance and police violence, digital civil liberties, the private ownership of internet infrastructure, Google's campus project in downtown San Jose, and government technology in general. The project analyzes how organizations conceptualize problems related to digital technologies, how they work to address them in practice, and what kinds of futures they imagine for the Bay Area.

The term "civic technology" is not my own; rather, it is a term that participants and other practitioners use to describe a network of technologists, policymakers, activists, and bureaucrats united by a commitment to improve digital government services. Civic technology is a young, heterogeneous field with porous boundaries and a fluid identity. Cyd Harrell (2020), San Francisco's chief digital services officer and a former product director for Code of America (one of the largest civic tech nonprofits in the United States), defines the field as

> a loosely integrated movement that brings the strengths of the private-sector tech world (its people, methods, or actual technology) to public entities with the aim of making government more responsive, efficient, modern, and more just. It also seeks to use digital tech to reimagine interactions among fellow citizens working together, and between those citizens and their governments. Simply put, those of us who work in civic tech want public digital goods to be as good as the ones made by commercial entities like Apple or Google—and we want public digital infrastructure to be as good, too. We want to access services, exercise rights, and build communities with the ease and respect that the best digital technology can afford. (p. 13)

In short, civic technologists endeavor to make government at all levels more transparent, accountable, efficient, and participatory by designing and implementing digital technologies in partnership with government bureaucrats. Although civic technology organizations tend to be nonprofits run by paid staff or volunteers (or mix of both), companies are increasingly operating within the space: There were an estimated 121 companies doing this work in 2012, up from 16 in 2000 (Patel et al., 2013).

Over a six-month period between 2018 and 2019, I conducted participant observation and interviews with civic technologists in the Bay Area, including volunteers, staff, and founders of civic tech nonprofits as well as municipal bureaucrats partnering with civic technologists on various projects. I conducted 25 interviews with volunteers and staff of civic tech organizations: six with municipal employees; 12 with volunteers of civic tech nonprofits; five with paid staff of nonprofits; and two with founders of civic tech organizations. These categories are quite fluid, however; for example, several of the municipal employees were former high-tech sector workers who had switched to public employment after volunteering in civic tech.

I drew on various recruitment methods to identify potential participants for this study. If I could find project leads' contact information on organizational websites, I started by messaging them. From there, I used snowball sampling and requested interviews in person with participants whom I met while attending organizational meetings. Most participants identified as White, and all had at least an undergraduate degree. The interviews were semistructured and lasted about 45 minutes. I also conducted direct observation with civic tech organizations, attending their monthly meetings and periodic events while taking fieldnotes (Emerson, Fretz, & Shaw, 2011). Throughout, I observed organizations' online communications, including e-mail lists and Slack channels (I was invited to join by several participants), although I do not quote from this material directly to protect participants' confidentiality.

I used open coding to analyze the empirical material, focusing on generating codes that stuck closely to the data (Charmaz, 2006). I first coded each interview line by line following the conclusion of the first round of fieldwork in 2018. I then conducted a second round of coding, where I combined existing codes and refined them based on themes that emerged repeatedly throughout the interviews. I then finalized the codes by ensuring there were no significant overlaps between them. At this point, I conducted a third round of coding where I applied the finalized list of codes to all interview transcripts to ensure the same set of codes were applied to each interview. In 2019, I returned to the field with a new interview guide that focused on reaching saturation with the finalized code set and exploring nuances within these categories (Glaser & Strauss, 2010). I completed data analysis in fall 2019 after returning from the second stint of fieldwork.

"This Is Not Super Fulfilling to Me"

Volunteers chose to get involved in civic technology for three (often overlapping) reasons: Volunteers desired a space to engage in technical work with like-minded people without the hierarchical control they experienced in their workplaces; they felt disconnected—and, at times, disdainful—of their work and desired a space where they could build products that would benefit the common good; and they desired to change the ecosystem of technology production by shaping how and why technologies were built. In each instance, participants were initially excited to start a job in the Silicon Valley high-tech industry but became gradually disillusioned with their work. In response, they started volunteering in civic technology, where they constructed models of what they wished their workplaces looked like: decentralized, nonhierarchical organizations in which technologists could pursue their passion projects while contributing to the common good and securing economic benefits by networking and skill-building opportunities.

Flexible and Autonomous Work Arrangements Among Like-Minded People: Jenna

Jenna, a White woman in her mid-30s, worked as a UX designer for a local firm. She explained that although the job was "great for my career," she did not feel like she was making a positive impact on the world as she had hoped. "It's not that they were doing unethical work," she said, reflecting on her current employer. "It was like, predominantly benefiting [other] companies, and it was very profit oriented." This was not to say she thought her job was pointless. "The work I was doing was enterprise software and benefits a ton of people, and it enables them to do their job faster and easier. But the end result is just profit for a large corporation." Eventually, Jenna said, "I was like—this is not super fulfilling to me . . . I just

really felt like I wasn't doing much good for the people who actually really, really needed some good for them being done." Jenna also felt disconnected from her coworkers, many of whom were not as interested in politics. "My mindset was very different than a lot of my colleagues," she explained. "It was a more conservative company; people were not very politically minded. They were interested in different things than I was interested in, and that was a little isolating as well."

Jenna started looking for local professional organizations, events, and nonprofits that she hoped could help her connect with others who shared her interests and concerns.

> I think I was really just looking for more people that cared about the same things that I did, and just wanted the opportunity to work on projects that allowed me to learn in a space where there wasn't a hierarchical ladder delegating what I can and cannot do, and what is my role and what isn't. The opportunity to build something that mattered more.

Jenna believed that her workplace role was restrictive and did not afford her much freedom to decide how to engage on certain projects, and she sought out alternative spaces where she could practice her skills, work on projects that interested her, and focus on building technologies that would have a social impact—all while doing so among a community of like-minded people.

Passion and Meaning: Owen and Victor

After graduating from a college in the Midwest, Owen did what many of his peers in computer science were doing: He moved to the Bay Area to find a job in the tech sector. "We all got internships at various places, most of them at Big Tech companies, or big-ish companies, that have IPO'd." Owen ended up working for a start-up that was running a petition website and was initially very excited about the position.

> It's like, oh, this is kind of cool because you can drink the Kool-Aid[3] and be like, I'm using my software engineering skills to make something that is useful for people and helps them express themselves and improve the world.

Eventually, one of Owen's colleagues decided to switch jobs and move to a different company—a common practice in the high-tech industry known as job-hopping (Marwick, 2013; Shih, 2004). According to Owen, his coworker "was just looking to do more networking because he wanted to find a new job. So, it was like, Let's check out this [civic tech group]." Owen went with his coworker to the organization's biweekly meeting and was immediately intrigued because it rekindled his love for computer science. "Part of the reason why I got into computer science or why I went into that," he explained, "it's just fun to make things, hack on things, do that—and [civic tech] gives a good avenue for doing that in a way that's productive to someone outside of myself." He started thinking about making a career change into civic tech. Even

[3] The phrase "drinking the Kool-Aid" references the 1978 Jonestown Massacre, in which members of the Peoples Temple, led by Jim Jones, drank cyanide mixed with fruit punch in a mass suicide event. Since then, the phrase has come to refer to unquestioning subservience to the will of a group (Moore, 2003).

though "nonprofit pay is not as good as Bay Area start-up pay," civic tech was "something that feels . . . like, this is fulfilling. This is a good thing I can do."

Owen ultimately decided to leave the start-up after witnessing what happened to the company in the months leading up to the 2016 U.S. election. "Our product ended up being taken over by the alt-right," he told me. "It was toxic—it was a toxic, terrible place to be. I'm like, 'Oh, god, we are facilitating this terrible stuff happening online.'" The alt-right "takeover" of the company's product made Owen feel "disenchanted with the whole online political organizing space" as well as with "the big picture of, you know, we're making tools that help people express themselves. It's like, well, the only people doing that are crazy people." At this point, Owen decided to leave his start-up job for a paid position with a civic tech nonprofit. "That's what I've been doing ever since."

There are a few elements of Owen's trajectory that are important to tease out. When Owen first secured employment in the high-tech sector, he felt excited at the prospect of putting his computer science skills toward improving society. He assumed that the start-up company where he worked would be increasing citizen engagement in democracy and thus providing a public service. However, he started to feel disillusioned when he saw that the product was being used by the alt-right: rather than improving democracy, the company was harming it. At this point, Owen decided to switch jobs and work full-time for a civic tech nonprofit. His decision to exit tech work altogether and become more involved in civic technology was heavily influenced by his realization that the high-tech industry is not doing as it promises.

Victor, a Southeast Asian man in his 30s, also felt disconnected from the product he was creating, although for different reasons. Victor volunteered with H-Connect, a nonprofit civic technology organization that compiled and maintained an online directory of local homeless services. "I guess for me," he began, "it's me being unsatisfied with the day job that I have, as far as giving local impacts and doing good for the community that I'm a part of, which led me to this nonprofit." I was surprised when Victor said his day job was to "make sure cities across the U.S., now internationally as well, have clean drinking water systems." If there was an important job out there, this appeared to be it. Victor said as much: He knew his job was crucial because he grew up in a town without clean drinking water. Even so, he did not feel he was making a difference at his job. "I'm so far removed from the end product that I don't really feel the impact of what I'm creating," he told me. "Hence, you know, my search for other means to fulfill that goal." Although Victor's job is one that is widely recognized as crucial—all cities need clean drinking water—he still struggled with feeling the immediate impact of his work, and thus he felt dispassionate toward it. Victor expected to have a more tangible impact on daily life that he could personally experience. Absent that, he looked to a civic tech project on homelessness as an outlet where he could do the kind of work that excited him, even if—as he told me—he knew nothing about homelessness.

Improving the Common Good and Changing the Tech Ecosystem: Sacha

Sacha, a White man in his 30s, moved to the Bay Area from Europe several years before our interview to attend graduate school. After completing his degree, he "ended up doing software engineering and data science and, because it was the Bay Area, I ended up joining a start-up afterwards." After working for the start-up for a year and a half, Sacha "realized that, despite whatever people say about start-ups, it's

not necessarily the best way to be changing the world for the better." Sacha repeatedly blamed the "ecosystem" of the Bay Area start-up scene for failing to properly incentivize companies to build products which improve the common good. "You have a lot of money, a lot of people who are claiming that they're changing the world, but the reality is that the incentives are not trying to make you change anything. Especially when money is involved." Sacha acknowledged that "as a young graduate you want to believe that whatever cool technology you're working on is going to be used for good," but "the value creation is not going to—it isn't directed towards a social impact . . . the incentives are just not towards social good."

Like Jenna and Owen, Sacha believed that high-tech companies were not putting out products that prioritized public impact over profit. He eventually left his job with the start-up and started working for a civic tech nonprofit.

> I worked there for two years, and we were mostly working with either nonprofits—who didn't have the same level of technical skills—or the government or working on our own projects trying to use software engineering and data science towards social impact.

But Sacha became frustrated with the civic tech ecosystem as well. He and other engineers with the nonprofit were "stuck in this consultant work, contractor type of work" where they helped other organizations address what they believed to be simple technical projects such as building websites. Sacha also did not feel like he or his coworkers "had the subject matter expertise to necessarily start our own projects." At the same time, Sacha found the experience

> frustrating . . . because we were doing cool technical work, we had a big inbound of tech volunteers coming from Uber and Facebook and so on who were like, Oh, can I help you out? And we were like, No. We are already a team of ten engineers; we are not the ones who need help.

As a result, Sacha and a cofounder created their own nonprofit that matched existing "social impact projects" with tech workers who had the technical skills the projects required. The nonprofit, TechPledge, was "an aggregator of social impact projects that need technical help." Their goal was to "try to make it as easy as possible for a tech volunteer to find a project that is at the intersection of their skills and their interests and try to make it as efficient as possible."

In many ways, Sacha's recounting mirrors that of other participants. He moved to the Bay Area to work in the high-tech industry, and initially he was quite excited by the opportunity. However, like many others, he came to realize that tech companies prioritized profit over public impact, and he instead founded a civic tech nonprofit. When the industry could not fulfill its promises to Sacha, he elected to create a space where he could fulfill them himself.

Repairing Affective Attachments to Tech Labor

What happens after technologists start engaging in civic tech? In this section, I consider the ways in which participants' affective attachments to their jobs continue to shape their engagement in civic tech

projects beyond deciding whether to get involved or not; indeed, these attachments to their professional life—which had previously caused them to feel disillusioned, lonely, frustrated, and alienated—become productive objects of repair via volunteering. In short, civic technologists aspire to repair their affective attachments to their jobs in the high-tech sector (and their identities as technologists) by reinvigorating their passion for technical work, the passion which they initially felt when they first started working in the high-tech industry, and connecting, in practice, the pursuit of their passions with contributions to the common good. The question then turns toward the effects of these feelings of disillusionment and alienation as a going concern within the particular political situation of Tech for Good volunteerism, that is, How do these volunteers negotiate the affective complexity of their drive toward volunteering when they are practicing volunteers within the Tech for Good movement?

The civic technology organizations I observed for this study refrained from prioritizing issue areas for volunteers; in fact, they actively worked to avoid doing so. Organizations invited volunteers to work on issues which interested them personally, whether it was homelessness, public transportation, bike lanes, or campaign finance. Once volunteers chose a project, they had wide latitude for deciding how they wished to engage with it. Volunteers had complete control over the content, pace, and direction of their projects, and were able to build technologies which they hoped would contribute to the common good without having to worry about turning a profit, as they typically would at work.

When Sacha founded a civic tech nonprofit, he explicitly decided not to prioritize issue areas for volunteers:

> We decided not to make this choice ourselves and be as impact-agnostic as possible, which is hard because we—as the founding team—have feelings and preferences. But we also acknowledge that everybody has their own opinion of what is important. Some people might think that climate change is the biggest issue, some people might think the refugee crisis is another issue, other people might think they are super linked and should probably be solved at the same time . . . Everybody can have their own freedom to connect with a cause, so we decided to not decide for other people.

Here, Sacha characterizes social problems less as collective issues and far more as matters of idiosyncratic and individualized "feelings," "preferences," and "opinions." Each volunteer might have their own, and the role of the organization is to facilitate participants' pursuit of their feelings of what is important. I heard similar explanations from other civic technologists. For example, when I asked Samir what he thought were the biggest problems facing the Bay Area—and whether his organization was working to address them—he responded:

> The Bay Area faces a lot of issues, from homelessness to rent control, to public projects and transportation issues and congestion . . . I mean, as a whole organization, we haven't really set aside certain topics that we want to address. We're just trying to bounce around ideas . . . It's hard to give my personal—I can only tell you what I care about.

Samir referred to the project he worked on as "one of his passions."

These types of characterizations were common among participants. Although they often talked about local social problems in structural terms when I asked for their thoughts about issues facing the Bay Area, they spoke about civic technologists' political impact in terms of individual participants' feelings and preferences and their importance in guiding the work the organizations do. For example, Nathan conceptualized civic technology's contribution to the common good as stemming from their ability to mobilize participants' idiosyncratic passions. "We have all these volunteer projects, but then every project sort of has its own goals," he told me.

> As an organization—I mean, we as a community—I think we're just trying to come together and push for change in all these different areas that people are passionate about. But we really, I think, allow people to bring what they're most interested in and passionate about to the organization, bring that. Bring that change over with them.

Project managers reflect this priority in how they guide their teams and structure their project goals. Paul, the lead on a project mapping hazards to bicyclists in a local city, explained how he onboarded new project members. "I have a document that says, Welcome to the project, here's the project," he told me.

> My project is really like, five smaller projects that kind of connect. I've outlined them, tried to scaffold as clear as possible without making it feel like work. Like, assign this to yourself and I'll check in in a week.

When structuring his civic tech project, Paul focused on producing certain feelings among participants: Although they were designing projects like they did at work, the experience did not feel like work. The material difference between work and volunteering here is that volunteers are permitted, and encouraged, to pursue their passions and interests and to do so as slowly or quickly as they want. For example, Paul emphasized that he encouraged volunteers to decide for themselves where and how they wanted to contribute. "It's hard to ask people to own something when it's a volunteering thing," he explained. "I value people's time. And I don't want to be like, Hey, I'm now relying on you to build this thing out. So, I wait for them to step up." A major component of Paul's strategy involves cultivating certain feelings and avoiding others: participants should not feel that they are at work, but they should feel in control of their engagement; they should not feel tied to a particular task, but they should feel a sense of freedom derived from their ability to join and leave projects at will. "The reason I don't want it to *feel like work* is because we don't have customers, we don't have a deadline, really . . . I just want people to *feel* like they can come and go" (emphasis added). He later reiterated this point, explaining:

> If I assign a task to someone, then they now feel like they are stuck on that channel, as opposed to having the freedom to be like, "Well, I know I said I'd do this, you've given me the opportunity to take a step back from this, which doesn't happen at work, and now I'm kind of liking it over here." You know, I just want people to *relax and be themselves.* (emphasis added)

Discussion and Conclusion

In recent years, scholars have uncovered glaring race, class, and gender disparities in algorithmic systems used in everything from screening tenants for housing (McElroy & Vergerio, 2022) and predicting crime (Brayne, 2020) to determining prices for consumer goods (Pandey & Caliskan, 2021). At the same time, local governments are employing digital technologies to help deliver social services more quickly, efficiently, and democratically (Eubanks, 2017). Recognizing how digital technologies are increasingly consequential for residents' lives, policymakers, activists, scholars, and practitioners are pushing technologists to embed a new set of values into digital technologies that prioritize equity and justice to ameliorate—rather than reinforce—inequalities (Benjamin, 2019; Costanza-Chock, 2020; D'Ignazio & Klein, 2020; Hintz, Dencik, & Wahl-Jorgensen, 2018).

The field of civic technology emerged in part in response to these calls. However, many civic technology initiatives (and adjacent Tech for Good projects) have been criticized for relying on technological determinism (Green, 2019; Liu, 2020; Madianou, 2022; Sadowski, 2020), a framework which assumes that technology develops outside of society, independent of social factors, and that technological change determines social change (Wyatt, 2008). Tech for Good, according to Madianou (2022),

> essentially assumes that technologies will provide solutions to complex social problems. Technology, which in this context is almost always synonymous with digital technology and computation (see also parallel terms such as "AI for good"), is intentionally designed and developed to address social, economic and environmental challenges. (p. 281)

Green (2019) argues that many technologists and policymakers who are trying to improve government tend to approach problems through the lenses of "tech goggles," which lead them to reconceptualize all social problems in technical terms, thus ignoring their complex, normative, or otherwise political aspects (p. 4).

These criticisms are important. However, analyses approaching civic technology solely from the lens of technological determinism need to be supplemented with accounts of the consequential role of affect in shaping civic technology projects. Civic technologists spoke of being "unfulfilled," "disenchanted," and "unsatisfied" and felt like they were not "doing much good" or "creating impact" in their jobs—jobs that were sometimes described as "toxic" and "terrible." Crucially, civic technologists talked about their feelings—of disillusionment, disenchantment, disappointment, loneliness, and alienation.

The concept of repair work captures the dynamics of civic technology projects as described above. Repair work draws on recent research on technophilanthropy (Ames, 2019; Sims, 2017), which emphasize the active efforts participants must engage in to uphold beliefs about the role of technology in ushering in a new, better future. It also builds on scholarship on labor and affect (Alarcon, 2022; Cech, 2021; Chen, 2022; Cote & Harris, 2021; Neff, 2015; Pagis, 2021; Turner, 2009) that emphasizes how certain affective states (e.g., passion and excitement) are produced as desirable and how individuals structure their work experiences toward attaining them—and, as Alarcon (2022) and Turner (2009) point out, workers might seek outlets for attaining such affective states outside the workplace. Thus, rather than understanding Tech

for Good initiatives as passively subscribing to static ideologies such as technosolutionism, repair work conceptualizes participants' engagement as working toward upholding, reproducing, and reinvigorating certain moral orders, understandings of desirable workplaces, and visions of the future. The civic technologists who participated in this study believed that the promises of the high-tech industry were going unfulfilled, and as a result they leveraged civic technology organizations into repurposing what they wished their workplaces looked like. In doing so, civic technologists were able to repair their affective attachments to their labor: they could prove to themselves, and each other, that tech work—under certain conditions—can disrupt existing institutions for the better while providing technologists with financial security. Affective attachments are not the sole force shaping the dynamics of Tech for Good projects, but they certainly are a significant one.

Accounting for civic technologists' repair work can aid researchers and practitioners in explaining how volunteers attempt to design digital technologies for the social good. For example, many projects end at the "proof of concept" stage, meaning they are never adopted by a government or community partner, and yet several participants still held these projects up as success stories. If one of the primary drivers for technologists to participate in civic tech is the opportunity to build an idealized version of their workplaces where they can prove that tech can do good, this might explain why "proof of concept" is enough; it proves that the technology could work, it could make a difference, even if it is not. It might also explain why these technologies are not adopted: when volunteers are encouraged to pursue their passions and feel excited about their projects, this often means they work in cutting-edge coding languages that municipal bureaucrats don't know and thus don't have the resources to maintain. Volunteers might also pursue niche interests that fail to have broader appeal among residents; repair work helps explain the gap I noticed between what participants said were the most important problems facing the Bay Area and the problems they were working to address with their civic tech projects.

There are a few limitations of this article that are important to address. This study was not originally designed to explore disillusionment in the high-tech sector; rather, disillusionment was a theme that emerged in a subset of participants of a broader study on technopolitics in the San Francisco Bay Area. As such, one limitation of this study is that it does not address alternative means by which employees might deal with their disillusionment. For instance, I cannot speak to why disillusioned workers get involved in nascent unionizing efforts in the industry, or why workers might choose to exit technology work altogether. One avenue for future research could be to address this very question: What are the different, varied ways in which workers are dealing with disillusionment, and why do they select some avenues over others? Another limitation stems from my decision to study civic technology organizations in the San Francisco Bay Area. One of the things that makes the case so interesting is that participants are living and working in the economic and cultural center of American technological innovation—working at some of the most highly coveted jobs in the country—and yet they are still feeling disillusioned with their jobs. However, this uniqueness also serves as a drawback. This article should not be read as a study of the field of civic technology in general, nor should readers generalize the findings presented here to all civic tech organizations. Civic technology is a diverse field with organizations in dozens of countries, and future research should endeavor to tease out local differences in how civic technologists think about their engagement and how it relates to their careers.

That being said, the findings presented in this article have consequences for how scholars investigate and conceptualize efforts to design for social justice. By tending to the role of affect and labor in Tech for Good projects, scholarship can better attend to the more subtle influences of the high-tech sector on efforts to design for social justice. In addition, this study demonstrated the enduring importance of passion and fulfillment for high-tech workers employed in the San Francisco Bay Area. Future research should investigate how workers' pursuit of these affective states finds an outlet in volunteering—with consequences for the future of high-tech workplaces as well as local patterns of civic engagement.

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