

ENTREPRENEURIALISM AS PRECARITY: AMERICAN BOOKKEEPERS AND
TECHNOLOGICAL TRANSFORMATION

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by

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by

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ABSTRACT

ENTREPRENEURIALISM AS PRECARITY: AMERICAN BOOKKEEPERS AND TECHNOLOGICAL TRANSFORMATION

by Melanie Maxwell Bailey

This study documents how small, U.S. bookkeepers are coping with and adapting to changing accounting technology, revealing how larger social and economic processes shape those reactions. This ethnographic research was conducted through literature review, ethnographic fieldwork, and semi-structured interviews, which were then thematically coded and analyzed. New accounting technology is seen both a tool and a source of freedom for bookkeepers, enabling remote entrepreneurship (argued to be a manifestation of neoliberal ideals) for the White women who primarily make up the industry. However, a major consequence of these technological transformations is the increasing ability to automate tasks bookkeepers historically considered the primary portion of their jobs. Thus, two major tensions around technology and how it continues to affect work processes drives the accounting community's engagement with these topics. While technology companies promote the positive transformation of work through technology, many small bookkeepers express fear around their own increasing economic precarity. Meanwhile, communication technologies allow remote bookkeepers to connect with others and form online communities, reinforced through in-person conferences. These networking tools provide bookkeepers resources for navigating technology and accounting specific problems. Bookkeepers prove active agents in navigating technological and business changes in a landscape increasingly dominated by artificial intelligence and algorithms, while also operating within the constraints of the neoliberal state.

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Chapter I: Introduction

Introduction and Problem Statement

My first interview was with Sarah, a Maryland based bookkeeper I met at an accounting conference in 2019. After some initial technical troubles drove us from video conferencing to FaceTime on our phones, we laughed and chatted like old friends. We talked about her business and how she got started (a loan from an ex-boyfriend!), how she was using technology in her business now, and how she wanted to do even more with it. Our conversation moved into her business community and ended on imagining the futures of bookkeeping. Sarah speculated with me, anticipating the influence technology may have on her work ten years into the future. She supposed in ten years, bookkeeping will be increasingly automated, and the people who are afraid to adopt new technology will be retired or dead. I leaned into the phone and probed Sarah, “Have you thought much about what different services might look like for you? If stuff keeps getting automated?” In an instant, her demeanor shifted from cheerful to serious. “I try to think about it, and I start having panic attacks about it.” Sarah anxiously explained she *feels* like she’s smart, but she sees people with less experience than her being successful. “It’s a lot of pressure on me to probably challenge myself, or to use my skill set more. [...] But I can’t say that’s going to make me happy. I think that that’s certainly some soul searching that I have to do, and try to figure out, how can I market myself? Aside from like ... paying bills.”

The application of artificial intelligence, machine learning, and blockchain technology to accounting technology is profoundly transforming the ways bookkeepers accomplish their work (Alexander 2018). One major consequence of these changes is the increasing ability to

automate tasks that constitute what bookkeepers once saw as a primary portion of their jobs, specifically timely transactional data entry. Technology companies like Intuit develop and sell software that automates these tasks while promoting changes as “processes that streamline firm workflows, boost accuracy, and give valuable time back to bookkeepers to concentrate on their clients” (Alexander 2018). Meanwhile, many small bookkeepers express anxiety around their increasing economic precarity, especially concerning the future sustainability of their jobs and businesses. If what bookkeepers used to spend most of their working time on is now being done by machines, what will clients pay them to do? Here we see an alternative view of changing technology in bookkeepers’ belief that these changes will actually lead to the loss of their jobs, rather than the transformed roles promised by technology companies and thought leaders. The 2019 introduction of QuickBooks Live, an Intuit-offered bundle of bookkeeping services and software product subscriptions, brought these very issues roaring into public conversation in the bookkeeping community (Oliver 2019). Although not unique to bookkeepers, this is simply one example of the broader national reach of automation and its impact on work, jobs, and entrepreneurs.

Although anthropologists have addressed issues of work for years, there is a gap in anthropological knowledge on how entrepreneurs, like small bookkeepers, are coping with and adapting to new technology and automation within larger structures of economic precarity. What innovations, in practice or technology, did they adopt to respond to these changes? To understand these questions, I examined how small bookkeepers navigated multiple kinds of changing technology in how they accomplished their work, ran their businesses, and connected with their communities.

“Your Job Will Be Replaced by Bots”: My Work as a Bookkeeper

In 2011, I joined my mother in what eventually became our small bookkeeping business and I began attending accounting conferences in 2014. When an accounting vendor asserted to a room full of bookkeepers and accountants from an accounting conference’s main stage “your job will be replaced by bots,” quiet, nervous laughter filled the air around me. Although this vendor was especially bold, it was not the first time we had heard that message. Despite their claims that those displaced could shift their work into something new – typically whatever variation of a ‘trusted advisor’ was trendy at the moment – the community was uneasy, with no real clue what the future held for them. I knew the impact of new technology adoption on bookkeeping was significant – my mother and I spent years learning how to use a whole ecosystem of accounting tools and other technology solutions that connected and shared information in a variety of ways. I wondered, however, what that impact was actually going to look like for the bookkeepers doing their everyday work.

This research project was born from experiences like the one above – the observation that ‘thought leaders’ in the bookkeeping, accounting, and accounting technology world were loudly predicting a future where robots would replace the services provided by bookkeepers. The palpable unease I felt at conferences was what motivated me to apply to San José State University’s Applied Anthropology M.A. program in 2018, to be able to study the changes I was seeing in the bookkeeping industry. My undergraduate education in anthropology meant I could not help but interrogate the deterministic narratives I heard at conferences. I felt certain more could be brought to the conversation around automation and work using the

holistic, social lens of anthropology. I was especially interested in understanding the possible futures of not only the bookkeeping industry but work in general.

Building on my existing knowledge on bookkeeping, accounting, and many of the common technological tools allowed me to start my research with some shared language and understanding with the bookkeepers I interviewed. This knowledge certainly helped me predict I would be able to conduct successful interviews with the remote community over video conferencing, since we regularly communicated with bookkeepers this way in networking contexts. It also allowed me to access the community more quickly and easily, since I was able to leverage my existing connections. I continued my work as a bookkeeper in our small firm throughout this project, experiencing changes in real-time, following conversations in online spaces like Twitter (#TaxTwitter) and Yammer, receiving marketing emails from vendors, dealing with real bookkeeping issues, and the clients themselves five days a week.

Key Anthropological Concepts

What follows is a discussion of the key anthropological literature and concepts that shaped my research. I begin with two tensions that dominate bookkeepers' conversations concerning how technology affects work processes. One anticipates a negative outcome, the loss of jobs, and the other postures a positive transformation of jobs. These debates are not new. In fact, major shifts in technology, especially when they significantly impact the ways people perform work, have led to struggles adapting to change and fear for centuries (think of the Industrial Revolution). Next, it was important to consider that, in the digital era, increased adoption of communication and cloud-based technology has led to a steadily more remote

and mobile workforce and a growing awareness of the influence of the people designing technology. Then, I discuss how the spread of neoliberal ideals and increased precarity in the job market, especially when considering the lack of state-level resources in the U.S., is an important framework for conversations around entrepreneurship. Finally, as I worked through the literature on workplaces and entrepreneurship, I was struck by the importance of access to resources, and the relationships entrepreneurs had with their business community. The literature explored how this access was shaped by gender, race, and larger social and economic forces.

Technology's Impact on Work Practices

I started this research thinking about the narratives I heard at conferences around the topics of technology and work. I recognized the technologically deterministic binary I heard at conferences for many years in two prominent positions from the literature centered on changing technology and its impact on work processes. These mid-twentieth century debates were focused on employers who, influenced by neoliberal ideals, implemented progressively industrialized work processes that increased the individualization of work and reduced the social aspects of that work (Hakken 2000). Robert Blauner and Daniel Bell argued this decrease in manual labor led to increased mental work, which was an improvement on the previously decidedly manual factory work (Hakken 1988). The other side of the argument, as debated by political economist Harry Braverman, argued business owners chose technology that reproduced existing power structures by reducing employees' skills and retaining power in the process. Therefore, technology was not actually liberating workers from their current

power structures. This view was later critiqued as not taking enough consideration of worker resistance, among other things (Hakken 1988).

These two core tensions, one positively viewing (techno-utopian) and one negatively viewing (techno-dystopian) the effects technological changes have on work, were key storylines I heard in the conversations bookkeepers were having around their understanding of the future of the industry. I was inspired by Samuel Collins (2018) exploration of how these technologically deterministic narratives are a false binary and his explanation that technology is solely one element of social forces impacting change. Collins (2018) argues anthropologists can use the voices of workers to create alternatives to these two primary narratives and address community needs through “community-centered technology” (8). Hakken (2000) also addressed this topic, arguing anthropology can bring focus to the varied ways work has been performed in the past to show there are more than these deterministic options in the future. These ideas strengthened my plan for this research to focus on bookkeepers’ past and current lived experiences to help me think about different possible futures.

Because of the pervasive talk of artificial intelligence and blockchain in the bookkeeping circles I hung around in (online and at conferences), I expected my research to focus heavily on those topics, along with machine learning and algorithms. I explored these subjects in the literature, only to realize algorithms were only another stage in a continuing journey of changing technology. This set of literature reinforced that technology is at its core a social creation – created by people, to solve socially constructed issues. Ian Lowrie (2018) pointed out the use of algorithms in technological solutions is nothing but the next piece of a long

history of automation, done in a new way. Much of the work on algorithms emphasize that they, and other technologies, are ultimately created by humans, and therefore are inherently social (Ilahiane and Venter 2016; Lowrie 2018; Nafus 2018; Seaver 2018). Like in conversations around technology's impact on work practices, some authors argued robots would be labor replacing (Collins 2018; Lowrie 2018). Others argued algorithms and technology would enhance or extend human labor, but not completely replace it (Seaver 2018). Dawn Nafus (2018) argued the importance of including the people algorithms impact at the point of data collection in the algorithmic development process. This speaks to the same involvement of people proposed by Collins (2018), which, for me, reinforced the importance of the research I wanted to conduct, and my desire to focus on the bookkeepers themselves, both for the benefit of bookkeepers and for the corporations developing new technology.

Remote and Mobile Work

From my own experiences, I recognized the ability to be a remote or mobile worker was another key experience of bookkeepers, especially as they increasingly worked with cloud-based products. This brought me to discussions in the literature around changing modes of work. Julia Gluesing and colleagues (2008) found remote and mobile workers often struggled with what work looked like in their remote context. The authors observed what the nature of remote and mobile work requires, and that it is made possible by the use of communication technology. The erosion of traditional physical work patterns (e.g., arriving and leaving an office) along with patterns of mixing work and personal tasks throughout the day left remote and mobile workers struggling with how to communicate in a visible way to their co-workers

they were accomplishing tasks. Gluesing and colleagues found remote and mobile workers struggled with shifting identities depending on their situational and social contexts. Workers also struggled to maintain a sense of community. Henry Delcore (2018) and Brigitte Jordan (2009) show some of the ways technology has facilitated the blurring of lines between work and home. Gluesing and colleagues explain this technology requires frequent training.

Braverman and Gluesing and colleagues also note how control can factor in technology use, especially for those who are not independent workers and are forced by their employers to use specific technologies.

Neoliberalism, Precarity, and Entrepreneurship

Applied anthropology encourages its students to also consider structural factors. This brought me to the literature on entrepreneurship, particularly small entrepreneurs.

Reminiscent of the discussions around the broader changes to increasingly individualized work practices, another place we see neoliberal influence is in the global embrace of discourses around entrepreneurialism (Browne 2001; Faas 2018b; Freeman 2014).

Entrepreneurship is often advertised as a self-help solution to poverty and economic precarity, despite the growing literature showing successful entrepreneurship is the result of much more than a rational market or a good work ethic (see Beresford 2021; Faas 2018a; Hart et al. 2010).

A.J. Faas (2018b) highlights the agency exercised by his interlocutors within global and state level discourses of neoliberalism and entrepreneurship in a disaster context. Officials and consultants encouraged community members to turn to entrepreneurship as a strategy to recover economically after displacement and destruction by a volcanic eruption. While

successfully suggesting creative business ideas, employing agency, and empowering themselves in the process, community members still failed to disrupt the expansion of dominant powers (Faas 2018b). Melissa Beresford (2021) also observes calls for entrepreneurship globally, showing how local histories of apartheid and income inequality impacted the way entrepreneurship materialized in the South African setting.

Beresford (2021), Andrea Rissing (2016), and Laura Zarrugh (2007) discuss strategies entrepreneurs employ to obtain capital for start-up costs, to float them when cash is short, and for expensive business investments like large technology purchases. Each author found few small entrepreneurs obtained funding through banks, but rather relied on investments from family and friends, both through cash loans and free or cheap labor. Zarrugh (2007) and Beresford (2021) also address the role of race and ethnicity in access to financial resources, describing alternative methods like relying on friends, family, and bartering utilized by entrepreneurs to obtain the resources they need. Katherine Browne (2001) examines how inequalities (social and economic) are part of a historical continuum, going back to issues of slavery and colonialism.

Although I was aware from my conference experiences that bookkeepers were predominantly women, several authors helped me examine gender's role in entrepreneurship (Browne 2001; Cefkin et al. 2014; Freeman 2014; Zarrugh 2007). Browne (2001) and Carla Freeman (2014) show how women's aspirations to be self-employed are often driven by different priorities than for men. Browne notes female entrepreneurs in the Caribbean experience tension between their desires to achieve in business and their desires to nurture a family. Such tension is a significant factor in their choice to pursue entrepreneurship to try to

bridge those goals given their cultural roles in family. Zarrugh (2007) sees a similar desire in Latina entrepreneurs in Virginia, discovering for some women, becoming entrepreneurs was also a solution to childcare issues. Browne also highlights how dependencies on state resources influence women's involvement in the self-employed sector, finding when different Caribbean countries provided better securities through the state, women's desires to become more economically independent were reduced. Melissa Cefkin and colleagues (2014) similarly note how increased state level support for individuals in the U.S. through the Affordable Care Act, along with new business models and new technologies, contributed to an increasingly reorganized workforce. Rather than the organization or workplace being the place where productive work is contained, the lure of self-employment includes freedom from the workplace, but also highlights a system of crumbling job security.

From Project to Thesis (or Nothing Ever Goes to Plan)

My research was originally designed to be a project, where rather than writing a thesis I would work with a community partner and would provide them a report on my findings as a deliverable. In addition to small bookkeepers, I originally planned to interview Intuit gatekeepers (people like product managers, designers, and executives). I intended to include questions on Intuit's approach to their products and their ideas about the future get the perspective of the people designing, creating, and selling these new technological solutions. This intention is what led me to choose the head of Intuit's ProAdvisor and education program at Intuit as my project partner instead of some of the other accounting industry members with whom I initially discussed my research. My partner at Intuit was interested in gaining a deeper understanding of how bookkeepers were impacted by what they saw as the

‘need’ to adopt new technology. They wondered why bookkeepers were struggling to move beyond data entry work to become a ‘trusted advisor’ with the help of their and other vendor’s technology. Then, my partner quit their job at Intuit without informing anyone else about our planned project. Before I could find a new partner, the pandemic hit. To cultivate a new partner would have been extra difficult and time consuming. Because of the project framing, I chose to pivot to a thesis, exploring broader questions. After some conversation with my advisor, Dr. A.J. Faas, we decided I would produce an anthropological journal article with the eventual goal of publication instead of producing a report for my now non-existent partner. I was pleased we found a solution that still allowed me to produce something more concise and concrete than a traditional thesis report. Additionally, in the uncertain context of COVID-19 it was helpful to not be dependent on a partner’s schedule.

Methodologically, I originally planned to include two to three interviews with people who were ‘gatekeepers’ between Intuit and the bookkeeping community to understand the intentions and messaging from the corporate point of view. I ended up focusing instead on only bookkeepers’ experiences, drawing understanding of the corporate point of view from my participant observation at conferences. I also originally wanted to incorporate financial data into my analysis. I wanted to look for the material, financial traces of technology use and community involvement, like conference attendance. This method drew inspiration from scholars who have conducted research on particular phenomena, both ethnographically and through incorporating the material traces of said phenomena (De León 2015; Gordillo 2014). It was, however, quite difficult to set consistent boundaries for such a data set. I was hoping to compare changes over time to what bookkeepers spoke about in interviews. However,

because my bookkeepers were in business for many different periods of time (some only five years, some for more than twenty years), setting a consistent comparative timeframe to show change was a problem. Additionally, bookkeepers I interviewed were hesitant to share such data. Many offered alternatives, like sharing percentages, but I was hoping to gather their raw financial data, anonymize it, aggregate it, and conduct my own analysis. It was a big request not only in terms of their own privacy considerations, but their client's privacy as well.

Methodology

Population and Site Description

This thesis looked at small (five firm members or fewer) bookkeepers in the United States who used QuickBooks Online and were remote or mobile workers. I limited the size of bookkeepers' businesses to five based on the use of a single person business (a 'solopreneur') and the range of two to five people as meaningful groupings in a 2018 survey conducted on behalf of Intuit (Satterley and Long 2018). To create a futures-focused project, I limited my population to bookkeepers who were already adopting the cloud-based accounting software, QuickBooks Online.

My research was conducted with a remote community; therefore, one primary research site was the virtual bookkeeping community (Jordan 2009). Beyond the remote community, I attended and conducted fieldwork at the Scaling New Heights (SNH) and QuickBooks Connect conferences, two major accounting conferences in the United States, in 2019. The SNH website describes the conference as providing technology and practice development training (Woodard n.d.). QuickBooks connect is sponsored and hosted by Intuit and advertised for both accounting professionals of all sizes and small business owners.

Sampling and Recruiting Strategies

I sampled my population using purposive sampling guided by quota sampling (Bernard 1994). This was supplemented with snowball sampling as well. I sampled for diversity in gender, race, age, and number of people in each firm. To recruit interviewees, I used my original partner's network and leveraged my own existing relationships with the professional community. I recruited at both conferences I attended in June and November 2019 by approaching bookkeepers after breakout sessions, and through introductions via bookkeepers I already knew. I also informally discussed my research at both conferences with vendors and well-known presenters, originally because I was seeking a partner for my project but also to discuss the topics generally and get their feedback. In this white woman-dominated industry, it was difficult to recruiting people of color. In retrospect, I connected with the two women of color (WOC) participants in my research by approaching them personally at the SNH conference and asking if they would be interested in contributing.

At my request, my partner sent me several bookkeeper's contact information. I posted a call for participants on the Woodard Network Yammer board, a message board for bookkeepers and accounting professionals who are paid members of the Woodard Institute program. As mentioned above, I also snowball sampled by asking bookkeepers at the end of our interviews if they could connect me with anyone else who might be a fit, especially people who identified as men and people not connected to the Woodard group. This led to my connection with a woman who ran a LinkedIn group for bookkeepers. Although she did not offer to add me as a member, she did agree to post my call for participants. I planned to include around twenty people in my sample, with the possibility of more if saturation was not

reached (Boeije 2002, 393; Guest et al. 2006). I ended up interviewing nineteen people between July 2019 and January 2020.

Methods - Ethnographic Interviews

I collected data primarily through ethnographic, semi-structured interviews (LeCompte and Schensul 2010, 176). I used a mixture of guided conversations (O'Reilly 2012, 117) and semi-structured interviews (121), conducted over video conference or over the phone. The only exception to this was my interview with the one Bay Area based bookkeeper, who I met in-person at a coffee shop to conduct my interview. I started my interviews by asking bookkeepers for background on their business. I inquired about their businesses at the time of the interview, how they started their business, and what their business was like when they first started them. I then moved into questions about their understanding of technology in a general way, how they were currently using (and not using) technology in their business, and how technology and their business practices have changed over the last ten years. Next, I inquired about their business community. I asked about who their business community was (if anyone), how they stayed connected to their industry, and who they went to for different kinds of business-related advice (both general and technology specific). I probed into technology's role in their connection with their community and if and how their community and connections have changed over the last ten years. Finally, we discussed their optimistic, pessimistic, and most probable ideas about the future of the industry. The futures portion of my interview protocol was partially based on the 'Work, Identity, and Community in Silicon Valley Project Protocol, rev. April 8, 1998' and was jointly developed by C. N. Darrah, J. A. English-Lueck, and J. M. Freeman, who hold the 1997 copyright.

Methods – Participant Observations

I conducted participant observation with the bookkeeping and accounting technology community at the SNH and QuickBooks Connect conferences (LeCompte and Schensul 2010). In my observations, I discovered what messages vendors and thought leaders promoted to bookkeepers about technology, automation, and the future of the industry. I noted how bookkeepers communicated with their peers about technology and how they discussed technology with vendors. I primarily focused on attending keynote presentations because those messages were designed for all conference attendees – no other sessions are scheduled during keynotes and commonly a majority of participants attend. I also joined break-out sessions offered at the conference and observed what dominant and underlying discourses were communicated about automation and changing technology. I intentionally chose to attend a small number of sessions, including sessions on QuickBooks Live, but otherwise joined bookkeepers I was socializing with at whatever session they were attending. Instead of attending breakout sessions during every time slot, I chose to spend some of that time mingling with vendors in the vendor hall, an area at the conference dedicated to vendor booths with representatives available to answer questions. Because I was recruiting at both conferences, I both observed and recruited participants through socializing with bookkeepers and vendors before and after breakout sessions, in the vendor halls, and at evening social events.

Analytical Strategies

Besides recording my interviews, I also took extensive notes. I spent time after each interview noting comments and actions that stood out. To better categorize, code, and

connect the salient themes, I transcribed my interviews using Otter.AI and Rev (Boeije 2002). Manually and in MAXQDA, I identified and coded themes inductively into large conceptual categories and looked for patterns (LeCompte and Schensul 2010). I looked for consistencies, differences, and used the conceptual groupings to compare within and between groups represented in my sample (Boeije 2002). Creating qualitative codes inductively, I started by grouping common themes from my interview notes on paper which I used to develop an initial set of codes in MAXQDA. I organized these codes into four main sections of my interview protocol: business information and history, technology's impact on work, community, and future thinking. For the business information and history, I grouped responses thematically based on what bookkeepers shared with me. For the other three sections, I added codes for several of my interview questions with subcodes to track their responses. Additionally, I included codes for topics that came up throughout the questions in each section. As I read through the transcripts, I added new codes as they appeared and periodically recoded anything labeled as 'Other' into new categories. I also added several codes for themes I noticed that did not specifically correlate with questions I asked, (for example comments about Intuit the company, which was often discussed separately from the software they made, QuickBooks). I considered both how often topics arose and if the participant identified the topic as important. Similarly, I studied my fieldwork notes and considered the speakers' messaging in a broader way. I highlighted topics that related to my interview questions and anything else that stood out to me, afterwards revisiting my interview data to compare what bookkeepers imparted, what I observed, and what vendors expressed to find similarities and differences.

Thesis Roadmap

This first chapter introduces my study topic, the problems I addressed, and key anthropological concepts and literature I reviewed, to better understand both the problem and the data I collected. It then discusses the evolution of this study from a project to a thesis and explains my methodological strategy. Chapter two is the journal article I produced as a key deliverable for this thesis, which I plan to submit for publication in the near future. Chapter three, the concluding chapter, explores the many topics I was unable to touch on in my journal article, including limitations of this study, broader impacts, the anthropological difference, and recommendations for future research.

Chapter II: Journal Article

Entrepreneurialism as Precarity: American Bookkeepers and Technological Transformation

ABSTRACT This study documents how small, U.S. bookkeepers are coping with and adapting to changing accounting technology, revealing how larger social and economic processes shape such adaptations. New accounting technology is seen both as a tool and a source of freedom for bookkeepers, enabling remote entrepreneurship (a manifestation of neoliberal ideals) for the White women who primarily make up the industry. Bookkeepers have a long history of navigating changing technology and carefully considered many factors when choosing to adopt new technology, including if it made their life easier and if the product had good customer service. However, a major consequence of these technological transformations is the increasing ability to automate tasks bookkeepers historically considered a primary portion of their jobs. Thus, two major tensions around technology and how continues to affect work processes currently drives the accounting community's engagement with these topics. While technology companies promote the positive transformation of work through technology, many small bookkeepers express anxiety around their own increasing economic precarity, especially regarding future sustainability of their jobs and businesses. Meanwhile, communication technologies allow remote bookkeepers to connect with others and form online communities, reinforced through in-person conferences. These networking provide bookkeepers resources for navigating technology and accounting-specific problems. Bookkeepers prove active agents in navigating technological and business changes in a landscape increasingly dominated by artificial intelligence and algorithms, while also operating within the constraints of the neoliberal state.

KEYWORDS: Entrepreneurship, bookkeepers, precarity, automation

Introduction

On a Thursday morning in 2019, I was swept along in a stream of bookkeepers (predominantly White women over the age of 40) drawn by pulsating music to the main stage at QuickBooks Connect, one of the major accounting conferences in the U.S. Around me, people called out greetings as they spotted far-flung friends for the first time at the event, pausing for quick hugs before hurrying in together to find seats. Event staff ushered us through the curtains into a cavernous room, dark but for the flashing lights and massive screens set up around the central, circular stage. Accounting technology vendors, mostly

younger salespeople wearing bright t-shirts emblazoned with vendor logos, wandered in with us before congregating in their own vivid groups at the back of the conference hall, prepared to beat the crowd back out to their booths. I trekked in past rows of seats before being hit with the ticking of an enormous countdown clock projected above me, signaling the show was about to start. Despite attending this conference in many prior years and joining this year as an anthropologist first and bookkeeper second, a familiar flutter of excitement and anxiety filled my stomach. Those of us just arriving hustled to find seats, though not the ones closest to the stage, of course. The early arrivals, usually groups of recognizable attendees, staked those seats out ages ago along with the seats surrounding them for their accounting-conference-famous, past and present session speaker friends. I grabbed an open seat towards the middle, pushing aside the swag there and trying to shove my already-swag-stuffed backpack (which was also swag) out of the way. Welcoming the crowd from the brightly lit stage, the conference emcee sauntered out to reverberating music and applause to introduce the main stage speakers. The mixture of presenters included the conference sponsor's CEO and segment leaders, who are minor accounting community celebrities in their own rights, and actual celebrities, in past years including Shaquille O'Neal, Ashton Kutcher, and Oprah Winfrey. The contrast was striking between the personality of the conference – the festive and plentiful atmosphere enduring throughout the week and into the evening events hosted by vendors – and the stereotypical image most have of boring, introverted, strait-laced bookkeepers.

My experiences at accounting conferences as a bookkeeper attendee – hearing the technoutopian dreams of the vendors and feeling the anxious energy surrounding the talk of

automation from other bookkeepers – inspired this research. The messages from vendors, well known practitioners, and other thought leaders at this and other accounting conferences loudly promote embracing new technologies – make your work faster! Easier! Become an advisor to your clients! During a breakout session, one well-known presenter told the room, “Ninety percent [of bookkeeping work] can and should be automated.” At the same conference, a vendor selling forecasting, business planning, and budgeting software implored the audience from the main stage, “Choose to make the change and be transformative and we will help you.” Bookkeepers are constantly advised at these in-person events and during industry webinars they need to provide new kinds of value, sell their ‘authentic’ self, not their time, and definitely not *only* bookkeeping services.

But the choices and the changes were being made in corporate boardrooms and beyond the reach of the many employees, gig workers, and small business owners in the field. In 2016, retail giant Walmart announced it was eliminating approximately 7,000 accounting and invoicing positions and shifting the remaining work to a central North Carolina office of 1,000 employees in favor of a “modernized system for bookkeeping and tracking inventory” (Loeb 2016; Wattles 2016). In 2019, Walmart further outsourced their accounting and invoicing roles to a third-party company, letting 569 employees go from the North Carolina location (Souza 2019). Although not unique to bookkeepers, Walmart’s announcement is merely one example of the extensive reach of automation and its impact on work.

Technology companies continue their attempts to automate bookkeeping through the application of artificial intelligence and machine learning to accounting software, causing

major changes to the work bookkeepers perform and creating the need for innovation in how they navigate the future of their profession.

In this study, I analyzed how small U.S. bookkeepers are coping with and adapting to changing accounting technology, both in how they do their work and how they run their businesses, and how those reactions are constructed and informed by larger social and economic processes. Beginning with a discussion on the challenges bookkeepers are facing and my research methods. I then contrast two major tensions, one techno-utopian and one techno-dystopian, currently driving the accounting community's conversations around how technology continues to affect work processes. I explore bookkeepers' perception of new technology by recalling bookkeepers' long history of navigating changing technology and interrogating the meaning of technology to them. Through the lens of neoliberalism, I discuss bookkeepers' experiences as entrepreneurs in the U.S. and as remote workers. Then, I examine how bookkeepers connected with their communities, and how they draw on different communities in different ways. I discover how bookkeepers navigate an overwhelming landscape of new technology and messaging from vendors pushing for immediate automation. Ultimately, I show how bookkeepers are active agents in these technological and business changes while also operating within the constraints of the neoliberal state and discuss implications for the future.

Bookkeepers and Their Robot Overlords

For many years, thought leaders in the bookkeeping, accounting, and accounting technology world have stridently predicted a future where robots would replace the services provided by bookkeepers and accounting professionals. The application of artificial

intelligence and machine learning to accounting technology is profoundly transforming the ways bookkeepers accomplish their work (Alexander 2018). One major consequence of these changes is the increasing ability to automate tasks that constitute what has historically been considered by bookkeepers a primary portion of their jobs, specifically timely transactional data entry. Technology companies, such as Intuit, develop and sell the software that automates these tasks while promoting the changes as “processes that streamline firm workflows, boost accuracy, and give valuable time back to bookkeepers to concentrate on their clients” (Alexander 2018).

Despite their claims that bookkeepers could shift their work into something new – typically whatever variant of a ‘trusted advisor’ is trending – members of this community struggle to see what the future will hold for them. Here we see an alternative view of changing technology in bookkeepers’ belief that these changes will actually lead to the loss of their jobs, rather than the transformed roles promised by technology companies and thought leaders. If what bookkeepers used to spend most of their working time on is now being done by robots, what will clients pay them to do? The 2019 introduction of QuickBooks Live, a service offered by financial technology giant Intuit, where small business owners can purchase a bundle of software product subscriptions and bookkeeping services, brought these very issues roaring into public conversation in the bookkeeping community (Oliver 2019).

Research Methods

I conducted nineteen interviews from the summer of 2019 through January of 2020 with small (five or fewer firm members) bookkeepers based in the United States. To help me think

about the future, and because I wanted to focus on bookkeepers who were already experiencing influences of artificial intelligence in accounting technology, I chose to only interview those already using the most widely used cloud-based accounting software for small businesses in the U.S., QuickBooks Online (QBO). My research was conducted with a remote community; therefore another primary research site was the virtual bookkeeping community, which gathered in physical locations periodically for meetups, training sessions, and conferences. I conducted ethnographic fieldwork at two major accounting conferences in the United States, Scaling New Heights (SNH) and QuickBooks Connect. This fieldwork included informal interviews and participant observation during the formal conference sessions and the many social gatherings in the evenings. I continued to work as a bookkeeper full-time throughout this project and drew on my experience and industry connections to help guide my recruiting. To analyze my data, I coded my field notes and interview transcripts manually and with MAXQDA into descriptive and thematic groups, identified patterns, and looked across my data sources comparing themes to find further connections.

Technology and its Impact on Work

There have long been two arguments regarding the impacts technological changes have on labor practices – one critical and techno-dystopian and the other techno-utopian – that have framed public discourse on technology’s impact on work (Hakken 1988, 2000). Both arguments generally agree employers have long favored increasingly assembly-line style work processes, emphasizing the compartmentalization of work performed by employees and reducing the social aspects of that work (Hakken 2000). The critical argument is that the capitalist class controls labor processes and implements technologies that reproduce power

structures and constrain worker agency. The utopian argument is automation would merely displace manual labor into mental labor, resulting in better physical welfare and improved earnings and prestige (Hakken 1988). These narratives establish a suspect binary between two purportedly inevitable (i.e., technologically deterministic) outcomes, but technology is but one element of social forces impacting change (Collins 2018). The pull of these two tensions were persistent in my conversations with bookkeepers on the impacts of technology in their work.

Technology and the needs that drive new technological innovation are all developed in a social context, by people with particular positionalities and interests (Ilahiane and Venter 2016). The increased use of algorithms in technological solutions is simply the next piece of a long history of automation in work, done in a new way (Lowrie 2018). Some point to evidence of labor-replacing robots (Collins 2018; Lowrie 2018) and others feel algorithms and technology will enhance or extend human labor but not completely replace it (Seaver 2018). Ethnographic engagement with the narratives and practices of workers in the trenches can help expand our inventory of socio-technical possibilities afforded to different actors as work is transformed via technological innovation (Collins 2018; Hakken 2000).

Tools and Freedom for Remote and Mobile Bookkeepers

A new transformational phase of bookkeeping work is happening because of the increasing availability of new technologies that automate some of the manual data entry work bookkeepers routinely perform. Bookkeepers, as Disney-obsessed Callie from Florida reminded me, were from the outset and until quite recently, literally “keeping the books” with pen and paper. It was not until personal computers became more widely available that

Peachtree came out with the first accounting software in 1978, followed by the release of Intuit's QuickBooks accounting software in 1998 (Medius 2020). Bookkeepers have a long history of adapting to new and changing technology. My interviewees proudly described their early years working with accounting technology and could often rattle off the precise year they adopted their first accounting software. Deborah, a 65-year-old White bookkeeper from Florida, recounted how she would visit her clients, "carrying a flash drive up to the accountant's offices, driving all over two counties to do work, dealing with floppy disks that wouldn't restore and pull up the data and things like that. When you were installing QuickBooks in the beginning, it went from two or three five-and-a-half inch disks to ultimately, actually I've got something I can show you. I decided that I should brag." She left our video conference briefly and returned holding framed three-and-a-half inch floppy disks, explaining she needed seven total to install the whole program.

Bookkeepers who use cloud-based accounting software are by no means technophobic. In fact, they have long welcomed and adapted to technological innovation. The bookkeepers in my study often enumerated the long lists of software and devices they used in their work. Bookkeepers who had been involved in the industry for many years all chronicled the huge amount of change they faced in technology moving from early computer programs like Peachtree, into more sophisticated versions of QuickBooks Desktop, and then into cloud-based programs like QuickBooks Online. Both experienced and newer bookkeepers regularly described their first clients and how they remained clients, which revealed that not only have the bookkeepers made it through these technological changes, but their clients have too. In

our interviews, they described how bookkeeping work has transitioned from paper to computerized, and now to cloud based work.

New technology has allowed bookkeepers to increasingly become remote workers, enabling their entrepreneurship and allowing flexibility in where they live and where and when they perform their work. This flexibility is crucial for people in more vulnerable positions in life, like the women who make up most of the bookkeeping industry (Data USA, n.d). Although bookkeepers in my study expressed technology's meaning to them in many ways, they overwhelmingly referred to it as tool. Brenda, a 56-year-old bookkeeper from the San Francisco Bay Area articulated, "Technology ... to me, it's a means to an end. It's the tool that we use to achieve a goal. I believe that technology should work for me, not the other way around." New technology helped bookkeepers complete their work more quickly, which meant they could take on more clients, or spend freed up time with loved ones, like their grandchildren.

Bookkeepers underscored how this shift to the cloud freed them up to physically be in other places, like on vacation or permanently relocated to a new area without losing clients. Shortly before the COVID-19 pandemic took hold in the United States, all the bookkeepers I interviewed already performed at least a portion of their work from their own remote home office. Some bookkeepers, pointing to their virtual work, described technology as "everything" for them. Kelsey, a 30-year-old bookkeeper currently based in Florida, spent her first few years in business traveling the world. She declared, "For me, technology is everything. Being remote, if I didn't have a computer, I couldn't work. And literally, I will go to Costa Rica and go to the rainforests. And all I need is my backpack, which I take, and my

computer.” Most commonly, they did the bulk of their work remotely paired with periodic, in person visits to their clients’ offices.

The separation between work and home life were increasingly blurred as new technology allowed for an increasing shift away from traditional office work to remote and mobile work, a change accelerated and generalized when COVID-19 hit the U.S. in 2020). Jen, in Massachusetts, liked being able to rest at home when she needed to during the traditional workday, and enjoyed driving to clients’ offices to work after-hours when things were quiet. Christina revealed if she remembered something suddenly that needed to be handled, remote work meant she could log-in to check on it or handle emergencies for a client even outside of business hours. When people have heavy workloads, it encourages a bleeding of the boundaries between work and non-work life, facilitated by technology (Delcore 2018; Jordan 2009). The blurring between work and home is also a key part of the experience of being an entrepreneur (Freeman 2014). Although new technology can enable women in vulnerable positions to become entrepreneurs despite health issues and care obligations that might ordinarily remove them from an office-based workforce completely, this flexibility can also lead to an increasingly porous work-home boundary.

Neoliberalism, Precarity, and Entrepreneurship

Neoliberalism and its “lived effects” are an important contextual framing to any conversation around work, entrepreneurship, and economic precarity (Muehlebach 2013, 299). Neoliberalism refers to a set of policy shifts towards economic privatization and deregulation that caused a cultural and moral shift from a focus on the collective to one that prioritizes the individual as an actor in the global economy (Faas 2018b). Ulrich Beck’s

(1992) concept of “second modernity” describes the current state of society as involving increased precarity and risk in the job market due to declining full-time employment. The burden of risk and precarity is increasingly rested on the individual rather than the society that shapes such burdens. Individuals bear mental and economic burdens despite larger structural (political and economic) factors that influence those burdens (see also Delcore 2018). Globally, scholars reveal increasing economic precarity, or continued insecurity and instability in income and employment (Muehlebach 2013). Scholars note that although increasing precarity is seen around the world, the “structure of feeling” or affective way precarity manifests itself is “culturally and historically mediated – grounded in local vernaculars of labor, family, society, wealth, desire, and loss” (Freeman 2014; Muehlebach 2013, 298).

Entrepreneurialism is a prevalent and recurrent discourse in broader neoliberal cultural projects (Browne 2001). Neoliberalism’s influence can specifically be seen in two key features of entrepreneurship: the ongoing project of being ‘self-made,’ and flexibility (Faas 2018a; Freeman 2014). Entrepreneurship is often advertised as a do-it-yourself solution to poverty and economic precarity, however scholars have demonstrated that successful entrepreneurship is the result of much more than a rational market or a good work ethic (Beresford 2021; Faas 2018a, 2018b; Hart et al. 2010). Even in times of crisis, as A.J. Faas (2018b) argues, neoliberal states operate opportunistically not only to transform policy to favor capitalist interest at the expense of other interests (disaster capitalism), but also to transform state subjects into heroic avatars of neoliberal culture (read: entrepreneurs). Melissa Beresford (2021) also describes calls for entrepreneurship globally, showing, as

Muehlebach (2013) also notes, how local understandings and histories of apartheid and income inequality impacted the way entrepreneurship materialized in South Africa.

Entrepreneurship as a Woman in the U.S.

Bookkeepers articulated a need for freedom in their work schedule due to caregiving concerns and struggles with their own health issues (ranging from cancer, recovery from a severe car accident, bipolar disorder, debilitating migraines, and more). Diane, a 55-year-old White woman with chronic illness based in Connecticut, shared,

Well, definitely the availability to run this type of business with technology in the cloud is why I pursued the business, creating a business. So if that component wasn't available, I probably would have abandoned it in year one. Because it was not something that I could do from home, and that's what I was looking for. That was priority number one. I needed to be able to do the majority of this work from home because I wasn't well enough to consistently travel to a job on a daily basis.

For more than Diane, control over one's schedule was a critical component in their decision to start a business. Having children also sent several bookkeepers searching for new opportunities that allowed them to work while fulfilling societal expectations of their roles as mothers. Bookkeepers with employees explained remote work allowed them to employ family, friends, and strangers who either already lived in other parts of the country or who also needed flexible, remote work for the same caregiving reasons as the bookkeepers hiring them. Whitney, a 33-year-old bookkeeping practice owner and mother of twins, started her business after being told she did not "need the maternity leave" by the firm she worked for at the time she was pregnant. In contrast, one of Whitney's current employees continues to work for her while temporarily living out of state to care for a sick family member.

The desire to bridge the tensions between work and motherhood is a significant factor in women's choices to pursue entrepreneurship. Katherine Browne's (2001) work in the

Caribbean showed how women's desires to be self-employed are often driven by different priorities than those of their male counterparts, noting that female entrepreneurs experience tension between their desires to achieve in business and their desires to nurture a family. Laura Zarrugh (2007) saw a similar desire in Latina entrepreneurs in Virginia, finding that becoming entrepreneurs is a solution to childcare issues for some women. In the U.S., women are disproportionately expected to be the primary caregivers. Although being a woman does not inherently mean they must take on that responsibility, women's efforts to balance societal expectations backed by the markedly limited social support for new mothers in the U.S. is often an impossible task (Calarco 2020). Out of the nineteen bookkeepers I interviewed, seventeen were women and twelve of those seventeen started their businesses because of health issues, childcare concerns, or other life crises like divorce, death of partners, and job layoffs. Here, increased precarity is affectively felt by U.S. bookkeepers in their particular historical and cultural context.

Choosing Their Tools

Bookkeepers carefully considered a variety of factors when choosing technology to implement for their clients and in their own businesses. Although the specific reasons ranged significantly, two motives came up time and again: if it made their life easier in some way (typically through saving time), and the product's customer service. As I saw both in my own work as a bookkeeper and in the strong emphasis bookkeepers put on the accuracy of their work, clients expect perfection as the baseline. It might seem obvious that technological solutions ought to work as the vendors promised, but often bookkeepers explicitly described the importance of accuracy in their technology choices. Twin-mom Whitney advised, "If it

can save me time, and it can do it accurately, that's what I want. I don't want to do it the long way if I don't have to, but it's going to have to be accurate. The shortcut's going to have to provide me the same result as the long way.”

Although not all bookkeepers called out the vendors’ misrepresentations of functionality specifically, they did explain the range of practices they used to ensure the product would deliver. Several bookkeepers I interviewed described detailed lists of questions and comparative documents they created in order to independently evaluate new third-party applications before even considering implementing the proposed product. Norma, a 55-year-old White bookkeeper based in Santa Barbara, California, shared that she preferred to speak to the engineers rather than the salespeople, because she felt they could more reliably answer her questions about the functionality of the product. Norma almost gleefully recounted an ordeal with a software product she attempted to implement for a client. When the software did not work in front of the client as the vendor assured her it would, Norma was humiliated, then outraged when she subsequently could not get through to customer service to resolve the problem. She teased the identity of the offending software before quickly revealing its name and confiding, “I’m definitely a loyalist and these app vendors know me, unfortunately,” she laughed. “They know if I love it, I am going to sing it to high heaven. And they also know if I absolutely hate their product, or they have screwed with me, I’m going to sing that to the high heavens too.”

As the ones who regularly set-up, work in, and help to maintain new software, bookkeepers have become default contact people for struggling clients. Jeff, a 57-year-old male bookkeeper and firm owner from Atlanta, revealed, “I found [the software] very clunky,

and you cannot call anybody on the phone. They just don't have phone support. And guess who's going to be support to my clients? It's going to be us. I didn't want to deal with that. Hmm. I've looked at... I don't know if I should tell you all the ones I've looked at, but I've looked at a bunch of them. I did a matrix; I check boxes of what's good and what's bad. I still am not happy with anything I've seen out there.” Jeff and Norma were not the only ones to bring up the importance of good customer support. Kelsey complained to me, “Our clients would be like, ‘What the hell is the problem with this?’ Like, ‘Why can't you guys get your life together?’ And I'm obviously being like, ‘It's not me.’ But that doesn't matter. I am a representative of QuickBooks, and I'm a representative of HubDoc, and I'm a representative of the bank to them. It doesn't matter that it's not my fault, it's annoying.”

Adding new technological solutions increased their workload because they suddenly had the burden of managing new, unfamiliar software along with the addition of managing the expenses associated with new software subscriptions. Sarah, a woman of color (WOC) bookkeeper from Maryland mused,

You can stick to what you know and get used to that cost. That's not going to sustain you. When it comes time to trying to look for a new technology to integrate with whatever you're using, there's a cost and a risk associated with it because once you put that money out there you're going to have to learn it, otherwise, it's just going to be a loss of money. If you're a sole proprietor like I am, that counts. That makes a difference. It's something that you need to take your time out to learn and understand because you don't want to go and sell this to your client as a new investment if you yourself don't know how to use it. It's a blessing and a curse and it's very necessary because it's what you have on this island of remote bookkeeping.

Julia Gluesing and colleagues (2008) observed how remote and mobile work requires and is in fact enabled by communication technology. This technology necessitates continual

training and awareness of new technology, something bookkeepers noted frequently when they discussed the vast number of technological solutions available to them.

Connecting Islands: Community and Location for Mobile and Remote Bookkeepers

Increasing use of online communication methods has allowed bookkeepers to become remote workers, while simultaneously developing a widespread online community of bookkeepers, accountants, and technology vendors. Bookkeepers informally maintained ties with their friends, some in the accounting industry and some merely part of their broader business community, via email, phone, Facebook, and Slack, among others. Partially influenced by leveraging my existing community connections, the bookkeepers I interviewed were all connected to some sort of online bookkeeping and accounting community via a variety of sources, including LinkedIn groups, Facebook groups, and paid virtual bookkeeping educational groups. Gluesing and colleagues (2008) found that remote and mobile workers often struggled with what work looked like in their remote context. The lack of traditional work patterns (e.g., arriving and leaving an office) and the patterns of mixing work and personal tasks throughout the day left remote and mobile workers struggling not only with how to communicate task completion but also with forming a sense of community and social identity.

When I asked Jeff about his business community, he shared he had been participating in discussions on a message board site called Yammer in recent years. The Woodard Institute, the host of the Scaling New Heights conference, offers access to the Yammer message board Jeff referenced as part of a paid monthly subscription, which can include other virtual

educational content and sometimes access to special software deals brokered by the Woodard organization. Jeff detailed,

I will say that's a game changer, not Yammer itself, but the ability to connect with others. I've been kind of an island, I felt like, for... I've been doing this for twenty years, and then up until I think it was a year and a half ago, when I got on that Yammer group. And now I can see, you know, what everybody else is talking about. I mean, I've been going to these Scaling New Heights [conferences] for years, but I've never really connected with people. I mean, yeah, I see some familiar faces. But I've seen where people are like, they seem like friends and [...] it just doesn't seem that way for me. And they all get together, like 'Oh how are you doing' and they kiss each other, and I'm like, 'You know, what's this..?' I realized, well, they're communicating all throughout the year. And so now, this last Scaling New Heights was the first one where I had been on Yammer with a lot of these people. And then it's connecting up, and it's like, you know, you already know 'em. So now I feel like I'm on the inside, it is so refreshing. Instead of just going out there and finding something on the computer and Googling and say, oh, I'm going to try this new report writing software that's unproven, you can just get on Yammer and say 'Anybody got any experience with such and such?'

The connections bookkeepers made in virtual spaces were reinforced at in-person conferences. There, they spend all day together in sessions, visiting the vendor hall, and going out to sponsored vendor events in the evenings. These connections were often described to me as familial, or like their 'tribe.' One vendor joked with me at the 2019 QuickBooks Connect conference about how accounting conferences uniquely felt like a family reunion to them, with all the hugging and the excitement people had to see each other.

Business communities, whether in the workplace or a built community of entrepreneurs or gig workers, can transform attempts to individualize risk into experiences that reinforce community and shared responsibility through kin-like relationships, helping to mitigate increased precarity (Rolston 2010). When QuickBooks Live, Intuit's bookkeeping service, first launched, the remote bookkeeping community immediately made their opinions known on Twitter, accounting podcasts, and blogs. One industry influencer published a blog post

titled, “Bookkeeping is Dead: How Intuit Will Kill It for Good” (Oliver 2019) to discuss the new service. Online petitions circulated demanding not that Intuit discontinue the service, but that they kept their promise of not advertising to any customers connected to an accountant, something many claimed they saw happening despite reassurances from Intuit. Intuit promptly devoted several main stage and breakout sessions to discussion of QuickBooks Live at both conferences I attended in response to these reactions. These sessions were spent reassuring the community they were not trying to compete with bookkeepers and answering questions. One woman stood up and, backed by a chorus of “yeah” and nods from the audience around her, bluntly told the Intuit representatives it felt like they were “pitting you guys versus us.” Interestingly, another conference attendee asked about the possibility of Intuit allowing bookkeepers to leverage the QuickBooks Live service as resellers. The question clearly took the Intuit executive by surprise, and by asking this publicly it instantly shared the idea of leveraging the service in a different way with the larger community.

Since accounting considerations can vary wildly based on a variety of factors, such as the specific industry or state the client is in, bookkeepers used their online communities as an extended resource when tackling new accounting problems. They also regularly drew on the expertise of this community to navigate the often-overwhelming amount of new technology available to them. Even the bookkeepers who answered they had no business community were still connected to online communities through online training and LinkedIn groups. Despite such involvement, those bookkeepers did not feel like they were a part of a business community, in contrast to how people who had both in-person and online communities felt. Bookkeepers went to their local, in-person communities for more general business advice,

using their online communities as a resource for bookkeeping, accounting, and technology specific problems. Joanna, a White bookkeeper from Oregon, remarked,

The thing is, when I recommend an application, I really need to research it, and it's hard because to do that, because there's just so many applications. And that's why I like going to Scaling New Heights or QuickBooks Connect because I can get a little more information about these applications. And I like hearing other people, you know, how they're using it and how it's working for their clients. Because that just gives me more ammunition, or just credibility to the application.

Despite the flexibility in location afforded by technology and their excitement at having access to a broad virtual accounting community, bookkeepers' local community was still a crucial piece of their business community. Local communities commonly included their family and friends (especially ones who also shared the experience of being a small business owner), local CPAs and tax preparers, local Chambers of Commerce, and in-person bookkeeping networking groups. In addition to Jeff's online community, which he went to for specific technology questions, Jeff regularly had lunch with two local bookkeeping firm owners and hired a consultant to help him with his business processes.

Entrepreneurs rely on their community to fill the gaps left by minimal state level support and lack of workplace community. To raise capital for start-up costs, cash shortfalls, and expensive business investments (like large technology purchases), entrepreneurs employ a range of social strategies (Beresford 2021; Rissing 2016; Zarrugh 2007). Few small entrepreneurs can obtain funding through banks, instead relying on investments from family and friends, both through cash loans and free or cheap labor. Callie specifically pointed out access to her husband's employer-provided health insurance as a reason she was able to start her business. Sarah, the WOC bookkeeper from Maryland, was able to start her business because of a loan from an ex-boyfriend. Zarrugh (2007) and Beresford (2021) also note the

role of race and ethnicity in access to financial resources, describing how alternative methods like relying on friends, family, and bartering are especially employed by non-White entrepreneurs to obtain the resources they need. Beresford points to how racialized, unequal generational resources led to unequal struggles and opportunities for Black versus White entrepreneurs in South Africa. She concludes that these kin and community distributed resources are critical for entrepreneurial success, but the uneven distribution of those resources mean neoliberal ideals of entrepreneurialism – the idea that people can pull themselves out of poverty as a ‘self-made’ entrepreneur – are ultimately unlikely to do more than reproduce existing inequalities, especially without better state resources.

Differing levels of state support, like government provided healthcare, and people’s varying dependencies on those resources influence women’s involvement in the self-employed sector. In the Caribbean, Browne (2001) observed that women in countries with more state-provided securities were less likely to want to become more economically independent. In the United States, Melissa Cefkin and colleagues (2014) similarly noted how increased state support through the Affordable Care Act (along with new business models and new technologies) contributed to an increasingly reorganized workforce, where the lure of self-employment on the one hand represents freedom from the constraints of the workplace, and on the other hand highlights a system of crumbling job security.

“Automate, Automate, Automate”

The bookkeepers I spoke with are making their business changes purposefully. Not passive receptors of ‘change,’ bookkeepers maintain their agency in an uncertain world of technological solutions. Vendors and thought leaders continue to give bookkeepers directives

on how to adopt automation and make changes to their business at conferences without realizing conferences, and the remote community, is not where bookkeepers are seeking that kind of guidance. At conferences, vendors encourage a techno-utopian view of changes to work processes through encouraging bookkeepers to implement technology in an attempt to automate their work, scale their businesses (becoming larger), and become ‘trusted advisors’ for their clients, rather than spending their time performing transactional bookkeeping work.

Bookkeepers were clear that the claims technology companies made of easy automation, like other promises on product functionality, often fell short. Although bookkeepers went to great lengths to compare product features and functionalities, many felt misled by technology companies’ promises of automation. Whitney, the 33-year-old bookkeeping firm owner, clearly irritated, told me,

I log in to CPA Academy and I see all of these webinars on, "Automate your bookkeeping. Automate your year-end processes. Automate, automate, automate." And I'm like, "You can't automate everything." I understand that it sounds so great to be able to just click a bunch of buttons and pay for a bunch of apps and everything seems like it's just done for you. There needs to be a real human involved. Like some automation is fantastic, [...] but as far as eliminating errors, I would say it creates more errors than it ever eliminates. [...] So, if it keeps pushing into this automation, automation, automation, I guess I'm afraid of what that does. One is it'll be just completely inaccurate. It'll, I think, give people the false sense of security in buying QuickBooks for themselves and not having a professional help them. And it'll eliminate a lot of people in my position and replace them with a software that doesn't have human intuition and isn't able to sense some of those things and [...] doesn't know [the client] doesn't give a fuck about how anything gets in there and he just [...] [mimicking pushing a button] "Go, go, go, go, go, go!" and put everything in. Like it doesn't know those things. So that is my biggest fear in where I see some things going and I hate seeing it. I hate seeing it. [...] And I think that they are on board because they see eliminating Karen in the closet and replacing them with \$20 a month for this app. So they see dollars whereas I see errors everywhere and people having completely inaccurate books.

Vendors often lead with the idea that automation is happening whether bookkeepers want it or not, and therefore changes to their basic business model, like what services they provide

and how they choose to take on new clients, are also necessary. These spaces where online bookkeeping communities physically come together strongly push the message that automation is a necessary first step in enabling them to make a variety of other changes in their businesses. They are advised they must “automate, automate, automate,” to spend their newly freed time on ‘advisory’ services and new client work.

At conferences, vendors routinely presented solutions with the assumption bookkeepers’ goals were to grow and scale. One example of this was an update to the Intuit.com ‘Find-a-Proadvisor’ feature announced at the 2019 QuickBooks Connect conference. ‘Find-a-Proadvisor’ is a directory and messaging platform hosted by Intuit for potential customers to connect with bookkeepers and tax preparers who have completed certifications in the Intuit family of software solutions. These profiles are customizable marketing tools provided free to bookkeepers and includes a star rating system. The newly announced feature was essentially increased tracking of bookkeepers’ replies to potential customers. Like Gluesing and colleagues (2008) note, remote employees are often forced by their employers to use more and more intrusive technology. Similarly, remote entrepreneurs working through a large technology company’s platform are subject to increased surveillance and tracking. Intuit offered their internal data that showed half of inquiries sent through the platform currently went unanswered. The executive relayed that because of this low response rate, Intuit developed this feature to notify bookkeepers when they had messages awaiting a reply. The implication being there was opportunity for bookkeepers to grow that bookkeepers were not capturing, and Intuit was going to help them accomplish that.

Despite this proposition from Intuit, many of my interviewees described turning clients away and explained how little marketing they did. New business acquisition was commonly driven by word-of-mouth and existing relationships with clients and local small business owners. Although technology has allowed them to increase their client load, overwhelmingly the bookkeepers in my study did not want to grow their business in a major way. Patricia, a 62-year-old White bookkeeper based in New Hampshire mentioned she hired help intermittently over the years, so I questioned if she was thinking of hiring anyone else now. She responded,

I don't think so, at this point I'm not planning to. [...] I get that a lot. 'Why don't you grow the business?' And I don't really want to grow. I don't want to have an office outside of my home. I wouldn't go, especially in the winter. I would never go. Unfortunately, I live alone, so I work 24/7 pretty much, but that's the pleasure of working from home. I can set my own hours.

Although bookkeepers, especially the younger ones, often had clients based quite far away from them, they relied heavily on their in-person networks for new business referrals. Even Intuit's 'Find-a-Proadvisor' system is designed to search for bookkeepers by geographic location. Deborah, the bookkeeper who showed me her framed floppy disks, recently moved to a new area in Florida and bemoaned the difficulty of connecting with new clients and obtaining referrals in her new area. Bookkeepers even describe the nature of online community meetups as having a familial feel, but ultimately bookkeepers rely on their local connections (family, friends, among others) for business advice. Bookkeepers do not seek trusted opinions on topics related to running their business from their online communities, even the physical manifestation of those communities, despite habitually receiving business operating advice there.

Conclusion

The adoption of new technology facilitates bookkeepers' kind of entrepreneurship – remote, flexibly scheduled work, which are also some of the benefits of entrepreneurship in the neoliberal project. Entrepreneurship allows these predominantly White women who are unable operate as workers for a variety of reasons, many tied to their gender, to work regardless as 'self-made' entrepreneurs. Looking for flexibility, these women turn to entrepreneurship partly due to the minimal state support in the U.S. for mothers and the chronically ill. Their own familial resources help replace the lack of state support which allows them to become 'self-made' entrepreneurs. In this way, they are also set apart from gig workers who rely on large platforms and the resources from those companies to work.

Bookkeepers maintain their own agency through a variety of practices, including active evaluation and choices of technological tools in how they run their businesses. By selectively drawing on their communities for different kinds of resources, bookkeepers quietly push back against the messages of accounting technology vendors. Bookkeepers define their own communities, where they form relationships and actively pick and choose who they listen to about what, and how they want to implement ideas for themselves. Drawing on their communities, both in-person and virtual, allows bookkeepers to navigate the overwhelming volume of technological choices, and the changing landscape of their work within experiences shaped by entrepreneurial and neoliberal ideals. Despite operating in a world inundated by artificial intelligence and algorithms, bookkeepers work to create their own futures, made clear through the huge variety of ways bookkeepers interpret and apply the messages and advice shared at conferences. Even those who applied philosophies 'sold' to

them by vendors like the Woodard Institute chose that path after listening, carefully considering, and making their own choices to participate in his view of the future.

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Chapter III: Conclusions

Unsurprisingly, this research yielded far more material than I could explore in the length of a journal article. My short interviews were an hour and half, and the long interviews were close to three hours. When I thanked Joanna, a bookkeeper in the Pacific Northwest, again at the end of our two-hour long interview for her time and everything she shared, she surprised me when she responded, “Thanks for all the questions. It’s been interesting talking about, and for me to think about everything I’ve talked about, and like, I’ve never thought that way before.” I am eternally grateful for the willingness of the bookkeeping community to share their time and their experiences with me. Something that struck me, and I think might help explain the enthusiasm I was met with, was the way both bookkeepers and vendors described the familial atmosphere of the bookkeeping community. Kelsey, the 30-year-old bookkeeper based in Florida, shared she attends both accounting conferences and fitness instructor conferences. She described how there was an air of competition between attendees at the fitness conferences that was missing at the accounting conferences. Several bookkeepers ended our interviews asking that we keep in touch, wanting to meet up to talk more the next time we anticipated being in the same place at the next accounting conference. Little did we know that COVID-19 would profoundly change the conferencing experience, with QuickBooks Connect 2020 canceled and moved to an online, single day format. Scaling New Heights (SNH) was moved later and later in the year until it was finally held in September of 2020 in Florida, one of the few states allowing gathering of that size at the time. This chapter will touch on some of those additional insights that did not fit in my journal article,

limitations of this research, broader impacts, ideas around the future, and finally plans and recommendations for future research.

Further Insights

What Do We Mean by Automation?

One thing that struck me in this research was how there was a whole conversation to be had on what ‘automation’ means and looks like for different people. What an ‘automated’ process is can vary for people with different backgrounds working in different contexts. For my bookkeepers, they often referred to a variety of things as automation, including setting up rules manually to ‘automatically’ add transactions into the books. When I described this to my Human Factors Engineering professor at SJSU, Dr. Dan Nathan-Roberts, he reacted quite strongly and responded that was not automation. In engineering, automation describes a system completely and independently completing a task, typically with a human overseeing the process, though only expecting to take over in case of potential catastrophic failure. Bookkeepers manually set-up guidelines that determine how the software system processes (or ‘posts’) items into the accounting database (the General Ledger), which is quite a different understanding of ‘automation’ compared to what was described to me by engineers. This conversation was reminiscent of an interview Jasmine Low, a member of my graduate cohort, and I conducted with a seasoned valet worker as part of a large project in our graduate anthropology class where we were examining street adjacent spaces. The valet excitedly described their new system of tracking vehicles as ‘automated,’ explaining how the information gets written down on paper, then typed into the computer, which allows them to pull the information back up on the computer when the customer comes to retrieve their car,

rather than shuffling through paper as they once did. It struck me as being still quite manual, even more manual than what bookkeepers did, simply a newly computerized version of what they were doing before. He loved how ‘automated’ it was, though. For bookkeepers, I wonder how these different understandings of ‘automation’ influence the ways they view the future, as compared to how the people designing and building software conceptualize automation and the future.

The Question of Ownership

Questions around who ultimately chooses technology solutions, who pays for them, and who ‘owns’ both the solution and the client relationship are topics that could also be explored at length. Cost, meaning money spent on solutions, was a major sticking point for bookkeepers as they evaluated new technology, partly because of the question of who took on that cost. I learned in discussions in conference vendor halls, and in my interviews, that the ways bookkeepers handle technology expenses associated with their services vary quite a bit. It is quite common for software solutions to follow a Software-as-a-Service (SaaS) pricing model, charging a monthly fee to use their software. Some bookkeepers opt to have clients pay vendors directly for these subscriptions, which opens the door for clients to refuse to implement new technology due to cost. Vendors sometimes incentivize bookkeepers to pay for these subscriptions directly through vendor-run wholesale programs. Software vendors pitch to bookkeepers that they can resell the wholesale software to their clients at a mark-up, although most bookkeepers I spoke with did not attempt to make additional income on software unless they were explicitly part of a reseller program. If a piece of technology is important in the bookkeepers’ workflow, any hesitation in adoption by clients due to price

can ultimately make their bookkeeping work more tedious and sometimes makes it take longer.

Other software solutions are designed such that costs must be covered by the bookkeepers. Others offer partnership programs that include wholesale discounts or kickbacks if the bookkeeper signs clients up, often requiring the bookkeeper still front costs. It is normal for bookkeepers to be dealing with a variety of these payment arrangements at the same time since options vary by product. Some implemented major changes to their pricing model (often ‘value pricing’ or flat rates), and incorporated technology costs as “added value.” I did, however, hear grumblings from many people who implemented this model only to have vendors raise their discounted rates, forcing bookkeepers to either raise their own rates or let this change cut into their profits.

For many bookkeepers, their choices in technology were client-driven in the sense that bookkeepers identified an issue for a specific client and then used that issue to drive their search for new technology. Whether that choice is actually client-driven or bookkeeper-driven could be a conversation in itself, one that would benefit from additional data collection. The idea of client-driven technology is very much in contention with the messages from several of the large training vendors, especially Joe Woodard, whose company runs the annual SNH conference. Woodard’s message both in his presentations at the SNH conference and at QuickBooks Connect was that bookkeepers needed to specialize in their technology choices (as well as their industry niche). He would tell bookkeepers to choose their own tech stack (a set of technology solutions, like a suite of solutions) to use in a standardized way with all their clients. Woodard’s often used analogy is to tell bookkeepers to “be a Starbucks”

for their clients, or to have a menu of technology products that is standardized and utilized across all clients. Some bookkeeper breakout speakers featured at both conferences told attendees they went as far as telling clients they must bank with particular banks to work with them.

As part of the value of becoming a paying member of his training and networking program, Woodard also includes recommendations for specific software solutions that he (or his team) personally vetted. I heard mixed reviews of the software choices Woodard made and promoted, but he often negotiated group discounts for his members, which encouraged some of my bookkeepers to try certain products. Industry leaders push the idea that standardizing is the first step to automating and scaling, while also encouraging bookkeepers to provide personalized services (“trusted advisor” services) to bring additional value to their clients. Some of the bookkeepers in my study were implementing more standardized tech stacks with clients, but it would be worthwhile to conduct future research, especially in person office observations, to see when those ‘rules’ are bent and broken, as ‘rules’ frequently are.

The Same but Different: Gig Economy vs Small Business

Small entrepreneurs (like bookkeepers) live in what I conceptualize as a space between gig work and larger entrepreneurial work. Gig work is usually on-demand, individual work, with workers often find jobs through larger platforms, whereas start-up style entrepreneurs are looking for investors and quick, scaled growth. In fact, in my ‘Introduction to Entrepreneurship’ class offered by the SJSU business school, The Lucas College and Graduate School of Business, Silicon Valley style start-ups looking to build large business

were the only type of entrepreneur we discussed all semester. In the eyes of the IRS, though, gig workers and small bookkeepers are often the same – independent contractors filing Schedule C returns. Unlike gig workers, bookkeepers do not rely on company platforms to get their work (although some do choose to leverage Intuit’s marketing platform, the ‘Find-a-Proadvisor’ website) and they set their own rates completely independently of Intuit and their platform.

For bookkeepers, many can exist in this space because of access to other resources, such as their spouses who are neither gig workers nor entrepreneurs, but rather employees with company provided health insurance and labor law protection. They also need to live in places with reliable internet access to work in cloud-based software, something not available to everyone in the U.S., let alone the world. Acknowledging those resources does not fit in the familiar narrative of an entrepreneur who hustles and makes something of themselves out of nothing, something I discussed in the article. One aspect I did not address was that bookkeepers also need additional resources to access virtual communities – both online (exclusive, paid message boards like Woodard’s Yammer) and in person (conferences are expensive to travel to and attend). This need for additional resources is worth considering in how it influences industry diversity across different racial and/or socioeconomic groups.

Even for bookkeepers, often members of more privileged groups than those who perform gig work, automation is seen as threatening their jobs. The vision that robots are here to take over ‘data entry’ jobs, and subsequent conversations of what those robots are and are not capable of, shows how this vision of the future has traveled beyond manual work and is dipping its toes into knowledge work. It became clear through my research how the role of a

bookkeeper is varied and complicated. So why do technology vendors continue to claim they are ‘automating’ bookkeeping? It reminded me of Uber and Lyft’s ill-fated attempts at automating ride-share and taxi drivers. They first collected data on the gig workers they hired, then explicitly worked to build something (autonomous vehicles) to automate that work. As with bookkeeping, we could of course argue that the work of a driver is not solely driving the vehicle. But ultimately, Uber and Lyft did all this only to recently sell their autonomous vehicles divisions off completely, effectively abandoning the project of automation (Silverman 2021).

Experiencing COVID-19, Climate Change, and Other Crises as a Remote Bookkeeper: An Autoethnographic Reflection

I concluded my data collection in January 2020, and by mid-March those deemed non-essential were sent to work from home due to the spread of COVID-19. I continued my professional work with our small business clients as a remote bookkeeper, now from home instead of in the two office spaces I usually moved between. During this time, I thought quite a bit about the bookkeepers in my study, who were also already remote workers while many people were experiencing remote work life for the first time. Although most of my interviewees were principally working remotely, almost all of them still visited some clients in person. I found the nature of my own remote work changed immensely as the overwhelming anxiety and strain of a pandemic constantly hung over me. I worried about myself, my family, my friends, but I also found myself worrying about my small business clients, especially the ones for whom cash was already tight. Overnight our clients expected and needed us to become experts on new policies and laws that changed constantly (PPP loans, EIDL loans, extended COVID sick time, to name a few) and produce reports at the

drop of a hat in order to apply for anything and everything to keep themselves going. The blurring of boundaries between home and work that was already present for remote workers was intensified when home unwillingly became my workplace. My work hours were invaded by clients who suddenly discovered Zoom meetings that could have been emails. I grappled with balancing my annoyance and the invasion of the tight boundaries I previously maintained between work and home, and my worry and sympathy for my clients who were struggling and needed help. The emotional labor I performed for clients felt like it skyrocketed, leaving me depleted and exhausted. Some bookkeepers described how, pre-pandemic, they often found themselves in the role of “counselor” for clients. Similarly, clients’ need for my emotional laborer felt like it increased at least two-fold, as I talked them through grants they could apply for, intricacies of new laws, and helped interpret and compare their 2019 and 2020 financial reports.

In a short reprieve, I was getting the hang of working remotely in a pandemic (or so I thought) when the Northern California wildfires in August 2021 filled our air with smoke. I went back to the same headspace filled with stress and doom and I watched the CZU Lightning Complex fire erupt. It first forced a close family friend to evacuate to my parent’s house (for weeks, it turned out), and then I watched as the SCU Lightning Complex fire crept closer and closer to my home in San Jose. It was incredibly difficult to continue my work, performing more and more knowledge and emotional labor as my own tank emptied and the sky turned orange outside my window.

Although COVID-19 may have been their first pandemic, it was not the first time my bookkeepers navigated economic and environmental crises. I thought about bookkeepers who

chose to become niche providers (heavily encouraged by vendors and thought leaders as a way to specialize and make more money) in the industries that were falling apart around us, like the travel industry. I remembered Jen, the bookkeeper in Boston who described how her business struggled during the financial crisis of 2008 when her construction clients went under, and Norma, who lost half her clients in the same recession and took on a second part-time job. In our 2019 interview, I asked Lisa, a 68-year-old bookkeeper in Texas, what she thought was likely to happen 10 years in the future in the bookkeeping industry. She started with, “Industries need to adapt or die,” and spoke about how her diversified clients weathered the last recession well. Lisa continued,

But we're talking about where the industry's going, right? What's happens to the economy is going to effect that. There are certain things that we have no control over and we've got to be aware of some of these factors to help our clients. For example, if you're trying to look at this year versus last year [...] You've got to know that their sales were down in August because they were on the coast of Texas and there was a hurricane. Those are not numbers... they're going to skew the numbers. Oh, and it's just another hurricane, which is something else we have to think about. And so understanding your client's business and their location, and the factors that affect them, are important. And we need to be more than just bookkeepers if we're going to be viable.

COVID-19 also drove my networking and conferencing opportunities online. Our conversations about virtual conferencing (prompted by Dr. Jan English-Lueck) at the monthly Ethnobreakfast networking meeting and the groups conversation inspired me to think more deeply about the ways our connections varied between local, and national or international groups. Especially Dr. English-Lueck’s comment about how her experiences with two virtual conferences (that I also attended virtually) highlighted to her the importance of local networking groups like Ethnobreakfast.

Limitations

Because I recruited through my existing network, my sample ultimately included many bookkeepers who attended conferences, and members of the Woodard Network. This was certainly a particular kind of person. They had the resources to travel to conferences, and many had been thinking about the future of the industry by parsing messaging from vendors. Possibly because of the resources needed to become a member of these groups and attend conferences, the group of people I researched were predominantly older, white women. They are certainly not the only people in the bookkeeping industry, and although I did intentionally recruit people who did not fit that profile, I firmly believe research should always strive to include more voices, especially those who are not always the loudest. If this was a larger, longer project with more resources, I would have also liked to visit my bookkeepers in their offices to conduct participant observations with them in their workspaces as well.

The Anthropological Difference

I wanted to return to graduate school to explore these questions around automation and the futures of work because I felt there were gaps in the bookkeeping and accounting space conversations. I could not simply accept that robots replacing bookkeepers was the only possible future, although it was clear technology has significant impact on bookkeepers in a variety of ways. I kept reflecting on the social nature of work, and how workers may still choose to not use a solution even if technology might technically be able to complete a task. In anthropology, we look at the world systemically. In other words, we consider the whole of people, beyond their individual thoughts or actions to consider social factors and larger societal forces. We consider how culture, learned and shared ideas and patterns of behavior, impact particular topics like technology adoption. Anthropologists also look critically at not

only what people say, but what they do and consider how and why those things might be the same or different.

Anthropology helped me take a step back to consider larger structures of power in the world. In our exceedingly individualistic, self-made society, accounting vendors and industry leaders' messages were focused on what bookkeepers as individuals should be doing. Their messages did not consider the ways social structures like state level support and gender might alter how bookkeepers work. As I was defining my problem space, I spoke to several industry leaders, including an executive from Intuit who I recognized from many years of main stage presentations. I mentioned I was considering the influence of gender in my research, and the executive asked with surprise if I thought bookkeepers were mostly women. The gendered aspect of bookkeepers' entrepreneurial experiences was certainly significant, especially when looking at the larger ways gender shapes women's lives in the U.S. My anthropological background made clear the delicate dance of structure and agency, and how these forces operate invisibly.

Borrowing and extending previous anthropological research helped me think critically about community's role in entrepreneurial life and business. Specifically, using an anthropological approach revealed the fascinating ways bookkeepers created different parts of their community (in person and online) and how they drew on such resources in different ways. This was not something I was aware of prior to this research despite being a member of this community, and only became clear to me looking at my data holistically. Finally, anthropology gave me tools to explore ethnofutures – using my anthropological background to think deeply about cultural and behavioral changes and what many possible futures might

look like (special thanks to Dr. Jan English-Lueck for her guidance and expertise on this topic).

Recommendations for Future Research

There are many directions for continuing this research in the future. As noted in my introductory chapter, I originally planned to interview some of the ‘gatekeepers’ at Intuit. I would love to add to my data through interviews with designers and product managers to better understand their visions of the future. Another place for future research is revisiting my bookkeepers to see the extent to which their work, community, and life have changed due to COVID-19. Their viewpoints as a remote community promises to add unique perspective to the growing conversations around remote work and what the futures of work might look like. Another aspect that would add richness to this research is conducting research with small business customers hiring small bookkeepers. How do they view accounting technology and automation? What do they value, and how do such values impact their work and choices around technology? Finally, bookkeepers who are employees of businesses rather than entrepreneurs will also have a unique perspective on automation and would be an interesting comparison to the bookkeepers in my study.

Imagining Futures

As often touted by the Institute for the Future, a foresight research think-tank based in the San Francisco Bay Area, there are no future facts. A techno-deterministic view with only two available options (both involving automation) does not have to be the future bookkeepers’ experiences. When thinking about the future, it is vital we consider, whose future we are

imaging? Who is that future good for? Who does it ignore? As I worked through my data, I found myself wondering, why are we not talking about these potential alternative futures?

A Possible Future of Hyper Connectedness

Overwhelmingly, bookkeepers shared dreams of positive future that involved a more integrated, faster, and more accurate set of technologies. Their positive vision of the future including seamless syncing of data between systems that are currently disconnected. For some, this was a fully automated system, or a system that entered all the transactional data quickly and correctly with no oversight from bookkeepers. For others, it was the idea of one, big, integrated system that could quickly and accurately bring the huge amounts of data bookkeepers deal with into the accounting system while still allowing for human oversight. Many wanted a future of more advisory work and less data entry, with Mark from Texas even suggested we could get those insights via holograms on our phones. These ideas blossomed despite their previously stated growing concerns around privacy and cyber security.

On the other hand, bookkeepers also overwhelmingly imagined a pessimistic future where there were no more bookkeepers. This was either explicitly because they thought “bots” (as Kelsey described simply) will be doing the work, or that there will only be fully automated systems with no room for bookkeepers’ oversight. Several bookkeepers worried if the work became automated, it would lead to a new generation of bookkeepers with questionable knowledge. They were concerned those younger bookkeepers would never gain the bookkeeping skills or expertise necessary to execute quality, accurate work. Two

bookkeepers immediately replied that the worst-case future would be if everything stayed the same.

Pessimistic Futures

Interestingly, probing into bookkeepers' ideas of a pessimistic future also brought up more ideas beyond the deterministic binary narratives discussed previously (that automation will take jobs, or automation will free up mental space for more 'human' work). Two bookkeepers suggested tax law would change to become exceedingly simple, and bookkeepers and accountants would no longer be needed. Two others suggested the internet (and electricity) would go away completely. Joanna, who thanked me at the end of our interview, worried Intuit would become a monopoly and bookkeepers would have no choices. She shared her desire to shop local, and how choices of other, smaller technology companies felt like she could do the same thing in her business.

Reconsidering Futures

What actually makes this process of automating data entry different from automation in factories? Is this partly because these automations are poorly implemented by large companies, requiring them to be implemented, adjusted, and maintained at a hyper-local level (by the bookkeeper or client)? Although this is a form of knowledge automation, rather than automation of physical motions, even in bookkeeping there are moments of tactile, embodied knowledge, like entering data on a 10-key machine, or that gut feeling you get when something looks wrong in a client's books. Could that be automated eventually? Or maybe the 'automation' will continue in the way many large tech companies are working now – a machine facing the client, claiming the results are from AI, when behind it is

actually an invisible, underpaid workforce (like Mary L. Gray and Siddharth Suri explore in their book *Ghost Work*). The accounting industry already saw an attempt at this model with a company called Botkeeper. In a minor #taxtwitter scandal, an accounting podcast revealed they outsourced large percentages of their supposedly automated work to the Philippines.

Let's instead consider other possible futures for bookkeepers. Instead of losing their jobs completely to automation, maybe the bookkeepers' role could shift from someone who performs the work into someone who is *supervising* automation. There is a body of literature in the Human Factors Engineering (HFE) discipline about how to best train people to be supervisors of automation, or humans-in-the-loop. In HFE, those papers discuss the importance of people who supervise automation. Moving people into supervisory roles still decreases the overall number of jobs, but it transforms the jobs that remain to something that requires industry expertise. Bookkeepers already supervise data constantly, especially those managing integrations of several systems into the accounting software. In another vision of the future, consider if bookkeepers' clients needs are substantially specialized so that, rather than being supervisors of automation, bookkeepers instead provide personalization to automations in increasingly complex systems. In this possible future, maybe there would be no reduction in jobs, but instead change in the type of work they do.

What if one of the more extreme ideas the bookkeepers in my study suggested comes to fruition? Consider if taxes are significantly simplified or tax filings are eliminated completely. The 'basic bookkeeping' services bookkeepers described to me already varied tremendously person to person. Many bookkeepers, as part of their 'basic bookkeeping,' run payroll for their clients, or help clients create reports for their advisory boards (like for non-

profits). Some industries require specialized bookkeeping for reasons beyond taxes, like attorneys who risk being disbarred if their trust accounting is not being kept properly. Maybe bookkeepers would continue to exist to provide these services, or to help business owners see what they feel is relevant to them to make good choices for their businesses.

Bookkeepers' View of Their Most Likely Future

It seems as if bookkeepers are being instructed that they must be *more* than supervisors of automation. Maybe this is because tech companies are creating software 'solutions' that claim to do everything, but actually need active management. Technology companies make it seem that their software does not *need* supervision, therefore being a supervisor of that automation is not a job bookkeepers can move into because that job does not exist in their minds. Many of the older, more experienced bookkeepers were less enthusiastic (very blasé, in fact) about new technology, and not particularly worried about being replaced by technology. To them it seemed obvious that people will continue to be needed. Others didn't feel the need to even engage with the idea of being replaced by technology because of their plans to leave the industry (most commonly through retirement), while younger, newer bookkeepers described plans that seemed to go 'beyond' bookkeeping, including growing an advisory-focused business, shifting to more of an educational role, and transitioning to professional speaking. I'll leave you with Norma's vision of the most likely future of the bookkeeping industry.

I think it's going to be somewhere in the middle there. I mean, technology is going to keep advancing just like it always has. Things and ideas and whatever the new fangled thing is, that's still going to keep happening. And whatever that means to the industry. We just have to keep moving forward and embrace what's good. Discard what isn't. And keep in mind that we're here for the clients. To make sure that the client's stuff gets done and gets done well.

Broader Impacts

The application of AI and machine learning to new and existing technologies is shifting the nature of work across multiple industries. This research is situated to help large technology companies consider applying an anthropological perspective when working to understand the ways these shifts are impacting real people as they create products, services, and ‘disruptions.’ Technology companies ought to consider the kind of relationship they want with bookkeepers, and tailor their advice to build such relationships. I encourage technology companies to reflect on questions like, “Am I who they want to hear this from?” before giving advice, and “What assumptions am I making about the people I’m trying build for?” before making choices on behalf of this community. My research looks beyond the binary narratives (technology will free workers for more ‘human,’ mental work versus robots will take workers’ jobs) that are dominant in the bookkeeping and accounting technology industry, focusing instead on how bookkeepers are coping with, and adapting to, changing technology in how they do their work, run their businesses, and connect with their communities. This thesis challenges technology companies working in the accounting technology industry to look beyond their own ideas around changing technology and refocus their efforts by truly being customer first in all their business endeavors. By examining real people in context, we see how people both exert agency and resist passivity, while continually negotiating larger social and economic forces.

In the context of COVID-19, I hope this research helps employers and employees think deeply about remote work. Flexible remote work can allow people to participate in the workforce when they otherwise could not, because of, and in spite of, the porous boundaries

between work and home. This research also contributes to a better understanding of how people draw on their remote communities and highlights the importance of cultivating their local communities. In many ways, we saw this tension between remote and local communities in the pandemic. People both relied on the internet to source things they could not find locally and became hyper-focused on supporting their local businesses in a time of crisis. My research shows that even before the pandemic communities like the bookkeeping community were drawing on both their local and remote communities for different kinds of resources.

For bookkeepers, I hope this research helps them to know they are not alone, and that their experiences, fears, and hopes are valid. I want them to take this research as food for thought while considering what they want *their* future to look like. When I was chatting with bookkeepers and recruiting at a social event at QuickBooks Connect, one woman, who was not part of my sample, asked if she could give me a hug. I had been telling her about the work I was doing, and with misty eyes, she relayed how important she thought it was. Bookkeepers have agency. They are not and do not have to feel like passive receptors of change. Individuals and the collective community can make and remake their relationships with technology, which I argue will empower the bookkeeping community and help them understand how they can fit in a future of accounting that does not always feel particularly hospitable.

Finally, I hope everyone is inspired to fight for social and economic conditions to decrease the number of people in precarious economic positions. Although bookkeepers take great pride in their work and their businesses, most (or possibly all – I do not pretend to

know all my bookkeepers intimately after one interview and some time together at a conference) were in the position of becoming an entrepreneur because of larger forces and life circumstances that left them with few options. Entrepreneurship is a respectable way of being a neoliberal subject for people who struggle to participate in ‘normal’ forms of capitalism, like working in an office five days per week. Strengthening state support through expanded parental benefits (paid leave), universal healthcare (not tied to one’s job), and stronger labor protections (for all workers, including gig workers) can help expand opportunities for women and people of color in the United States. I also think we should consider how we can bring people together. How do we connect remote workers on their own “islands” (as Jeff and Sarah described) in order to connect them with communities they can draw on, whether that is for technical expertise or trusted advice?

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