

Introduction

COVID and the Technological Class Divide

COVID-19 upended the American economy—but not its class, gender, and racial hierarchies. While the coronavirus did not discriminate based on income or race, exposure, complications, and death skewed heavily along those lines. A major factor in individuals' total risk was whether they could work remotely, which revealed a longstanding technological class divide. Under social distancing mandates, professionals retreated to their homes or second homes, using new videoconferencing platforms to keep working—designing products, analyzing data, writing legal briefs, coordinating strategies, and so on. This was especially trying for parents who had to care for children as they did their own jobs, and the burdens of childcare fell disproportionately on women. Yet professionals had it comparatively easy. Their relative comforts depended on armies of low-wage workers in a vast service economy, who had to perform their jobs in person. Those workers, who are disproportionately nonwhite, had a very different relationship with technology. Rather than using it to create goods and services or to manage enterprises, those workers were often managed *by* technology, receiving orders and even official discipline through apps, tablets, and the like.

Many canonical images from the pandemic juxtaposed US companies' stunning technological sophistication with their workers' vulnerability. Amazon warehouse staff—who work alongside armies of robots and whose every task is assigned and monitored by artificially intelligent devices—became infected early on because the company did not maintain physical distancing or provide masks in the workplace. Workers at grocery stores and many restaurants faced similar risks of infection even as they were monitored

by point-of-sale devices that tracked how long they took to perform certain tasks. The potential scope of the app-based gig economy also came into focus as delivery platforms like Instacart and DoorDash scaled up to meet consumer demand. Their workers needed to enter businesses and homes and interact directly with customers, leaving them at a high risk of infection, and were supervised, demoted, and even fired via smartphone apps.

The pandemic therefore highlighted and exacerbated long-simmering grievances in the US's economy and society. Many workers simply reached their breaking point and began to protest against dangers and mistreatment. Early in the pandemic, health-care workers who used cutting-edge medical technologies called out their employers' failure to provide them with adequate safety equipment. Many others followed suit, walking out of warehouses, meatpacking and poultry plants, fast food restaurants, and other businesses, to the point that some believe that COVID sparked a bona fide strike wave.¹ As pandemic restrictions began to ease in 2021, many companies struggled to staff back up, especially in the hospitality industry. Some longtime restaurant and hotel workers told reporters that they were unwilling to tolerate such risks again, or they were exhausted after years of physically grueling service work. COVID was the final straw. Then, 2022 saw a major upsurge in worker organizing, including successful unionization drives at numerous Starbucks locations, and at an Amazon warehouse on Staten Island where key worker grievances included lax safety protocols and automated productivity monitoring.²

A decade from now, scholars may view the coronavirus pandemic as the end of an era in the American political economy. That era began in the late 1970s and was defined both by astonishing technological progress and by exponential growth in precarious service jobs. This book argues that those trends—in technological development and in the degradation of work—were completely intertwined, in the sense that companies increasingly used new technologies to limit workers' power.³ It further argues that our labor laws—that is, the entire complex of US laws constituting and governing work—enabled companies to use technology in that manner.⁴ Over the same period, companies established broad rights to gather data on workers and their performance, to exclude others from accessing that data, and to use that data to preempt worker organizing. Put more formally, companies have used their *legal* and *technological* powers to suppress workers'

associational power, driving down wages and eroding working conditions.⁵ These long-running developments yielded many of the problems that exploded into the public eye under COVID: low wages, meager benefits, lean staffing, unpredictable schedules, lack of basic safety protocols, and misclassification of employees as independent contractors.

This book also argues that there is a deeper causal logic at work: these technological and legal changes were driven by capital's demands for high returns in today's large service sectors. Companies in those sectors often require armies of workers without rare or specialized skills, and they are often plagued by slower productivity growth than their industrial peers. Those companies have maintained profitability in part by using new technologies to limit workers' power. These trends are global, but this book focuses on the United States, where they are especially pronounced. Finally, this book argues that a more fair and sustainable future of work is possible, but achieving it will require ambitious reforms to democratize the governance of workplaces, workplace data, and the economy.

On that note, as I finalize this book in mid-2022, there is great excitement in labor circles due to the recent victories at Amazon and Starbucks. Those developments may signal the beginnings of a broader ideological and political-economic shift, in which capital loses some influence and legitimacy, and in which workers are able to build substantial associational power and even a cohesive class identity, and perhaps to push for transformative changes to our labor laws. Alternatively, those victories may not have much long-term impact because of entrenched employer resistance or other, more contingent factors. Regardless of how those and other campaigns play out, I hope that the developments discussed in this book help readers and scholars make sense of them in two ways. First, the technological, legal, and political-economic transformations of the last few decades helped to generate the grueling and often alienating working conditions that led many workers to organize in 2022. Second, Amazon, Starbucks, and other companies may aggressively resist further organizing efforts through the legal and technological means that this book discusses.

The rest of this introduction outlines the book's narrative in more detail, situates it within the literature, and then summarizes the arguments that will be made in subsequent chapters.

Data-Driven Technology, Inductive Knowledge, and Class Power

While this book focuses on recent developments, conflicts over workplace technology and information are not new. For well over a century, workers and companies have fought over the generation and control of workplace information, since both parties recognize that access to information shapes the labor process and the parties' correlative powers. For example, to unionize or take collective action, workers typically must be able to meet, to discuss common concerns, and to plan together without management's knowledge or involvement. In that sense, to build associational power, workers need some privacy, meaning some control over informational flows.⁶ Conversely, companies have long sought to generate, capture, and quantify information about workers and work processes and to use that information to suppress worker mobilization. They can do so directly, by retaliating against worker or union leaders, or indirectly, by designing production systems and processes in ways that deter worker organizing.⁷

In recent decades, however, companies' ability to use data to reshape production and class relations has been supercharged by developments in law and in data processing. Regarding the law, companies have pushed on multiple fronts to achieve greater freedom of action vis-à-vis workers and the state. They enjoyed such authority prior to the Great Depression but lost it after the New Deal once workers unionized in large numbers. Companies pressed hard for such freedoms beginning in the 1970s, responding to various economic pressures, including industrial overcapacity.⁸ As courts and legislatures responded, our labor laws were gradually transformed. Today, those laws treat employment as fundamentally contractual, largely disregarding the background inequalities that affect workers' and companies' bargaining power, and treat the enterprise more like the employer's sovereign property. As argued later in this book, this consolidation of legal power reflects broader trends in the evolution of law over the same period—the era of neoliberalism—when vast swaths of our society were reorganized around idealized visions of market ordering.⁹

That long-running shift in labor law both facilitated and responded to the maturation of networked information technologies, as well as to broad changes in the class structure. As industrial production declined, service industries became dominant, and many of the nation's largest employers came to be in fields like retail, food service, logistics, and hospitality. Those companies face different sorts of pressures than their industrial forebears.

They need to hire and manage huge armies of service workers in thousands of small worksites rather than in a few huge factories. They also need to oversee immensely complex global and national supply networks. Finally, because it is harder to increase productivity in services than in manufacturing, service-sector companies have very strong incentives to limit labor costs. Successful companies have often used novel surveillance technologies for all those purposes.

Those technologies differ from past means of worker surveillance in several respects, each of which is reflected in their design as well as their use.¹⁰ For example, data-driven surveillance can operate over a vast distance, enabling cheaper oversight of massive numbers of workers or huge and far-flung supplier networks from corporate headquarters. Those technologies also operate asymmetrically, enabling companies to monitor workers but preventing them from monitoring management in return. Most important, nascent forms of artificial intelligence (AI) operate very differently from human cognition. They analyze very large data pools to discern patterns and draw statistical inferences in ways that humans never could. This leads to a new way of “seeing” or knowing the world that is *inductive* in character and genuinely different from other forms of productive knowledge. As the sociologist Gary Marx explained in a related context, such techniques enable judgments based not just on the unique individual being surveilled, but on that individual “in relation to statistical averages and aggregate categories.”¹¹ Contemporary AI systems nevertheless have an Achilles heel: they have no sense of the social and real-world contexts for their analyses.¹² Those contexts are inescapable in the workplace, and they limit companies’ ability to automate today’s jobs. For the foreseeable future, then, the greater share of workplace AI will likely be dedicated to extending, deepening, and transforming managerial control over workers.

In the United States, the results of these intertwined shifts in law, technology, and class relations are all around us. For example, acting entirely within their rights, companies may closely monitor workers, demand an ever-faster pace of work, and terminate those who complain without giving any reason.¹³ They may use AI to reshape schedules, physical spaces, and workflow in ways that prevent workers from even speaking with one another, making it more difficult for them to take collective action. Companies may shunt workers outside their corporate boundaries, denying them basic legal protections and rendering many forms of worker collective action illegal, even as they closely supervise those workers’ performance.¹⁴ What’s

more, companies can take these steps even as they exploit their control over valuable information to build a dominant position within their sectors, giving them structural power over workers, competitors, and even lawmakers. This intensification of surveillance and management is not always intended to erode workers' associational power—but it often has that effect. Workers are fragmented from one another physically, socially, and legally, even as they are subject to similar forms of centralized control.

Companies can also use new surveillance devices and inductive learning technologies to suppress workers' organizing efforts actively, directly, and aggressively.¹⁵ For example, companies can monitor internal employee message boards using natural language recognition algorithms, spotting keywords that might indicate that a unionization drive is afoot and then retaliating against the ringleaders. Such retaliation is often illegal—and yet companies may be able to launder personnel decisions through new algorithms that obscure their intent from workers and regulators, making enforcement much more difficult.¹⁶ There are many reported examples of such efforts today. For example, Amazon in 2020 posted (and then rapidly deleted) a job announcement for “intelligence analysts” who would take such efforts to scale, utilizing worksite data analytics and public data sources to detect “labor organizing threats” against the company.¹⁷ Companies may also be able to use new recruiting algorithms to aggregate data on applicants' employment history with data on their social media posts or consumer behavior, and then screen out workers who are likely to challenge management's authority.

All of this culminates in today's labor politics, in which knowledge and control are centralized, surveillance is constant, and line-level workers have little autonomy and no voice on the job. Companies' power then extends, fractal-like, from the individual workstation, to the worksite, to the supply and distribution chain, and to the broader political economy. Workers must compete with one another for jobs, for desired shifts, or to stay in their employer's good graces, and therefore face substantial market discipline. As a result, service workers are increasingly a class in a structural sense, occupying similar positions in the division of labor and enduring similar inequities, even if they do not always understand themselves to be a class. Their lack of collective power drives down wages and working conditions, enabling companies to remain profitable and capture the lion's share of productivity gains. The enormous power disparities in today's labor market may even

have skewed the development of AI itself, encouraging investment in technologies to control and discipline workers. In that sense, new technologies and their associated class politics are central to the political economy of contemporary capitalism.

There are silver linings here. The fact that recent changes in technology and class relations were facilitated and shaped by law—a human creation ultimately subject to democratic revision—suggests that reforms to workplace and data governance could encourage a far better future of work. Such an outcome will require political mobilization, but there are promising signs there as well.¹⁸ For one thing, service workers are the paradigmatic so-called essential workers of the COVID era—the ones who make sure that we are all fed, clothed, housed, transported, and cared for. They have enormous latent power, which they have recently begun to exert, as noted previously. Service workers also have a natural community of shared interest with many consumers, including a younger generation unwilling to tolerate an unfair and unsafe future. Together, those groups could push for a more just, equitable, and sustainable political economy.

In this book, several chapters that discuss technical developments and their effects on workers also suggest reforms to address discrete harms. The final chapter then proposes a far more ambitious reallocation of workplace rights and powers. Those proposed reforms draw inspiration from the radical democratic tradition of thought and action, which insists that all major spheres of social action—politics, the economy, and civil society—should be constituted and governed in a democratic fashion.¹⁹ In labor law specifically, those reforms aim to make workers' associational power a legitimate modality of governance once again. Law today encourages employer dominance in many ways—but law can also encourage a different political economy and a different class politics, with a broader and richer sphere of human freedom.

Situating This Book in the Literature

The book sits at the intersection of three bodies of scholarship that illuminate the role of laws and other institutions in shaping contemporary work relationships and longer-term processes of capitalist development.

The first body of literature considers the role of law in political-economic orders and governance. That was a major theme of early-twentieth-century

legal realism, which illuminated how legal rules and processes established the terrain on which economic and political action occurred.²⁰ Labor law scholars have often drawn on legal realism to explore how law constitutes and shapes class relations. For example, a number labor law scholars have argued that the New Deal labor regime, by continuing to protect various pre-New Deal employer prerogatives, failed to deliver on the promise of workplace and industrial democracy.²¹ Others have sought to understand the myriad ways in which labor laws shape workers' capacities for collective action, and how that collective action can become an autonomous source of legal or quasi-legal authority.²² Still others have elaborated on the relationship among class and other axes of social subordination, including race, gender, and citizenship.²³

Another important body of post-realist scholarship is now clustered around the Law and Political Economy (LPE) project and movement.²⁴ That literature is diverse, cutting across subject fields and methodologies, but much of it has extended and updated the realist project of understanding the legal constitution of the political economy.²⁵ Some LPE scholars have focused specifically on the relationship between law and capitalist development outside the labor context, and the book draws extensively from their work.²⁶ Others working in and around LPE have argued that the data revolution is altering workplace privacy practices and compliance with antidiscrimination mandates.²⁷ With important exceptions, however, scholars have said less about the role of new information technologies in *class politics* specifically, or about those technologies' relationship to changes in labor law.²⁸

The second body of literature considers the relationship between technology and institutions, including but not limited to the law. This is another immense topic, and the book can't hope to do justice to all the debates among technology scholars, but several are worth noting. One branch of science and technology studies has illuminated how political and social institutions can shape technological development and deployment, and how technologies in turn can shape political and social institutions.²⁹ Another rich vein of scholarship focuses on how new information technologies facilitate network- or platform-based forms of social organization with distinctive logics and tensions, including tendencies toward monopoly.³⁰ Legal scholars, for their part, have long argued that rights to develop or deploy technology are a crucial source of social and economic power, and that the design of technologies themselves can regulate and shape

social behavior.³¹ As inductive learning technologies have been deployed at scale in the private sector, various legal scholars have traced how they are legally constituted, how companies are using them to reshape relationships with consumers and others in ways that threaten individual privacy, and how they are altering state and administrative processes.³² As noted earlier, this book draws insights from those bodies of work and applies them to the recent evolution of workplace technology and class relations.

The third body of literature focuses on the political economy of work and technology more generally, but it often says less about law and legal processes. This is a theme in various classics of political economy, including work by Adam Smith, Karl Marx, Joseph Schumpeter, and more recently Immanuel Wallerstein.³³ One body of contemporary research—in fields including comparative political economy and welfare state studies—illuminates the relationship among workers' associational power, other institutions, and patterns of development across capitalist economies.³⁴ Another line of research—in heterodox economics, economic sociology, and labor history—focuses more specifically on how workplace technology structures class relations.³⁵ A core insight that cuts across much of that scholarship is that companies may choose technologies that are less productive or efficient than reasonable alternatives, where doing so helps them contain workers' power and thus capture a higher share of profits.³⁶ While classic works in this tradition were written prior to the emergence of networked information technologies, in recent years sociologists and other social scientists have studied how processes of algorithmic management are proliferating across the economy and exacerbating economic and other inequalities.³⁷

While these literatures diverge in many respects, they all focus on the constitutive role of social institutions in capitalism, whether historically, within nations today, or in comparative cross-national perspective. The book draws from each body of scholarship to develop its own theory of the law and political economy of workplace technology. Its overall argument then pushes forward two now-classic insights from these literatures, which are in tension with one another. The first, common to legal realism and its descendants, is that law is a human creation and can be revised to advance the broader social good. While processes of social change cannot be driven entirely by legal change, legal reforms and processes are central to social orders in modern democratic societies. Moreover, unlike social norms and forms of traditional authority, laws can be contested, questioned, and

altered pursuant to intentional deliberative and political processes. The second insight, which is central to radical political economy and heterodox economics, is that capitalism, as an economic and social order, has a deeper logic that is not reducible to the views and aspirations of its denizens and that pervasively shapes the legal order. For example, capitalism encourages intense competition through much of the economy, leading to perpetual changes in technology and to new work structures that erode existing social protections. What's more, capital's structural power even in democratic societies may limit the potential scope of democratically motivated efforts to decommodify labor and social goods.

In other words, the book stands *both* with those who insist that capitalism tends to erode or swamp all opposing normative orders *and* with those who note that, by acting together, nonelites have frequently limited the power of capital and democratized social and economic life through legal reforms. As shorthand, the book refers to this dynamic as the tension between capitalism and democracy, recognizing that both terms are immensely complex and contested. My hope is that embracing this tension will enable a sober, clear analysis of the crises facing us today, while also generating space to envision a future of work and workplace technology that is far more egalitarian and sustainable than the present.

Summary of Chapters

The book has six chapters, in addition to this introduction and a brief afterword. Chapters 1 and 2 are the book's theoretical core, chapters 3–5 provide empirical detail, and chapter 6 considers possible policy responses. Chapter 1 outlines the book's theory of the relationship among workplace technology, labor law, and capitalist development, and sketches the transition from the postwar political-economic order to the contemporary regime of accumulation. Chapter 2 discusses the transformation of labor law in recent decades as companies and investors responded to the challenges of the service transition by pushing for greater operational freedom vis-a-vis workers and the state. It also sketches parallel changes in intellectual property, trade secrets, and other doctrines that helped turn informational goods into profit centers.

The next three chapters discuss how companies are using their legal powers over data and technology to reshape work. Chapter 3 shows how

companies are using data-driven technologies to automate some tasks and to alter the skills required for others, as part of an overall trend toward what the book calls “digital Taylorism.”³⁸ That chapter also summarizes the promise and limits of contemporary AI and robotics and suggests that automation is unlikely to displace world-historic numbers of low-wage workers in the foreseeable future. Chapter 4 addresses the relationship between employee privacy and associational power. It first shows how companies can use data aggregation techniques to discern many workers’ skills, aptitudes, and off-duty conduct. It then shows how companies may use that data to screen out prospective employees who are likely to challenge managerial authority, to determine whether their current workers are seeking to unionize, and to combat unionization efforts. Chapter 5 discusses how companies are using new technologies to alter the scope of their enterprises. As it shows, many major companies today purchase labor without hiring workers as employees and therefore avoid labor law duties, even as they build massive enterprises that enjoy substantial market power. As a result, power in many low-wage sectors today is highly concentrated in a few corporate headquarters, but legal responsibility for working conditions is diffuse.

The final chapter, chapter 6, discusses how policymakers could respond to these transformations of work. It suggests that policymakers should aim to extend democratic norms and practices deep into the spheres of production and distribution, and sketches two far-reaching sets of reforms that would advance that goal. The first set would guarantee workers the right to participate in workplace and economic governance through new forms of collective representation. The second set would reshape the governance of workplace data by banning various forms of workplace surveillance, giving workers a voice in the deployment of other data-driven technologies, and turning still other novel technologies into public goods. Together with new investments in care, social reproduction, and a green transition, these policies could help build a much more sustainable economy.

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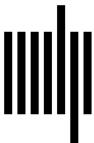
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