This thesis is dedicated to the memory of my father, Frederic Girard Robinson (1936–1994), who never quite finished his own thesis, and who showed me how to be interested in other people.
Pocket computers, called “smartphones,” have become a part of everyday life over the past decade. Most people now routinely carry around with them millions of times more computing power than generated the Apollo mission to the Moon. They use it to access, process, and share information quickly and cheaply, in furtherance of the things people have long done: buying and selling, socializing, and so on, yet faster and across greater distances—characteristic of what we call “modernity.” This has affected the ways in which people are working, and who is working, doing what, today.

This thesis reports the results of a field study of one new kind of laborer who has been brought into work consequent to the smartphone: Uber drivers. The author conducted ethnographic fieldwork over one year in Boston, Massachusetts, and the surrounding area using ride-along sampling, participant observation, lengthy interviewing, and systematic coding in order to better understand a software-organized, person-to-person labor market in which the person who does the labor also brings the capital in the form of a vehicle used to provide transportation to other people. The first chapter of the thesis provides a typology of Uber drivers based on semi-random sampling through ride-alongs. The second chapter describes collective action that was undertaken by Uber drivers at Boston's Logan Airport in the form of a strike against the algorithm, which was an effort to induce the software to perceive an (artificial) driver shortage, leading to an increase in the price of fares. The third chapter offers a theory of the structure of Uber as an organization that mobilizes labor by using software to facilitate economic transactions that are triangulated between two users and the firm. The chapter also explains how this structure was particularly apt at mobilizing large numbers of people to carry out “regulatory breach,” as they worked as Uber drivers doing the equivalent of taxi or livery work without complying with any of the applicable legal regulations. The final chapter explains how analysis of the field data, in combination with the new theoretical insights of the thesis, drives a conclusion suggested by the thesis title: that Uber has made a digital working class.

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My husband, Mikkel Heuck, influenced many aspects of this work. He listened carefully over several years as I tried to make sense of what I was seeing and experiencing during field research. He suggested that I could establish a relationship between coded variables in a manner that made it possible to compare their weight across interviews, irrespective of variations in interview length. Mikkel has the diligent, regular, working style that is necessary to complete long projects, and he helped me while I tried to learn and adopt that style, often with great difficulty (and I still have not gotten it). He gave me the desk and the chair on which the thesis was written, which is a metaphor for how central he has been for me. D. H. Lawrence, who wrote about the dehumanizing effects of industrialization and modernization (and probably would have been interested in Uber drivers), said about love, by contrast, that it was “the flower of life.” He could have also said flowering of life. My life has been flowering since Mikkel came into it; and since we are so fortunate to have our lives and work overlap, my work has been flowering too.

My father died in 1994. My mother made sure that I was well-educated and surrounded by happy circumstances, and she endured long commutes and worked hard to facilitate this. Her values were focused on education and experience, and I am deeply grateful that I grew up in such a family. Thank you.

It is double-luck when academic companionship turns into friendship, and vice-versa. I would like to thank the friends who have shaped my ideas, and me, over many years, especially Irena Stevanovic, David Singerman, Daniel Doneson, Afonso Januario, Costas Boussios, Marie Karkov, Jonathan Man, and Jan Phillip Balthasar Müller. Thank you also to Barbara Alexandra Szerlip, Fabien Grégis, Jérémy Grosman, Nick Robinson, and Marc Aidinoff, who are new and I hope lasting friends in the world of ideas. Sven Beckert was always willing to speak to me about my work during the many years we both frequented Simon’s Coffee Shop in Cambridge; it was not until years later that I realized he was in fact Professor Sven Beckert, the well-regarded historian of capitalism. When I first spoke to him about Uber, he exclaimed (in an accent once described by Sam Seder as “academic Arnold Schwarzenegger”), the labor brings the capital!—which propelled me into the literature on labor and wage history, including Thomas Picketty’s extensive book, which had been sitting unopened on our coffee table for several months, looking intimidating.

Many illuminating conversations happened at Shay’s Wine Bar in Harvard Square. I hope that it will survive as high rents drive small, independently-owned places out. Shay’s hosts intellectual discourse in the shadow of a great university; often helpfully in counterpoint to it. It was there that Manuel Hernandez told me to read Studs Terkel’s book, Working (1974). This book influenced me greatly, specifically because it beckoned to simply put the voices of workers into print: showing that people are insightful enough about their own lives. Terkel wrote in his introduction that when people talk about their work they described a “search for daily meaning as well as daily bread, for recognition as well as cash, for astonishment rather than torpor; in short, for a sort of life rather than a Monday to Friday sort of dying.” I hope you will see that this is true for the Uber drivers who appear in this work.

To them is owed the most substantial “thank you” for the work product you will read here. Without giving me access to their lives and their insights, our knowledge of
how a digital working class is made would be far more abstract and, almost certainly, inaccurate. As I re-listened to audio of interviews of drivers over the past several months, I found myself thinking, as I had many times in the field, how remarkable people are. It was my great pleasure to get to know those who participated in this research.

Several institutions and individuals hosted me during long periods spent away from M.I.T. I would like to thank Gregory Klass at Georgetown University Law Center, Martha Blaxall and Zarina Durani at the Brookings Institution in Washington, D.C., Julia Fleishhacker at the University of Zürich, Cecelia Cannon, Gopalan Balachandran, Thomas Bierstecker, and Damien Neven at the Graduate Institute of International and Development Studies in Geneva, Switzerland, and Torben Elgård Jensen at the University of Ålborg, Denmark.

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I abandoned graduate study and moved to Vermont three semesters after starting at M.I.T. There, I was lucky to become friends with members of the McCullough family, Chris Dartt, Geoff Tuller, Jim Abbott, Jon Kelley, Scott Lacroix, Cody Campbell, Michael Olinstead, Ben Rousseau, Dana Clay, and Nathan Abbott. From the moment I arrived, these people let me tag along for some of the great adventures and vicissitudes of Vermont life. Happily, many of these friendships still endure. I was analytical about the strangeness and wonder of what I saw and experienced in Vermont; and getting to know different kinds of people closely, on their own terms, and in environments so different from those in which I grew up and studied was, in some important sense, the beginning of my ethnographic training. This is not to say that my friends were my research “subjects”—although I was in such wonder that they may have felt that way sometimes. When I returned to graduate studies four years later, I was broader and better than when I left. I want to thank them for letting me be a part of their lives.
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David Evans opened my long Cambridge chapter in 1998, when he signed my admission letter to Harvard College. I have been fortunate to be his correspondent for almost twenty years. David was born to sharecroppers in rural Georgia and earned a Ph.D. in engineering; instead of taking a tenure-track position in his field, he took a job in Harvard’s admissions office to build a career identifying and admitting qualified African-American students. I owe him much, and thank him again here. Gene Pacelli, whom I met as a college freshman in a yoga class he taught (and still teaches) at the Malkin Athletic Center, has deeply influenced and encouraged me, along with his partner Donna Seigel. I am grateful that his pedagogy over nearly two decades has gone far beyond yoga; or (as he would probably put it), into the real yoga.

Yet, far more than any other individual person, Susan Silbey is most responsible for my progress and for the existence of this thesis work. In 2006, Sheila Jasanoff suggested that I go speak with her as I was finishing law school and thinking about doctoral programs in the social study of science and technology. Susan’s office at that time was a converted lab space, narrow and tall, at the end of M.I.T.’s “infinite corridor.” In the cavern created by her bookshelves, we had a chat about Larry Summers’ resignation as president of Harvard consequent to comments he had made about the lack of women in science careers. Susan told me briefly about M.I.T.’s history on the subject.
from about a decade earlier, and gave me a short but dense lesson on organizational behavior and institutional culture, comparing the two places. Her insight was clarifying and remarkable. Ever since, I have wanted to be around Susan and listen to what she has to say about anything and everything.

I feel lucky that I was able to become Susan Silbey’s student, though I did not show this by being an exceptional worker. Umberto Eco described students like me in his book *How to Write a Thesis* (1977) as suffering from a “thesis neurosis.” The student “feels unfulfilled,” Eco writes, “loses focus,” and uses her thesis “as an alibi to avoid other challenges” in her life that she “is too cowardly to address” (or has not yet learned how to). Eco says, definitively, that this kind of student “will never graduate.” Susan stuck with the patient, fortunately. I learned about myself using the sociological point of view she taught me, and from the generous insight she gave into her own life. I tried to adopt her confidence as my own. I can hardly reciprocate what she has done all these years to contribute to my development as a scholar, and as a person. The jazz trumpeter Miles Davis remarked, in a television interview during the last decade of his life: “Sometimes you have to play a long time to sound like yourself.” Susan Silbey has helped me immensely to begin to do that. Thank you.

H. C. Robinson

September 2017
Cambridge, Massachusetts
Introduction

Since the emergence of the Internet a generation ago, human beings have been increasingly able to use rapid, networked communication to engage in activities like commerce and socialization over greater distances and at faster speeds. Within the last decade, the so-called “smart phone”—a pocket-sized computer—brought these capabilities into the hands of people as they went about their everyday lives. Several smartphone software producers adopted a model characteristic of eBay, which pioneered the “person-to-person” marketplace in 1995 by using software to link people to one another to make exchanges; allowing them to take on the roles of “customer” and “employee.” As one set of users gained access to a service, another set gained access to an opportunity to work for income. A company called Uber began to use this model in 2009 to organize commercial transportation in the form of a car-and-driver service, by using software to link people with cars who wanted to earn income to people seeking transportation. Uber did not require calling a taxi company or hailing a cab on the street: one could simply download its software onto a smartphone and be rapidly connected to someone else using the same software to earn income. Yet Uber’s appeal was not only convenience: it cost far less than a taxi. In Massachusetts in 2016, for example, the price per mile and minute for UberX was less than a taxicab in Manhattan in 1987.1

“Uberization” has extended throughout the service economy since 2009 as firms developed software to connect producing and consuming “users” to a diverse array of

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1 The UberX base per mile/minute rate in Massachusetts was $1.17/$0.15 according to its May 26, 2016 Service Fee Addendum (on file with author). The New York City taxi fare in May 1987 was higher: $1.20/$0.15 per mile and minute. Graham Russel Gao Hodges, *Taxi! A Social History of the New York City Cabdriver* (Baltimore: Johns Hopkins University Press, 2007) Table 3, 187.
services ranging from household cleaning, to grocery delivery, to massages. Bringing a
pocket computer to hand to identify who is *nearby, now* wanting a service, and who is
*nearby, now* wanting to work increased the speed and frequency of economic
transactions. At large volume, even with prices below the market rate (as in the case of
Uber), the new firms profited from the exchange between the users by charging a
commission, in addition to gaining data about the transaction and the users. Often, the
skill needed was already widely distributed throughout the population (such as driving),
and the key piece of expertise necessary to do the job was provided by software: such as
step-by-step navigational instructions in the case of Uber. This enacted a deskilling, for
example, on taxi work, and brought large numbers of people into work for which they
would have previously been unqualified.

Because the market for these exchanges is convened using digitally-networked
software, and not, for example, a “brick and mortar” storefront, users have been able to
engage in activity that would normally be regulated—such as commercial car-and-driver
transportation—without complying with regulation. It has been difficult to sanction their
activity, because it is difficult for regulators to identify who is doing the work unless the
firm that makes the software discloses who its users are. This is particularly the case if
the work happens in private spaces, as is the case with Uber cars, which are typically
unmarked personal vehicles. Uber has also actively used its software to deceive users it
believes are regulators or law enforcers.\(^2\) Thus anyone with a smartphone and vehicle
who passed Uber’s background check and submitted driver’s license and insurance
information could access a market of people seeking to pay for car-and-driver

transportation, and use their private passenger vehicle to offer commercial ride-for-hire services without livery plates or livery business registration, hackney driver’s license or taxicab medallion, the two legal means for providing such services in Boston and the surrounding area. By the end of 2015, over forty-five thousand people in Massachusetts had used Uber’s software to provide commercial car-and-driver transportation in this manner—and the vast majority were UberX drivers who did not comply with the legal regulations for commercial transportation. These type of drivers formed the basis for exponential growth in Uber’s workforce, and in its revenue, over the past five years.

This aim of this thesis research was to discover who these people were, why they were doing this work, and what was their experience in the new, software-assembled market for car-and-driver transportation. More broadly, the goal was to understand interactions between individuals and organizations (including regulatory ones) in a contemporary phase of late industrialization often referred to as the “information age.” Uber is a recent phenomenon, and Uber drivers have not been long studied. Rosenblatt and Stark relied on Uber driver posts on websites, which they reviewed over nine months in 2014 and 2015. Drivers experienced “information and power asymmetries,” they found, such as generated by not knowing where a passenger was going until a trip was already accepted, and “rhetorical invocations of digital technology and algorithms are used to structure asymmetric corporate relationships to labor.”

Anderson conducted ethnographic interviews of twenty Uber drivers selected based on ride-alongs and social

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networks existing among drivers, and identified driver work strategies. Lee, Kusbit, Metsky, and Dabbish interviewed twenty-one Uber and Lyft drivers, and twelve passengers, and analyzed online driver forums and company communications; they described the “algorithmic management” of the workers, concluding that further work should be done to better understand the control of software systems and users’ mental models and sensemaking in relation to them.

Hall and Krueger studied the largest number of Uber drivers, analyzing aggregated data containing the driving histories, schedules, and earnings of a representative national sample from 2012 to 2014, in addition to a 2014 survey of six hundred Uber drivers. Hall was an Uber employee, and the firm commissioned the study, giving Krueger, an economist at Princeton, “full discretion over the content.” They showed that, in comparison to taxi drivers and chauffeur (or “livery”) drivers, Uber drivers were younger, more highly educated, and more white: almost 50% were under the age of 39 (compared to just above 38% of taxi drivers and chauffeurs), 37% possessed a college degree (compared to 15% of taxi drivers and chauffeurs), and 40% were non-Hispanic and white (compared with 26% of taxi drivers and chauffeurs). Krueger and Hall concluded that, “by dint of their backgrounds, family circumstances, and other pursuits, Uber’s driver-partners are well matched to the type of work they are doing.”

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were “attracted to the flexible schedules that driving on the Uber platform affords,” and varied their hours considerably from day to day and week to week.\textsuperscript{10} They concluded, noting that only eight percent of Uber drivers were unemployed directly before beginning to work as Uber drivers, and without any deeper ethnographic study, that Uber drivers “do not turn to Uber out of desperation or because they face an absence of other opportunities in the job market.”\textsuperscript{11}

In describing Uber drivers as “well matched” to the work, Krueger and Hall portrayed the drivers as \textit{homo economicus}: rational actors making decisions about labor participation in the new digitally-networked market for car-and-driver transportation made possible via software. Yet Uber settled a Federal Trade Commission lawsuit for $20 million in 2017, charging it with misrepresenting earnings to drivers as part of its recruitment strategy.\textsuperscript{12} In April 2017, the \textit{New York Times} reported further that Uber manipulated driver behavior using its software: “Employing hundreds of social scientists and data scientists, Uber has experimented with video game techniques, graphics and noncash rewards of little value that can prod drivers into working longer and harder – and sometimes at hours and locations that are less lucrative for them.”\textsuperscript{13} The contrast between these reports, the ethnographic studies of small populations of Uber drivers earlier described, and economists’ portrayal of drivers, emphasized the need for further study.

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This thesis reports the results of a research study that was aimed at better understanding the Uber working population by closely observing its drivers in the city of Boston and surrounding areas during 2016. Drivers were sampled by using the Uber software to conduct ride-alongs, from which forty-nine drivers were recruited to participate in semi-structured interviews: twenty-seven for a lengthy interview structured around sixty-four interview questions, and twenty-two for a shorter interview. Follow-up interviews were conducted where possible six and twelve months later, into 2017.

Chapter 1 describes the research methodology in detail and reports the results of the field study, giving a typology of Uber drivers and of characteristic issues they face in their work. Chapter 2 describes a group of organized Uber drivers at Boston’s Logan Airport as they engaged in a “strike against the algorithm” in response to lowered prices per minute and mile and dissatisfaction with Uber’s working conditions. Chapter 3 describes Uber as a “thin” organization: one in which the number of users who are workers vastly outnumber the number of formally-employed corporate employees. It describes how, lacking traditional managerial control over workers, Uber controls and profits from the work by using a form of interaction called “triangulated transacting,” which is a novel theoretical contribution of this thesis. Triangulated transacting provides users with an opportunity to take on a new, digitally-facilitated work role using software without meeting any regulatory requirements that normally (and legally) apply to the work. Describing this activity across large numbers of users as “breaching the regulatory system,” Chapter 3 then uses the theory of triangulated transacting to evaluate Massachusetts’ 2016 “transportation network company” legislation, which aimed at bringing Uber drivers back within the purview of the regulatory system. Finally, drawing
on the ethnographic data from Chapter 1 and Chapter 2, and the theoretical contributions of Chapter 3, Chapter 4 articulates what constitutes Uber drivers as a single "digital working class," as the thesis title asserts. It argues that drivers are an occupational group undergoing similar experiences despite their widely varying demographic backgrounds and varying reasons for entering the work. Their key similarity is that they take up the work quickly, using digitally-networked technology that is not impeded by the slowdown of regulation. Consequent to this speed, several risks that Uber drivers take on in order to do the work, such as concerning the legality of their activity, and whether they will actually profit from it, only become apparent to them over the course of the work, and often with drastic consequences.

Capitalism has composed and recomposed the working class continually,\textsuperscript{14} and Uber and Uber-like forms of work are one new phase in this ongoing process. To place it in historical perspective, Uber's software is like earlier technologies that brought low-wage work into the home and private life, such as the sewing machine in the nineteenth and early twentieth centuries, which allowed new kinds of workers (typically women) to take up piecework at home, and performing part of the manufacturing process for clothing and shoes.\textsuperscript{15} In another sense, Uber work is like factory production: it is disciplined through mechanization. A smartphone operates Uber's software: a machine that enables the firm to exercise close supervision of time and motion (through networked computing), and that also allows the work to be deskillled (through information technology). In yet another sense, Uber is like an alternative distribution mechanism such


as franchising, vertical marketing, or a "voluntary distribution" chain. It offers drivers access to a market and expertise via its software, and it advertises to them as a form of customer: encouraging them to become affiliated distributors. All of these forms have been well-studied. This thesis deepens our understanding of the experience of people who are using Uber’s system of digitally-networked computing to take up work, and places the experiences of these people in the context of a dynamic in which the firm that contributes the “digital capital” (the software), extracts value from the workers who contribute the labor, and the capital of the automobile, in the process constituting them as a digital working class.

Chapter 1

Uber Workers and the Work Experience

[O]ne of my coworkers told me, in America, the way he looks at things, you need two things: you need a gun license, and a taxi license. In case you get fired from your job, you can always go to the taxi and work for the taxi, or you can always get a self-armed job, where you have your gun license and so-and-so, and you're ready to work.

—Lewis, an Uber driver who also works as a security guard

This chapter reports the results of six months of field research into the working experiences of Uber drivers in the cities of Boston and Cambridge, Massachusetts, and some of the surrounding areas. The aim is to contribute sociological field data to analysis of the emerging “on-demand” market for transportation that has supplanted taxicabs in many cities, and has done so by using digitally-networked software to connect people seeking car-and-driver transportation to people willing to offer that service, whether or not they have any previous experience in taxicab or livery (e.g., limo) services, or have complied with applicable legal regulations. This research focuses specifically on the workers: individuals who use Uber’s software as a source of income by providing automobile transportation to others. Accessing and studying this working population took place in three phases during 2016, with follow-up during 2017 where possible.

The first phase involved semi-structured interviewing of drivers who were encountered by riding along during the normal course of their work. The second phase involved observing a group of Uber drivers at Boston’s major airport who were professional drivers before Uber existed, and became some of its first drivers. These drivers had a network of relationships with each other that was atypical of drivers encountered in the first phase of research. Those relationships were developed around
working at the airport, where drivers congregated on a daily basis. I observed these drivers as they planned and implemented a “strike against the algorithm” that attempted to increase the price of Uber fares; it is the subject of Chapter 2. In the third phase of research, I worked as an Uber driver over a period of two weeks, during which I drove one hundred trips. The purpose was to personally experience what work was like in Uber’s algorithmically-organized labor market for car-and-driver transportation and to deepen my understanding of the accounts of other drivers interviewed during phases one and two.

To establish a baseline comparison for the study, I observed workers in the professional “black car” livery business over several weeks at Logan Airport, and spent several days hanging out at taxi stands and speaking to taxi drivers. I spent a day of field observation at the taxi depot of a major taxi association in the Boston area, where cabs are parked and serviced. There, I observed the work of the dispatcher and interviewed the head of the taxicab association.

The results reported in this chapter identify the work conditions, work habits, and perceptions of work of forty-nine Uber drivers. These data are used to produce: a typology of Uber drivers based around their characteristic reasons for taking up the work; a typology of issues that characterize the work process, including enrolling in the work, learning how to do it, performance assessment, receiving payment, and experiencing and resolving uncertainty in the course of the work; and an assessment of the major preoccupations of the Uber drivers. In addition to ethnographic interpretation, these results are derived from iterative coding of thirty-four hours of transcribed interviews using twenty-five inductive and deductive codes (Appendix II) developed using methods
from grounded theory and based on the existing literature and data obtained during the field study.¹⁷

Methodology

The Uber rider software offered a way to recruit research participants from the working population of drivers in a semi-random manner. The sample was *semi*-random because drivers were assigned randomly by the software, but the points of travel were not randomly generated. Drivers were recruited over two and a half months, during which I used Uber as my primary means of transportation, most often to travel from my home to my office in Cambridge. I also travelled to and from other locations in and around Boston, during evenings and weekends, allowing me to sample both the daytime and nighttime driver populations. During the first sampling period, I took seventy-two trips; over three additional months, while conducting interviews of drivers encountered in the first phase, I took twenty additional trips. Among a total of ninety-two trips, I was assigned the same driver only once.

While riding along, I identified myself as an M.I.T. student doing a research project investigating what working as an Uber driver was like. I indicated that my goal was to produce a Ph.D. dissertation, which I described as a very long paper that might eventually turn into a book. I asked each driver if he or she would be interested in participating in an interview to help me better understand the experience of Uber work. Of the ninety-one drivers I encountered in ride-alongs, twenty-seven agreed to meet again for a lengthy open-ended conversation structured around sixty-four interview questions (Appendix I), and twenty-two additional drivers agreed to do a short interview at the time

of the ride. The long interviews—which lasted typically an hour to an hour and a half in length—took place at locations that were convenient for drivers, which were typically coffee and pizza shops that had parking. All but one interview took place in person; one was by phone. The interviews were not compensated, although sometimes I purchased coffee as a courtesy. All drivers gave permission to be recorded, which allowed me to transcribe and code the interviews later, and to listen to them several times. The short interviews were used mainly to understand the driver’s prior work experience before Uber and current motivation for working as an Uber driver. These conversations were not recorded or coded.

The method of sampling and interview protocol were approved for exemption from supervision by an institutional review board by the Committee on the Use of Humans as Experimental Subjects at M.I.T. (Protocol # 1604531346). All drivers’ names have been changed in this account to preserve anonymity. The pseudonym is in keeping, where possible, with the ethnicity of the driver.

Uber drivers’ work occurs in an automobile. Unlike other workplaces, it is particularly hard to study because it is mobile. Uber vehicles lack obvious markings, unlike taxis or vehicles with livery plates, do not congregate at identifiable places such as taxi stands, and, during the time of this research, did not pass through any regulatory process, such as taxi driver “hackney” licensing, that would produce a list a researcher might access through a public records request. Consequently, studies of Uber drivers have tended to rely either on large-scale demographic data made available by Uber to specific researchers for specific kinds of studies,\(^{18}\) or on the discourse of drivers accessed

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\(^{18}\) In a coauthored paper with Jonathan Hall, of Uber, Princeton economist Alan Krueger reported the results of an analysis of a “representative, national sample of Uber driver-partners,” drawn from
through social networks like online fora. Drivers who post information about Uber online, however, are a subgroup of drivers with particular characteristics that are not typical of the overall working population. For example, only one individual I interviewed consequent to my sampling method had posted in an online Uber drivers’ group.

The sampling method used in this research provided a more accurate and detailed picture of what the average Uber driver and work experience is like. It also generated ethical considerations related to the pay-and-rating relationship of the researcher to the drivers during ride-alongs that do not occur with research on online fora or large, anonymized data sets. Steps were taken to reduce the possibility of drivers feeling pressure to participate in the research due to fear of a sanction, such as a bad assessment via Uber’s “rating” system, refusal to pay, or unpleasant social interaction, if the research request was refused. I stated explicitly in each encounter that the driver’s willingness to engage in an interview would not impact the assessment I gave at the end of the trip (I always gave “five star” ratings, which are the highest). Payment for the trip was at a rate fixed by the Uber software and happened automatically, making the transaction cashless. The software did not provide the option to tip during the period of research, and tipping was not an expected practice for Uber riders. Thus there was little possibility the driver would expect me to either give or withhold payment as an inducement or sanction to engage in an interview. As required by M.I.T., I completed human research subjects


training prior to beginning this research. I feel confident that drivers who chose to participate in the research did so willingly, and not because of a power imbalance in the ride-along transaction in which we initially encountered each other.

**Typology of Uber Drivers**

Uber drivers can be classified in two major groups in relation to the amount they work as Uber drivers and the degree to which they depend on income from Uber driving. Part-time Uber drivers typically have other sources of income, and full-time Uber drivers do not. Among the few researchers who have had access to large-scale data on how much Uber drivers work, Hall and Krueger concluded that 51% of Uber drivers work 1-15 hours per week, 30% work 16-34 hours per week, 12% work 35-49 hours per week, and 7% work more than fifty hours.\(^{20}\) In this research, “part-time” drivers are distinguished as working up to thirty-five hours (though typically they work closer to twenty hours), and “full-time” drivers as working more than thirty-five hours. These are approximations, because an individual Uber driver’s working hours often vary greatly over time, because the work is entirely self-scheduled.

Allowing for generalization across individual cases, the present research adds granularity to the part- and full-time driver distinctions by identifying subgroups within these types based on comprehensive ethnographic data. Among the part-time drivers, the most common subgroups are:

- People already employed in work that is typically identified as “professional,” and who take on Uber work as an easily accessible additional source of income; they do not use this

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income to meet their basic, physiological needs (defined using Maslow’s hierarchy\(^{21}\)).

- Students seeking to work in a “side job” for extra income regardless, and who choose Uber for that purpose over, for example, waiting tables or babysitting.
- People already working in low-wage work, or who do uncompensated work in the home, and who are actively seeking additional income in the form of a side job.

Workers across the part-time types have common characteristics. They are unlikely to keep track of expenses related to their Uber work in any routine manner. For this reason, they typically explain their Uber income by reference to their gross earnings (what Uber has paid them). Many cannot state the percentage of their fares that Uber withholds as its commission. Very commonly, part-time drivers reference a specific consumptive aim that determines the amount of work they do as Uber drivers, such as covering rent more easily, or paying for the cost of a holiday trip. These drivers are also likely to speak about benefits they derive from Uber work other than income, such as the opportunity to socialize with new people they encounter as Uber passengers. A financial services consultant, for example, explained using the Uber software on his way home from his primary job in the following way: “I wasn’t really concerned [about expenses]; it just wasn’t really a factor. I figured I’d be out anyway; I mean, I realized it would be a little more gas.” The same consultant said: “I enjoyed the social interaction. I like to drive. The part-time income did help, but, you know, it didn’t make or break me.” The presence of another job supports the part-time driver’s basic needs; thus Uber driving is additional income that does not “make or break” the driver’s financial wellbeing.

Within the full-time driver classification (drivers working 35 or more hours), the common subgroups are:

- Former and current taxi and professional livery drivers who are responding to a decline in ridership of these services (and rise in Uber ridership) by switching to Uber.
- People who previously held low-wage jobs, and exchanged these jobs for Uber driving because of its greater flexibility.
- People who lost jobs during, or proximate to, the financial crisis, and who could not afterwards find equivalent full-time work (in my sample, this group is dominated by men over the age of sixty).

Drivers across the full-time types have common characteristics. They are more likely than part-time drivers to speak about their net income from Uber driving, such as by explaining their earnings in relation to expenditures they must make in order to work, such as car payments, gas, and insurance. They can typically say with precision what Uber’s commission is as a percentage of the passenger’s fare. Full-time drivers are also more likely to be aware that Uber has, over time, lowered fare prices per minute and per mile. They are more likely to speak negatively about these changes, and about other changes in the work process that have been enacted via the software, such as the addition of group trips known as UberPOOL.

Part-time, “casualized” driver types

Part-time Uber drivers emerged in large numbers in Boston in 2013 with the introduction of the UberX service, which allowed people to become Uber drivers using their personal cars. The previous service, UberBLACK, offered only luxury cars. These tended to be operated by professional drivers who complied with regulation by obtaining with livery plates and livery insurance and who were working in the ride-for-hire business prior to Uber. UberX cost forty percent less than UberBLACK, making it
possible for many additional passengers to consume the service. Concurrently, Uber had to grow its driver population. It did so by seeking a “casualized” kind of driver: someone who had no prior experience with professional for-hire driving, who did not have a livery plate and livery insurance, and who did not own a luxury vehicle (or even any vehicle: Uber began to offer drivers access to “partner” companies offering car loans and leases). This was an important evolution in Uber’s service, because drivers who had personal vehicles with personal insurance policies faced far lower costs than professional drivers. This made them far more likely to take up Uber driving part-time, and to accept far lower rates of pay than taxi drivers received (taxi rates in Boston in 2016 were $3.25 a mile, and UberX rates varied around $1.20 a mile, roughly what a cab cost in the nineteen-eighties).

Uber provided several kinds of incentives to encourage this kind of casualized, non-professional driver to sign up, and to participate in signing up similar kinds of drivers. In 2013, it offered payments of $700 for driver referrals, as long as the new driver completed a certain number of trips (typically forty). Uber also partnered with auto loan, leasing, and rental companies, and advertised installment contracts to prospective drivers of “all credit levels” who did not already have vehicles. It attached cash incentives to these programs as well, offering to refund drivers’ first rental payment if they were signing up to drive for Uber for the first time, and offering a $200 incentive for existing drivers who referred other drivers who signed up and took on Uber partner leases. Uber advertised these programs and incentives to drivers on television, radio,

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22 I use the word *casualized* to convey the workforce happens “by chance” or “coming without regularity,” because the manner in which the worker works is “occasional” or “incidental:” the opposite of formal or professional. Adapted from Wikipedia, “casual,” https://en.m.wiktionary.org/wiki/casual (accessed Jul. 9 2017).
online, and the exteriors of public buses. It used slogans like: “Your car is now your moneymaker,” “Earn hundreds of dollars in a weekend,” and “Save for your next vacation.” This field work began three years after Uber’s started to recruit UberX drivers of the part-time, casualized, non-professional type.

Several representative individuals for each type of driver are described in the next section. Following these descriptions, I then explain a set of typical issues experienced by Uber drivers during the work process.

1. People employed in work typically identified as “professional” and who took on Uber work as an easily accessible additional source of income, but not to meet their basic needs.

In 2016, Cody was in his early thirties and had been working part-time as an Uber driver for eight months. He earned an undergraduate degree in management, but decided not to pursue “a nine-to-five job with a suit and everything” after trying it out for a year after graduation and finding it “just miserable.” He created a business casting PVC masks for live-action role-play festivals (where attendees portray movie characters). This generated enough income until a year ago, when his orders declined. Cody explained becoming an Uber driver as a result of this:

I was in a lot of money problems, and I was like, “I really need a part-time job, like, this is isn’t working.” And I thought about it, and I remembered the Uber stuff…literally the next day they were like, “You’re approved!” And then the next day after that it was the background check. It was like two days total or something.

Cody said he would continue Uber driving until “my other job picks up to the point where I don’t need money at all.”

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23 Advertisements on file with author.
Cooper, a real estate rental agent in his late twenties with an undergraduate degree in business management, had been driving for Uber for three months in early 2016. He worked full-time as a rental agent in a Boston apartment building, a job from which he received both retirement and healthcare benefits. His aim was to drive an average of twenty to twenty-five hours per week as an Uber driver, and to focus his work on times that were likely to have “surges:” periods of high demand in relation to driver supply, which triggered Uber’s software to increase the cost per mile and minute. He typically worked an hour and a half before his primary job and two hours after, during the morning and evening commutes, and on weekend nights. A sport-utility vehicle Cooper owned was too old to qualify for Uber driving, so he leased a newer car through an Uber partner company. The lease cost of $155 per week included maintenance and had a high mileage allowance. Cooper acknowledged that the cost was high, but explained he could cover it with his income from his primary job if necessary (“The payment comes out of your earnings; if you don’t make enough, it just comes out of pocket”). He appreciated that he could easily terminate the lease: “Let’s say I wanted to finish out with Uber, which I may want to do in six months or so. I can give them two weeks’ notice and return the vehicle.”

Cooper’s goal for his Uber driving was to earn $100 a day in gross income: “Once I get over $100 in a day everything else is gravy.” His long-term goal was to buy a house. He explained that to make such a purchase, “to get that extra income you kind of got to get a second job.” He nonetheless delayed becoming an Uber driver for several months because he was in a romantic relationship: “that took most of my free time after work. Once that came to an end, I had free time, and it was just like a perfect marriage to do Uber.” Cooper was encouraged to take up Uber driving by his sister, who was in turn
motivated by a $300 driver referral incentive. In response to incentives Uber offered Cooper to recruit other drivers, he explained his efforts to get his other siblings and friends to sign up:

I referred [my other sister] and I got her to do a lease, like me...that’s another perk: if you have another person who does a lease you get an extra $200. Uber emailed last week about it....I told her I would give her the $400 for signing up. Because something else is going on: if I sign up three people before the eighteenth of this month, I get to take all of my fares for the following month without Uber’s twenty-five percent commission being taken off. They always do this, they email like, “Cooper, you’re so close,” so they sweeten the pot: “If you can get two people to sign up by the eighteenth, we’ll give you a week without commission,” not a month. So my sister is really killing me because she is on the fence about it. I hate when people just talk, talk. I am trying to get one of my other buddies to do it. I really wish there was like a trial where you could get people to just like test-drive it for a day. I just think it’s nerve-wracking for the person, because they think it’s harder than it is. When it is so [pauses] easy.

Explaining why Uber driving is easy, Cooper compared it to being a real estate leasing agent: “I am already in service, it’s a simple rollover....I don’t have a problem dealing with complainers. And its really nice to, you know, help people.” He explained delivering good service to an Uber passenger in contrast to public transportation: “I don’t want it to be a hassle like the T [Boston’s subway]; I am playing whatever music you want, I want the temperature to be a good temperature, I want you to have a peaceful experience—like riding the elevator.” Cooper sometimes gave passengers advice about the housing rental market. He kept his professional business cards in the car.

Salman, a real estate broker in his early thirties, also signed up for Uber consequent to an UberX driver promotion. After emigrating to the U.S. from East Africa with his parents as a teenager, he earned an undergraduate degree in nuclear medicine (a first step in training to read radiographic images and other medical scans). He and a friend who was already an Uber driver split the $700 incentive that the friend earned for signing Salman up three years ago. Salman worked part-time, mostly on weekends, using
a car he already owned: a non-luxury sedan that was eight years old, which he explained as cost-effective because he did not have a car payment. As a long-time driver (by Uber standards), Salman complained about several rate reductions he had experienced: “When you go from $2.50 a mile, to, I think, $1.25 a mile, and a taxi in the city is $3.25, you can see how far the money has been dropping.” When asked why he continued to do the work anyway, he said: “a couple days out of the week doesn’t hurt. I just wait until it’s surging, like when it’s busy. I can be strategic about it.”

Salman also knew taxi drivers from the North African community in Boston who had tried to replace their taxi work with Uber driving. In comparison to his ability to be strategic by driving during surges, he explained Uber’s rate cuts in relation to these full-time drivers:

[By] cutting down prices on drivers, they keep losing drivers; but they are gaining more, because they attracting part-time drivers, people like me. People who are focusing more on, like, making an extra $50. They are enticing people through Facebook commercials, like “$700 a weekend”….Uber killed that whole [taxi] industry and replaced it with part-time work. So now, if you’re an Uber driver [full-time], you’re not making bank—you’re just making survival money. To give credit on their [Uber’s] side, they’ve been saying for a long time that they are looking for people making money on the side.

Todd, in his early seventies, signed up for Uber in early 2016 after hearing about it on the radio. He worked as a personal trainer and nutritionist at a luxury fitness club to the north of Boston, as a member of a team that coached people through “a very involved program dealing with nutrition.” He also traded options online, and wanted to supplement his income further. Todd was using a high-end car, an older diesel model that he owned, to work as an Uber driver for three weeks. He described it as “sort of the easiest way I could [earn extra income], and fit everything else together.” He spoke in general terms about “the wear and tear factor,” the “time factor, and gas” as the costs of doing Uber
work, but like most part-time drivers, determined how much he wanted to earn by reference to the gross number of his Uber payout: “I figure if I am making $100 a day, that’s good.”

Ron, a professional chef in his early thirties, started driving for Uber the previous year, when his work as a catering chef slowed down after the holiday season. Some of his coworkers were Uber drivers, and Ron already owned a hybrid car: “I was bragging about my gas mileage, and they were like ‘you gotta Uber.’” He began by taking a few rides during his commute. “What I would do is I would turn it on on my way home, and if I got a ride, I would [take it].” Subsequently, Ron decided to increase his Uber driving to pay off his car loan:

Initially, it was very much just extra money….I ended up putting the benchmark at around two hundred bucks a week. And I was doing real well with that. And it was just easy, because the catering business is like a lot of ups and downs; like very seasonal. So when I’d have free time I could just pound Uber, and then when I didn’t—you know, it was easy because I was always able to make money. Just sort of like getting in a zone where you’re like, “I’m ‘gonna do eight hours today,” or set a monetary benchmark for myself and just try to get that. So then I actually made enough to just go ahead and pay off the Prius….I hate having debt, but I also I hate not having savings.

Charles, a part-time Uber driver in his late fifties, described himself as a “digital native.” He had worked on alarm systems, voice recognition software, and biometrics used for security applications at various points in his career. He decided to try Uber driving to supplement his income after reading about it in a technology-focused trade publication. Charles needed extra income, he said, because financial rewards for long-term service in a company he worked for did not materialize: working in American companies, “you don’t get your gold watch anymore.” Charles was divorced, and he wanted to hold on to his family home for a few years so that his son could stay there until he finished high school. To cover the cost, Charles chose to drive for Uber after trying
other kinds of person-to-person software-organized work such as TaskRabbit (doing odd jobs around other people’s homes).

Jefferson, also in his fifties, worked as an Uber driver on weekends for a year. Originally from West Africa, and a psychologist by training, he was employed full-time as a counselor. He used his large sport-utility vehicle for Uber driving, which he purchased as a family car because he has three children. He said, about his Uber earnings: “It covers my gas, that is why I do it,” and described his Uber income as “making some change.” At other times, Jefferson explained his Uber earnings goal as larger: “if I have something I want to use money for, I set up a target; something else I want to put in my car, to make it look better, or in the house.” He did not pay attention to his net earnings, or focus on deducting the expenses it cost to do Uber work: “The reason why I don’t look at it, is because I am doing this part-time and not accounting it for anybody. Let’s say I use $200 or $220 gas in a week, if I have to work more hours I do. What I am looking at is the raw number from Uber.”

Jefferson heard about Uber from a friend, who had been an Uber driver for several years. “What my friend was telling me is that I’m wasting time when I come back from work and I am doing nothing, and I can drive one or two hours...make more money; relax.” Jefferson appreciated Uber work not only for the extra income, but for its social aspect: “I am a person who loves dealing with human beings. Uber exposes me more: to know people, to talk to people; meet different kinds of behavior—people who are trying to transfer their aggression from the house to the car, from the school to anywhere. It depends on the individual.”
Tim, a sixty year-old graphic designer, had been working as an Uber driver for three months. Self-employed for two decades, his design work appeared in national newspapers and regional political campaigns. After losing a large account worth twenty thousand dollars, however, he began to look for part-time work that would allow him to keep freelancing as a designer. Tim saw an advertisement on Craigslist for UberX, and also heard about it on the news. Since he already owned a car, he signed up. He explained subsequently experiencing a sense of relief: “I haven’t had a part-time job since I started my own business. I was worried I was going to end up at [a supermarket] making ten or twelve dollars an hour.” Tim determined how much Uber driving to do based on an earnings goal: “I shoot for about $500 a week, gross.” He favored late nights and weekends, when “you get the surge, and you make more money.” If his design work increased, however, he intended to taper down his Uber driving because it was cutting into his leisure time: “I mean, I’m hoping not to do this forever…You see, I like to go see bands in the evenings, and this interferes with that.” Yet, like many part-time drivers, Tim engaged in a kind of moral calculus that favored his choice to convert leisure time into income-generating activity: “On the other hand, I’m spending less money. I can take $50 out of the atm and still have it a couple of days later. And I drink less beer.”

2. Students who would work in a “side job” for extra income regardless, and who chose Uber for that purpose (over waiting tables, for example).

Jimena, in her early twenties, had been driving for Uber for three months, while taking time off from community college studies in psychology in order to help her mother out financially. She also worked as a hotel concierge, a job from which she received health, dental, and retirement benefits. Her Uber work was unusual: she worked directly
for a company that paid her an hourly wage of $10 to drive a vehicle that the company owned and registered with Uber, and which had a livery plate and livery insurance (and was therefore compliant with legal regulations, unlike most UberX vehicles). Jimena received fifty percent commission on any amount she earned over $160 per eight-hour shift. She was the only driver I interviewed who worked under such an arrangement where another company was an intermediary between her and Uber. She found the company through an ad on a job search website, and though she had never thought about driving for money she applied, "because I needed something real quick." Jimena explained her motivation: "I work for Uber because I feel like the check I get from the hotel is not enough. It's not enough for me to play with," and she linked her willingness to work two jobs to her experience of living in a low-income neighborhood:

Where I live, which they consider the hood, I walk around with my head held high. They catcall me...like, 'look at her standin' tall.' But I feel it in my own self, I stand up like a crown is on my head. Not a lot of women in my area perceive themselves that way, and it kind of hurts me because—how do I explain this—I don’t want to put this in a racial manner, but some women of color, where I live, they don’t perceive themselves the way they should. To them, the way I perceive myself is threatening. Like I am very independent, I don’t need a man to take care of myself. And when I tell them that they feel devalued. They are like, "look at you with your two jobs," and I’m like, "yeah, look at me, why are you living off of unemployment? How do you do that? Why do you allow yourself to do that?"

Joy, also a student, was driving for Uber on her summer break. She signed up for Uber a year ago after receiving her undergraduate degree, while taking pre-med classes with the intention to apply to medical school. She described her choice as a "means-to-an-end kind of thing," and explained her thought process as follows: "Well, I guess I have a car and stuff...I should just try it out." Joy was previously waitressing, but the lack of flexibility in that job became a problem for her in relation to her studies. "I had a test, and I was just going to get my boss to give me the week off, and they just flipped..."
out. And it was such a hassle because I needed time to study.” She focused her Uber driving on busy times when there might be a surge, explaining “you can get like easily six to eight hundred dollars on a weekend, if you’re driving like the surcharge hours, or the late night hours.” Joy determined her amount of work based on her consumption needs. “It was never like, ‘I work this many hours,’ it was just like, ‘oh, I need to pay my car bill’—so I made $200, my work is over.”

Lewis, in his mid-thirties, was taking part-time college classes for a degree in film and communication, with the goal of moving to Los Angeles and become an actor. To this end, he had recently become a member of the Screen Actors Guild. Lewis’ main source of income was working as a security guard at an office building in the city’s financial district, and for a little more than a year, he had been a part-time Uber driver. On the days that Lewis drove, he did so as long as necessary to make $300 a day. He favored Friday and Saturday nights, which he described as the most lucrative driving times. Sometimes he called in sick to his security job in order to drive; other times, he worked late into the night as an Uber driver, and went to his 6 a.m. security shift after (managing both jobs on little rest: “what I call it, a nap, not sleep”). Lewis appreciated the ease with which he could choose to take up Uber work at any time, or stop at any time, simply by turning the software on or off: “you pop the screen, you start whenever you want, and turn of the screen, and call it a break or take the day off, whenever you want, that’s the beauty about the whole thing.”

Lewis was one of four (of forty-nine) UberX drivers interviewed who had complied with legal regulations and registered a livery business with the Secretary of State, obtained a livery plate and associated commercial insurance, in order to wor as an
Uber driver. The reason he gave was being able to access lucrative long trips likely to originate at the airport, which required following rules imposed by the port authority, which only permitted taxicabs and livery vehicles to pick up paying customers at the airport. Lewis had spent $7,000 that year for livery insurance that raised his coverage limit to the $1 million required for commercial vehicles in Massachusetts (in comparison to the more typical $100,000 and $300,000 limit for a personal non-commercial policy). However, he said the livery plate and insurance was a bad investment that he would not recommend to other drivers. He planned to keep working as an Uber driver “until I accomplish what I’m trying to accomplish.” He emphasized the importance of regarding the work as temporary, and not regarding himself as a taxi driver: “as long as you know you have your goals...if you’re a college student, you know after you’re done, you’re going to be doing something else.”

Bibek, from South Asia and in his early thirties, was studying to become a data and systems analyst. He had been working as an Uber driver for one year in early 2016, and using his Uber income to pay his rent and living expenses instead of taking additional student loans. He leased a car (not through an Uber partner) and appreciated Uber work because of its flexibility: “I don’t have to worry for any schedule; I can turn it off anytime.” Other than the two days when he was in classes, Bibek worked the morning and evening rush hours, beginning at six-thirty, working until eleven, going home for lunch and a rest, and then working again from two in the afternoon until eight-thirty at night. He determined the amount he worked based on gross earnings: “I try to have a certain goal. I feel like I’ve been making like $100 a day, and I’ll be done by that. But if
it’s really busy I try to do more. But usually I have a target, like $100, and then I’ll go home.”

Aristedes, in his late twenties and of Cape Verdean heritage (born in the United States), was studying to become an electrician with the aim of starting a contracting business with his father, who spoke no English. He had been driving for Uber for four months, and had been encouraged to do so by his uncle, an Uber driver who told him he could make money to pay off his classes. Aristedes typically drove from four in the afternoon until midnight, or until he reached his earnings target of “a hundred and twenty bucks...because it took me twenty dollars to fill up my tank, so I have to make that twenty dollars back, and then it’s one hundred dollars profit.” He did not take any other expenses into account, though he commented that he noticed his mileage was increasing rapidly on his leased vehicle (which cost over five hundred dollars a month). Aristedes emphasized, however, that he valued being an Uber driver for “more than the money,” because it gave him the opportunity to visit Boston, and leave the low-income suburb in which he lived:

It’s changing my life, it’s opening my eyes. I’ve never been to this other side of Boston...if I’m stressed at home, I get in the car, I take off; it changes my whole experience. The money is there to be made, but...I don’t know, I don’t think about the money too much. You just meet so many people...meeting people; that’s the main thing.

3. People who already worked in low-wage work, or did uncompensated work in the home, and who were actively seeking additional income in the form of a side job.

Eleftheria, in her twenties, worked in a pizza shop in the evenings and had been driving for Uber for eight months, turning on the software after dropping her son off at school in the mornings. She estimated that she earned $100 a week with Uber driving, and her goal was to cover her car payment. Her sister’s experience with Uber driving
served as a cautionary tale for her, however: she had quit her job to drive for Uber full-time, but was having difficulty driving enough to cover her expenses. Eleftheria’s brother drove for Uber in the evenings, and she said that many of her customers at the pizza shop, her coworkers, and her friends were Uber drivers. She thought that there were too many drivers, and she described Uber work as a “ripoff,” but continued to do it anyway.

Mary and Colin, bartenders and co-workers, were practicing Uber driving together in order for Colin to help Mary to learn about Uber driving. Mary, in her sixties, explained that “lots of people have to have a second job to pay the bills,” and that Uber was a great option for her because you “get to deal with the public,” something with which she was comfortable after many years of bartending.

Peter drove a public bus. He had a year remaining in an eighteen-month waiting period before he was eligible for union status and a full-time schedule with a higher rate of pay and benefits. While he waited, he was working as an Uber driver. His income goal was three to five hundred dollars a week, which he described as: “to supplement my other income. If I don’t get it, I’ll be o.k.” Explaining his reasons for doing Uber work, Peter said: “For me, it was the convenience of making a temporary amount of money, without having to be on somebody else’s schedule.”

Beza recently emigrated to the U.S. from East Africa, and had been a part-time Uber driver for six months; her first job in the U.S. She planned her driving schedule around childcare, which she provided at home for her family. She signed up as an Uber driver after hearing it advertised in a television commercial as an easy way to make extra money. Beza found Uber driving helpful for practicing her English, though she noted that when she was nervous, people did not understand her, and she “gets into trouble.”
**Full-time driver types**

Unlike part-time Uber drivers, full-time drivers are less likely to speak about desiring to reach incremental income targets, related to specific consumption goals such as gas, a car payment, or saving for a house. They are more likely to focus on the rates they are paid by Uber per minute and per mile, and the total income they need to meet their living expenses. They are more likely to describe their income as a net of their Uber earnings minus expenses. Krueger and Hill’s data show that this driver population comprises 19% of the workforce, but it delivers almost half of Uber’s service.\(^\text{24}\)

1. *Former and current taxi and professional livery drivers who were responding to the decline in ridership (and rise in Uber ridership) by switching to Uber.*

   This group is exclusively the focus of Chapter 2.

2. *People who previously held low-wage jobs, and exchanged those jobs for Uber driving instead.*

   Maria previously worked for a shipping company loading packages onto and off of planes at the airport. She decided to leave her job because it involved working outside in all kinds of weather conditions, and because she “got tired of being pretty much stuck in the same position.” She had been working as an Uber driver for a year and a half in the spring of 2016, was in her mid-thirties and had a high school education. Maria knew a taxi driver who let her accompany him on a shift, and liked the experience “because of the interacting with people.” She then signed up for an Uber partner lease and chose a

\(^{24}\) Fifty-one percent of Uber drivers who work 1-15 hours per week deliver 19% of Uber’s service, the same percentage delivered by the 7% of drivers who work more than fifty hours per week. Twenty-five percent of the service is delivered by the 12% of drivers who work 35-49 hours per week. The largest percentage of Uber service (37%) is delivered by the 30% of drivers who work 16-34 hours per week. Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” Working Paper No. 587, Princeton University, Industrial Relations Section (Jan. 22, 2015) http://bit.ly/1E6y5yL (accessed Jul. 19, 2017) Table 4, 20.
large sport-utility vehicle with a third row of seats. She described her weekly expenses as “numbers that won’t vary: the car payment, which is $238, and gas, anywhere between $120 and $150.” She explained how “usually a couple of weeks before rent and all the other expenses [are due], I will break it up into, ‘I need x amount to cover those expenses,’ and save a little more because, you never know, you might want to buy something.” She tried to avoid as many of vehicle maintenance expenses as she could on her own. After finding out that it costs $150 “to change a light bulb” at a dealership, she looked on YouTube and figured out how to do it herself, and also learned how to change air filters and oil.

Fazil trained as a lawyer in North Africa and moved to Boston a few years ago, where he worked as a delivery driver and parking lot attendant. For two years, he had been a full-time Uber driver, working on nights and weekends, and caring for his children during the day. He noted how the fares had been reduced: “In the beginning, the fare was $2 a mile. And they drop it now, I think to $1.24 a mile, a couple of months ago. They sent an email.” Fazil had a related complaint about UberPOOL, a service that Uber first made available in the previous few months and allowed riders who did not know each other to choose to be grouped together by Uber’s software for a shared ride based on their destinations. “When they started UberPOOL,” Fazil said, “I noticed the business went down. Why? Because let’s say you are an Uber customer, I am an Uber customer, this guy is an Uber customer. Say we want to ride together. Before, it was like three riders for three drivers, but now, it’s three riders for one driver.” Despite these changes, he kept driving instead of switching to other work because, “at the surge price, you can make more.” Getting a surge price he described as a combination of strategy and luck:

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It’s good money if you put out, you can make money, even though the fare is down. If you get lucky. Like last week, it was surging, so I said, I am going to stay here for a couple minutes. I got a request, and it was 2.2, and the lady was going New Hampshire. That’s a good trip. I made $110. That was like thirty to forty minutes. That’s good money. So sometimes, if you’re lucky, you can make a lot.

Fazil wrote down his expenses, which he listed as a phone bill, car insurance, gas, repairs, tires, and oil changes. He specifically chose to drive a used car after his newer car was damaged in an accident: “I decided to get a used car, because it isn’t worth it. You know what I learned, interesting thing, after the accident? That I lost $4,000 on the car in one year,” because of depreciation and the increase in mileage from full-time Uber driving.

Afonso had been driving for Uber for more than a year, after quitting his job in a restaurant kitchen. He said the low pay and long hours made Uber an appealing alternative, although he had reconsidered his choice since becoming aware he owed over twenty thousand dollars in tax on his Uber income from the previous year. He commented: “Uber works for you [the rider] but not for the driver,” but said he had to continue driving because, “right now I don’t have a choice, how can I make money to pay my own bills plus the $23,000 [tax owed]? What do I do? A lot of people think they’re making good money. They’re not.” He wistfully told a story about pulling up alongside a livery van; the driver, suspecting Afonso was an Uber driver, shouted at him: “Take a piece of paper, write it down, you’re not making any money.”

Travis, twenty-one years old and a high school graduate, worked as a pizza delivery person in a state bordering Massachusetts. For six months, he had been working as an Uber driver in Boston after quitting his pizza job; he was still living in the neighboring state, a few hours away. He structured his Uber work around a competition
with a friend, in which they drove to Boston on Thursday or Friday, worked from evening into late at night, slept in their cars or in an Airbnb rental room if they could find one cheaply, and worked the weekend in the same manner—competing to see who could make the most money before driving home on Sunday. Travis described the wear and tear on his car from Uber driving as a “known fact,” but said, referencing a lawsuit concerning whether Uber drivers are employees or contractors, “we expect to get paid back by Uber.”

Rizal, in his thirties, immigrated to the United States from Southeast Asia and had been working as an Uber driver for five months, since quitting his job as a cleaner in a nursing home. He emphasized: “I love Uber,” in comparison to his nursing home job, where, “you have a lot of bosses behind you.” He appreciated Uber for the flexibility to set his own schedule (“I get up sometimes two o’clock, three o’clock in the morning to start”), and because he made more money than he did in the nursing home. Lacking credit, he bought a used car with his nephew as co-signor, who also drives for Uber. Rizal mentioned another nephew and several friends who were also Uber drivers, and said, “mostly the whole public we drive Uber.” He kept track of his expenses by saving “all of the receipts,” and paid “from my own pocket every month insurance. All including whatever I spend. And at the end of the month, I do the income tax.”

Jamal, in his late forties, had his hours cut back at the freight terminal where he worked. He had a high school education and had been driving for Uber for a few weeks, after taking on an Uber partner lease in order to do so. He explained: “I got the car to start driving for Uber, because I was hearing about all this money that could be made, and so I went to Uber to get it.” He described the lease fee as “high. It’s like, $160, $170 a week,”
but said the leasing company probably “looks at it like, ‘you’re making this kind of money? We want our...we want to get some of that.” Jamal described this as “fair,” saying, “I could have gone another route, and went to a dealership, and paid monthly payments, but then I had to put, like, that money down.” He had two children whom he wanted to move out of a low-income city neighborhood and into an affordable suburb, and hoped that being an Uber driver would help him do that, both by increasing his income and because the leased vehicle would allow him to live in a suburb and commute to work in the city.

3. People who lost jobs during, or proximate to, the financial crisis and could not find equivalent full-time work (in my sample, this group is dominated by men over the age of sixty).

Oscar, in his mid-seventies, previously worked at a missile test range doing machine-tooling for surveillance systems. After high school, he completed an apprenticeship in machinery at General Electric, and during the last decade worked at a large corporation where he was moved around in temporary positions that prevented him from building up retirement savings. A few years after the financial crisis of 2008, he was laid off, and had a hard time finding replacement work because of his age. He became a full-time Uber driver after hearing about it from a friend’s niece, and had been working for three months in early 2016. He described being an Uber driver as “the worst goddamn thing I ever did in my life, and the worst thing a man could ever do. They take thirty percent right off the top and it is my car, my gas, my everything....If you did this for a year, the car would be rendered worthless.” He explained, “that’s in Forbes. Forbes will break it down what it costs per hour, per day, factoring in depreciation and mileage.” Still, Oscar felt compelled to continue to supplement his social security income and not
Joseph, in his late sixties, had an undergraduate degree and a master’s degree in English Literature and spoke with great pride about a thesis he wrote on Yeats. He had worked as a legal recruiter (headhunter), but lost his job during the economic downturn, and found that several years he spent as a stay-at-home parent caused a “great big hole” in his resume that made it difficult when seeking work. A conflating event that deeply undercut Joseph’s financial stability was becoming divorced. He subsequently moved to Boston from the Midwest, after some time ran out of savings, and was unable to live solely on Social Security income. For a period, he resided in a homeless shelter, where he contracted an infection in his foot. Having worked as a taxi and limo driver earlier in life, Joseph got the idea to take the hackney license test in a town that neighbors Boston, passed it and started applying to taxi driver jobs, but was unable to find any companies that were hiring. He then saw an Uber advertisement on the Internet advertising car leases for prospective drivers and, despite having poor credit, was able to lease car through an Uber partner. In early 2016, he had been working as an Uber driver for nine months and described it as like taxi work: “always kind of a last chance employment.”

Joseph strongly criticized Uber’s advertisements about drivers’ income, saying “you’re not making $20 or $40 a hour. Some nights you do, and you certainly do in the prime time [surging]...[but] your expenses are coming, your gas and whatever. These numbers that they put out—they tell you fifteen hundred dollars a week—good luck with that.” He also noted, “they’ve been pushing the fares down. Some nights it’s just not
worth [driving]...I mean, they're so low.” He also spoke about the risk of having an accident: “Because I’m in the car so much, eventually the law of averages will catch up with me.”

Thomas, in his seventies, had a master’s degree in finance and was laid off from an enterprise resource planning company during the 2008 downturn. Afterwards, he worked on developing travel software for a smartphone application, an endeavor that never became profitable. In early 2016, he had been driving full-time for Uber for three months, beginning in the early morning (typically at five a.m.) and working until early afternoon, or later if he went home and took a midday nap. He described the difficulty that older workers faced finding jobs, despite experience and prior careers in the technology industry, and referred to an article about workers in Silicon Valley getting plastic surgery to look younger, not for cosmetic purposes but to keep their jobs. Thomas described Uber work as “minimum wage,” and was mystified by an earnings statement he had received from Uber that listed “$33/hr:”

I have no data on how they did the $33 per hour calculation. You can bet, though, that it favors Uber. During peak times—with very little gap between riders and some amount of surge pricing—it is possible to gross $33 per hour. I’ve done it a couple of times when I lucked into several Logan [airport] runs on a single day. But remember! You must divide $33 by half to get a strategic net: $16.50 an hour.

Thomas emphasized the importance of such calculations:

You can every day meet your minimum revenue. However, you want to analyze it: how are you doing on dollars per hour, how are you doing on the percentage of deadhead miles as compared to how many miles with a rider? So there are many analytical games you can play with yourself. Some people are clearly trying to maximize their income on a kind of naive basis....When I did a full cost accounting, I was under the assumption I was going to get $10-$15 an hour. But I just rolled up [a full-cost accounting for Uber work done in] January, and I was ending up with $7.50 an hour.
Thomas obtained a commercial insurance policy for his vehicle, which significantly increased his insurance costs, saying “there is no way I would jeopardize my assets by taking the risk of not being insured.” He calculated depreciation and maintenance for his used, luxury brand, sport-utility vehicle as $500 a month for full-time Uber driving. Thomas speculated that most part-time drivers were not making such calculations: “That’s the game, and why in my opinion Uber emphasizes the all-over revenue that is going to come in….So Uber has set things up from an overarching view of its messaging, as ‘here’s $20 or $25 an hour you can do.’”

Ermias, in his fifties, had a Ph.D. in virology and had worked as a scientist at a Boston-area university for ten years. He was laid off when the professor in charge of the lab retired. He spoke bitterly about this, mentioning his authorship of twenty scientific papers and four review articles. After working as a driver part-time to support expenses related to his two children and his spouse, who is in medical school, he became a full-time Uber driver two years ago. He estimated his Uber pay at ten dollars an hour after taxes, and described the difficulty of making a living after Uber reduced its fares: “These days, you drive ten hours, twenty trips, it’s $130, $140, when you take off the expenses, and you beat your car badly.” He mentioned that he did not recognize this previously, when he had been a part-time driver: “Full-time, there is no way you can make it; part-time, is part-time—because the only thing you see is the money you make. You’ve got your eight hours [in another job].” Ermias hoped to soon be able to stop driving for Uber: “If I didn’t have to, I wouldn’t work. Actually, I get tired right now. I wish to get a decent job. Go back to my research, back to science.”
Jeremy, a full-time Uber driver in his early sixties, previously worked at one of Boston’s largest consulting firms, doing strategic planning for twenty-five years. He was laid off during the recession. He has an undergraduate degree in marketing and a master’s in finance, and has underwritten home mortgages and been a private financial consultant. Five years ago, a divorce impacted his finances. Facing difficulty obtaining work, he started a business-process consulting firm with several friends, also in their early sixties. As a startup, the partners were not paying themselves salaries, and because the company was based in a different time zone, Jeremy could do the required work in the late evenings and overnight, while working as an Uber driver during the day. He had been doing so for two years and three months. Like many full-time, longer-term Uber drivers, Jeremy was disgruntled by the fare changes:

When I first started, I could easily make a thousand dollars a week working forty hours. Uber, miserable [expletive] that they are, have cut their prices three different times. So now it is very difficult: work the same amount of time, $700. Now, I’m not a mathematician, but that’s a thirty percent hit. It was quite clear that Uber has an internal strategy: “Hey, we’ve discovered that if we cut prices,” as they’ve done in a lot of cities, “we’ll have more riders, and you’ll have more business, and there won’t be any effect to you. You’ll have even more riders.”

Jeremy critiqued this reasoning: “So what happened was, the average ride used to be $13 in my pocket, and it turned into $9 or whatever. Quite simply, there was a tremendous reduction per ride. And you can only do so many rides. I am doing the same amount of rides, same amount of hours [and making less].”

Typology of Issues that Characterize the Uber Work Process

Several characteristic issues define the Uber work process as experienced by drivers of both part-time and full-time types:

Becoming an Uber driver
A person who is interested in becoming an Uber driver must go to the Uber website and register his or her name, date of birth, social security number, and driver's license number. The individual then indicates whether or not he has a car, or needs one. He establishes a login and password, and can download the “driver partner app:” software installed on the driver’s smartphone. Using the software, the individual can upload a photo of her driver’s license, vehicle registration, insurance, and proof of a completed vehicle inspection. If the vehicle to be used for Uber is being obtained through an Uber “partner,” such as a car dealership or rental company, the latter three documents are submitted by the company. The potential driver then undergoes a driving history screen, and individuals who pass this requirement then undergo a criminal record background check. This process may take a few days or a few weeks, depending on the driver. If it is successfully completed, the potential driver will receive a notification that she can now use the smartphone software to receive rides.

When the driver attempts to access the software to receive a ride for the first time, the smartphone screen will display the following message: “To go online, you must review all the documents below and agree to the contracts below.” Two buttons, marked “RAISER Technology Services Agreement” and “Service Fee Addendum,” are

25 The driving history screen typically requires no more than three non-fatal accidents, moving violations, speeding tickets, or traffic light violations in the previous three years, no driving with a suspended, revoked, or invalid license or insurance in the previous three years, and no driving under the influence or drug-related driving offenses, speeding in excess of one hundred miles per hour, hit and run, reckless driving, street racing or speed contests in the previous seven years. The background check requires a potential driver to have no convictions during the previous seven years for a felony, driving-related offense, violent crime, sexual offense, or child abuse or endangerment. This summary is based on information provided by Uber for its first state of operation, California, which was substantially identical to the requirements in Massachusetts at the time this study was conducted. These requirements were superseded by the “transportation network company” legislation passed in Massachusetts in August 2016, and discussed in detail in Chapter 3 here. Uber Newsroom, “Details on Safety” (May 12, 2016, 2012) http://ubr.to/2vDJApw (accessed Aug. 5, 2017).

26 This summary is based on the author’s direct experience of signing up to become an Uber driver in Massachusetts in the summer of 2016, before the above-referenced legislation was passed. The services agreement and fee addendum are on file with the author.
shown with a “>” behind the titles, indicating that they can be expanded into an additional screen. If the driver clicks to expand, she will be able to scroll through a twenty-one page “service agreement,” and two-page “fee addendum.” These documents cannot be downloaded or saved, although they can be accessed on Uber’s website if the driver searches for them. These documents specify the percentage commission of a driver’s fares that Uber will receive, and the specific rate per mile and minute the driver will receive. The Services Agreement contains a binding arbitration clause, from which the driver can opt out by sending an email or postal mail to Uber after clicking a large blue button at the bottom of the screen that says, “YES, I AGREE,” in capital letters. Above this button is a sentence that reads: “By clicking below, you represent that you have reviewed all the documents above and that you agree to all the contracts above.”

This is a process with which all users of smartphones, and of computer software generally, will be familiar. It is a ubiquitous manner of obtaining software users’ consent to a “services agreement,” “end user license agreement” (EULA), or “terms of service” that specifies the legal rights and responsibilities of the user and of the software producer. Interfacing with such agreements is part of using even the most basic contemporary computer, and is even more true of the pocket computer, or “smartphone,” because the majority of the software on these devices is typically added after the hardware is purchased, in the form of “apps” that the user downloads onto the smartphone. It is rarely the practice of software users to read these documents. Typically, users click the button signifying consent without reading, or opening, the documents.

“Clicking through” the services agreement was overwhelmingly the practice of Uber drivers who participated in this research. They described the ease with which they
did so, and linked this behavior to the use of other software for which consent is required. Lewis, for example, the part-time driver who is a security guard, said that in Uber driving: “There’s no such thing as paperwork. There’s, uh, online things where you click and agree, but you know how it goes, where people don’t read thoroughly everything, they just click ‘agree, agree, let’s start, let’s work!’” Oscar, the retired machinist in his mid-seventies, when asked if he read Uber’s services agreement, said: “No! It’s all legalese! How the heck am I gonna read that. It would be very difficult for me to read it and fully understand it.” Todd, the fitness trainer and nutritionist, said: “I think when I got to that point I said, if I get too much hung up in the weeds…either I do it or I don’t. And I never read through the stuff from Apple, the agreements. I just figure, ‘it is what it is.’” Bibek, who was studying to be a data analyst while driving for Uber, and in this pursuit often worked on the back-end of software governed by user agreements, voiced skepticism about the relationship between Uber’s advertising and its services agreement: “with these advertisements, they said they had up to 1 million dollar insurance, but they sent no terms or conditions to us. You know? Like nobody sees those electronic agreements today, right?…it will take days for you to read and understand everything.”

Learning how to work

To instruct drivers about how to deliver Uber service, Uber provides drivers with a training video and “pro tips.” However, it does not require that drivers watch or read these, or complete any other training before beginning to work. Its training video is primarily focused on what it takes to become a “five star driver,” which includes offering bottled water and phone chargers to riders, asking if the rider has a preferred route or preference for music in the car, and studying the layout of streets so that drivers can
become better at navigation. The “pro tips” include pages like “5 Quick Checks to Keep Your Car Running Smoothly,” and “Healthy Tips for Better Trips,” which recommends getting enough sleep and staying hydrated. Drivers frequently described a steep learning curve when they begin to use the Uber software. They often relied on riders to figure out what to do. For example, Cooper, the real estate rental agent, recalled his first Uber trip with a rider:

He was amped [excited] when I told him it was my first trip. He proceeded to give me some tips; I solicited some information from him....You could see that he was happy to give the information. He told me what works for him; he reiterated the charger thing and the clean car, if they have a certain direction go their way.

Cooper said, however, that “there were some hiccups the first week,” and commented “there’s a market for how to coach people to do ridesharing.” Beza, the part-time driver who recently emigrated from East Africa and used Uber driving to practice her English, said she was “so confused” about how to use the Uber software on her first day, that if she had not been “helped by a nice rider” she would have quit.

Cooper critiqued some of Uber’s training and driving suggestions as unrealistic:

They have a “pro tips” on the app, and there is always something on there. Couple of things they recommend that I don’t do: opening the doors. I do that on a case-by-case basis for older people, people who are handicapped, but I just don’t think...it will make me feel a particular type of way; I just don’t want that, I don’t need a red carpet.

Todd, the fitness trainer and nutritionist, described the difference between registering to become an Uber driver, and beginning to do the work. Registering, he says, took “a couple of days. And boom, I was on board. And then, I think that’s where the big gap is. There wasn’t really any training.” Todd’s issue was navigation: he did not know that he should use the Uber software to accept and end rides, and use a different software for navigation. He found out about this practice after he went to the Uber office:
They asked which map I was using, and I said, “your map: Uber.” And they said don’t use that, use Google. ‘Our maps,’ they said, ‘are not as good as Google or Waze.’ I was shocked. And they were laughing, “you’re not alone, practically anyone who starts with us, finds this out.”

Drivers often discovered on the job that even the best navigation software could be insufficient. Part of this had to do with the layout of Boston, large parts of which are not based on a grid (as, for example, New York City). Joseph, the driver who lived for a time in a homeless shelter, joked that Boston was “laid out on seventeenth-century cow paths, and in order to get around you have to think like a seventeenth-century cow.” Cody, the owner of the PVC mask company, explained the problem with relying solely on navigation software as an Uber driver:

Even if you think you know Boston, you don’t know Boston....And then the tunnels cut the gps out, and the tall buildings cut the gps out too. Google maps; it works alright, when it works. So part of learning is learning how to use a gps. Which sounds intuitive but it’s actually kind of difficult; because...you have to know what it means when it says what it means, or how to scroll ahead when you need to. I still think I’m working on it. The first six months I was like, this is kind of hard. Now it’s gotten to the point where I kind of know where I am, and I kind of know where things are. And there’s a lot of like “oh, well I know the gps is gonna be wrong here.”

Rizal, who quit his job in a nursing home to work as an Uber driver full-time, described what it is like when things do work smoothly between the Uber software, assigning rides, and the g.p.s. software, telling drivers how to navigate: “It’s like the ball, they pass you all over the place.”

Performance review: understanding and experiencing “rating”

Uber drivers recognize that not knowing how to do the job is likely to cause problems for reviews of their performance, which are done by riders using the Uber software to attach a “rating” to the driver when the trip is completed. Riders are prompted to assess drivers from one to five “stars” at the end of their Uber trips. Drivers were
aware that they could be “deactivated” as a consequence of a low rating, but could not define precisely the criteria on which they are rated. They also could not specify whether and how the rating related to their “acceptance rate” (the number of trips they accept while logged on to the software), or the minimum rating they must maintain in order not to be deactivated. Nor did the Uber Services Agreement make this clear (if drivers were to read it; none I spoke to had done more than “look it over”). The Services Agreement says that a driver’s average rating must exceed the “minimum average acceptable rating,” which can be “updated from time to time” at Uber’s “sole discretion.” No number for “minimum average acceptable” is given in the agreement, however. Ratings, the agreement says, are “intended to reflect Users’ satisfaction with your Transportation Services rather than your compliance with any of Company’s policies or recommendations.” This does not, however, comport with drivers’ accounts of what happens when they do not accept trips (and are therefore not giving “Transportation Services”). Todd, the fitness trainer, described having “a real problem with the rating system” after experiencing a traffic jam on his second day of Uber work:

It was raining, six o’clock at night, and I had the app on, and I kept getting people that wanted to get a ride, and I was in such a bad traffic jam I couldn’t get out. And I didn’t think to turn the app off. And I found out that my rating was three the next day, and I found out that it was because I wasn’t accepting rides....I thought they were going to adjust it and they didn’t. And it’s taken me a long time to go back up.”

Cultivating riders’ “satisfaction” (the term used in Uber’s services agreement to explain what rating is based on) can be a challenging task for drivers, because it requires predicting what is going to satisfy a person they do not know and only interact with over a short period. Tim, the graphic designer, tried to describe what results in a bad rating: “I think missing turns, missing a turn you’ll get a knock. I don’t know. I’ve always
wondered. You can guess a couple of them. You get some princesses, who are just snotty.” Drivers made frequent references of this kind to passenger disposition as being important for rating, irrespective of how drivers behaved. Drivers perceived whether a passenger was “having a good day,” for example, as central to how they would be rated. Jimena, the part-time Uber driver taking time off from community college, described driving a passenger who was late for work:

She’s getting all mad basically because she’s late for her own job. So her problem became my problem…. You should have woken up at an appropriate time! So she was basically mad at herself. You know the cycle of that? Like you’re mad at yourself, you’re gonna blame somebody else.

In the context of Uber’s ratings system, drivers recognize the possibility that they are the person who gets blamed in situations like this. Lewis, the security guard and drama student, explained receiving a bad rating as potentially “just that one bad click. You know, mistakenly…or they were drunk. Or, ‘I wasn’t feeling good today.’” He noted that riders, like drivers, had little or no information about the criteria on which they should rate. To illustrate that, he told a story he heard from a rider:

She told me one night she called an Uber, and said she wasn’t happy with the fare. I was like, “um, did the driver go the right route?” “Yes, the driver went the right route, but I wasn’t happy with it, so I gave the driver two stars.” As you can see, that had nothing to do with the driver, but the price. So she was rating the wrong thing!

Lewis explained how significant these mistakes could be for drivers: “This is how you stay employed. You don’t have a boss, but your rating keeps you employed.”

Cooper the real estate rental agent, had a very high rating (4.9), which he explained as having to do with already being “in service” at his primary job. He said:

I just take the cues from the rider; I can be a silent driver if necessary. You should be able to anticipate certain things: it’s late at night, their phone may be low; offer them a charger. If they’re going from home, probably not. It’s freezing cold outside; ask them if they want you to
crank the heat a bit. The easiest thing to do is put yourself in their shoes, in that moment.

But Jimena, who also worked in a service job (as a hotel concierge), was skeptical about the reasonableness of having to “step into her passengers’ shoes” as an Uber driver. She had a lower rating (4.5), and said about her Uber work:

I don’t want people feeling like I ‘gotta act a certain way, because you want me to. Most of the time, because I’m a weird character, most people will find my attitude bizarre, or like, sometimes, they’ll find me a little rude; aloof, more or less….But again, they won’t understand it’s not my fault, that’s just me.

Jimena explained that the important thing in Uber work was getting a person safely to a destination, not anticipating and meeting their other needs: “You were with me for five minutes, I didn’t kill you. That’s the idea.” She realized, however, that this view impacted her rating, which she described as “45% personality.” She noted that because of the possibility of deactivation, as a consequence of a low rating, she “can only not care to a certain extent.” But again she referenced something out of her control: “For example, when I accept a ride, you know how you can see the person’s face immediately? When they see my face I feel like they close it immediately because I’m a person of color or I’m a woman.”

Oscar, the retired machinist, described the idea of rating people as “like a high school thing.”

Other drivers felt that riders’ perception of them was derived from a standard set by other drivers based on the “pro tips,” which were described as unreasonable: a sort of a race to the top with which not all drivers could keep up. Aristedes, the driver studying to become an electrician, explained this in the following way:

Like say I go down stars, like 4.6. Last week, I don’t know what happened; it’s always that one person, who just makes up something. Like you might not have no water in the car, and they’ve been in someone else’s car that had water. That’s why I think as a driver you have to be on top of your stuff. And it’s going to get even more ridiculous: like you need candy, you need water, you need all this stuff because it’s like we’re competing with each other. How do you jump in
an Uber driver car and he has everything, and you jump in another and he doesn’t? It doesn’t matter how good of a person you are. Honestly, I think it’s your car; you have candy, you have water, you take your time; I think all of that comes after your driving. I honestly think water makes a big deal. Water, on the side panel, for something to drink, that’s always going to keep your stars up.

Many drivers are resentful about being subject to this kind of assessment. Salman, the real-estate broker who had been driving part-time for three years and has experienced several of Uber’s fare cuts, said: “They try and tell you, ‘do this.’ But their recommendations are ridiculous. ‘Open the door, buy water.’ The point is people just need to get to a location. The way I look at it, it’s simple, be kind to people, take them to their location. What is the point of me buying bottles of water for people if I’m only getting paid $1.25 a mile?” Similarly, Cody, who had a business making PVC masks, which he supplemented with Uber driving, perceived riders were penalizing him for not buying a new car. He did not think the expense of buying a new car was justified given his income from Uber work, but had reason to believe that having an old car impacted his rating, which was low (4.3):

That’s the thing that people complain about all the time, about the car. Like…it’s an old car, or whatever. But I try to clean it like once a week inside. It’s like, “oh, well I just step up to get in your car, not a five star.” I mean there are people who will just never rate you five stars unless you buy them a puppy.

Recognizing the importance of ratings to being able to continue to work, drivers tried to learn from them to improve their performance in specific ways, but experienced difficulty doing so. The problem they encountered was that, while ratings were continuous, feedback based on them was not: it was detached from the individual experiences drivers underwent. Cody explained this problem:

When you finish a ride, there’s like a feedback thing. You don’t even see that! Uber sees that, and occasionally will email you excerpts from anonymous ones, at the end of a week. You’ll get one or two, but if you did two hundred trips in a week…the feedback will be like, “he didn’t
know where we was going.” And I’ll be like, “what trip was this, when was this?”

Cooper, the real estate rental agent, said something similar:

The comments are only five star comments; the issues are not specific, Uber then lectures you about navigation: “GPS is great but you should really try and learn the streets.” It’s just general; it’s not feedback from the person, which would be great: “Cooper did this, he got me here, but he didn’t do this…” The comments section too; it’s just a pat on the back. I wish they had better feedback. There is no space for negative anything; if it’s negative they’ll just give you a 3 or 4 star and I guess they just select a general reason; you only get a general blurb from Uber. It would be great if I could get direct feedback.

However, Cooper could support himself with his rental agent income, had a high rating, and was less worried about not being able to connect feedback to specific performance, in comparison to drivers like Cody, who depended on his income from Uber driving when his orders for PVC masks were too low for him to support himself. He was far more worried about not being able to learn from his ratings, and about being “deactivated” as a consequence:

It’s the frustration of not knowing; like, “your rating is lower than average for the week,” is what they tell you. So, it’s like [he switches to an automated voice]: “Your rating last week was a 4.67, which is lower than average.” And it’s like, well, does that mean I’m in trouble? Does that mean I’m supposed to be fired? Does that mean they don’t care? This real nebulous computer, like, runs your life completely [he laughs nervously].

Jefferson, who worked full-time as a counselor and, like Cooper, did not depend on Uber income, makes the difference between himself and drivers like Cody apparent:

The only strange thing is that some of the riders are very insulting. Some of them treat the drivers like they would treat cab drivers. I tell them, “this is why the cab drivers are ready to fight some of you.” They don’t want people to talk to them factually, because they are rating the driver. The rating is a big power to them. But I told them that even if you rate me out [i.e., cause deactivation], I have a job.

Several drivers attempted to communicate with Uber to obtain more information about their ratings. Todd, who on his second day of Uber driving did not accept rides consequent to being in a traffic jam, and had a three-star rating the next day as a
consequence, described writing to Uber: “I found the best way is the website, and I just try to be very clear about what my issue is, and I get something back from somebody very quickly. I’m impressed by that. But I am not sure exactly what happened; I just said ‘oh the hell with it.’” Responses from Uber may therefore occur rapidly, but be unhelpful; after a few tries in which emails are not typically answered by same person who responded to the previous message, many drivers give up. Cody suspected the reason responses from Uber were unhelpful was because they tended to be automatically generated: “You get a canned response…the phrasing that they use in the email, it’s always the exact same.” Joseph gave a similar account:

I’ve had some really bad interactions with some of those…CSRs, customer service representatives; that’s a generic term— I don’t know what they call them: the help desk people. I’ve had some really terrible…well, you know, where I’ve complained that the rider cancelled when I arrived. And they’ll write back, “well they cancelled within five minutes so there’s no charge.” And then I’ll write back, “well it took me fifteen minutes to get there, so how could they have cancelled within five minutes?” You know, that doesn’t make any sense. And it just, you know you talk past them, they don’t really respond to the question….They give you the same answer on every one of ‘em.

Aristedes, the driver who was studying to be an electrician, originally felt he should email Uber “anytime I have a little weird experience” that might affect his rating, but afterwards did not feel listened to:

I would always contact Uber and let them know. Like if I feel something weird. Like recently, a guy jumped in my car, and I was supposed to do a u-turn a.s.a.p. And I can’t break the law, so I went a little longer to turn around, and he was like, “extra fare, extra two dollars.” And I wanted to say, “hey, I don’t need your two dollars,” like there’s no cheating in this. So, he treated me like I was a taxi driver, and I saw what a taxi driver has to go through. [Did Uber respond to your contact?] They just respond the same way, automatic thing, like “you’re lucky to work for us, we pay you…”

Even going into the Uber office to speak to someone employed by the company could produce a similar result. Joy, the pre-med student, recalled being told by a person at
the office: “if you have a problem, you should contact Uber,” referring to email. Cody, the driver with the PVC mask company, described this preference—to route all communication with drivers through the asynchronous process of email—as a strange paradox of Uber work:

I think the only time I have ever gotten a non-canned response from them is when they called me to ask me to come, like campaign for them; they were having a whole bunch of people come to the State House to not have a bill passed or something. You know, they don’t have a phone number to call them. Which is weird.

The rating system, in principle, is symmetric: riders rate drivers, but drivers also rate riders at the end of trips using the five-star scale (and unlike riders, are required to do so in order to move on to their next trip). Drivers can also send emails to Uber about problematic riders, as riders can about drivers. Salman, the real estate agent, described how the reciprocal rating system “does work in certain ways,” but noted that the consequences were different for rider and driver:

The problem is it’s one-sided. Technically they tell you the driver rates the passenger, and the reverse, but the consequences are different. As a driver, I get a bad rating; it goes down to like I think 4.5, and you stay there more than three weeks, I believe, they shut it down....The passenger can get all the bad ratings you want, unless you do something illegal, or the driver goes nuts and emails Uber. Most of the time, as a passenger, nothing happens.

Being able to identify a rider as problematic by assigning a low rating, further, does not mitigate the risk of harm in the moment that drivers encounter it. Jimena, the community college student, summed up her feelings about that: “I just press the button and just hope that it’s not an idiot, or a drunk person, or a killer.”

*Incidents with riders*

When incidents with riders escalate, they can result in a driver’s deactivation. Travis, the twenty-one year old driver who travelled to Boston from a neighboring state
to drive on weekends, explained how he once underwent deactivation. It occurred, he said, after he drove a woman and her brother: she became upset because Travis was not following her navigation instructions, but her brother told Travis to ignore her instructions, saying she was drunk. The Uber account was the woman’s, however, and Travis thinks he received not only a bad rating, but a specific complaint was made to Uber:

The next morning I got an email saying I was deactivated. And they didn’t take my side, for whatever reason. They made me take an Uber class to get back on. So I had to drive two hours to [a specific city] and take an Uber class. Seventy-five dollars, and they went through all the things to make every driver a five star driver. All the rules. Open doors for people—but, yet again, nobody really does that; offer bottled waters—nobody really does that; basically keep your car clean; if they don’t want to talk to you, don’t talk to them.

Confrontational incidents with riders were not uncommon, even for drivers working with Uber for only short periods; they were especially common for drivers who worked at night. Tim, the graphic designer who had been working part-time as an Uber driver for three months, told this story about a rider:

She had been drinking; she was dressed to kill in spike heels. And it was UberPOOL, and I got another pool, and I accepted it. It’s not worth it for me not to. And she didn’t want to do the pool [an option she had already selected], and she said, “cancel it.” Then she said, “let me out of the car.” And we were in a part of south Boston that was industrial, no residences. And I’m very protective of women; I raised three daughters. And I said to her, I am not kidnapping you, but I am going to take you to a place where there are other people. And she was [not happy] about it. And when I let her off she said, “I want to see you give me a 5. Give me a 5 right now or I’ll give you a 1.” And so I did, and she laughed, and I don’t know what she gave me.

Rizal, who quit working in a nursing home five months previously in order to become a full-time Uber driver, recalled an incident where more people tried to get into his car than there were seats: “five guys...drunk, and then all of a sudden they tell me to ride all of them. So I take them. And, oh, they all crazy inside my car, I can’t even hear my g.p.s.—
where I’m going, you know? It’s like, oh my god, I’m being confused, and if I take them wrong, I might get beat up.” This possibility of physical harm is something that Joy, the part-time Uber driver and pre-med student, also recognized for the first time one evening when she was driving:

It was three cops I picked up, at City Hall or something. And they got in, and they were drunk. I usually wear a hat. But that day I didn’t wear a hat, and my hair was down, and I actually went from being out to driving, which I guess was a bad idea. And the guy, like one of the officers, he asked if he could sit in the front. And they were like so comfortable; like taking about sex. They were drunk; they were wasted....One was just like, “did you see how fast he got in? He never sits in the front!” And I tried to...I was like: “So do you have children? Do you have a daughter?” And the other policeman was like: “Oh! She shut you down like right away!” It was so uncomfortable. I always say that when it gets to that point, those are signs that I need to go home. I was like, “I’m a nanny, I go to school, I do this to pay for school,” and stuff. He’s like, “well, if you’re a nanny you better be wearing like gym clothes because that daddy is thinking all sorts of things.” I’m like...I just didn’t respond to that. They’re in your car, they’re huge men; they say they’re cops, for god’s sakes...if you make them feel uncomfortable, then that’s a dangerous situation.

Drivers did have positive experiences with passengers; and even drunken incidents could be interpreted as positive. Cooper, the real estate rental agent in his twenties, emphasized:

The feeling that we project as drivers is the biggest thing. I’ve had four women in the car, especially Friday and Saturday nights, and I have the auxiliary cable, so we’re playing music. I can’t tell you how many times I’ve had the proverbial microphone in front of my face, you know: Karaoke-style.

Cooper remembered another rider who offered him advice: “He really liked me, said I could read people. I told him that becoming a real estate broker was on my ‘big board’—you know, goals for the year. And he was really pushing me to do it. That was a nice ride. I gave him a service; but he also gave me a service.” Tim, the graphic designer, remembered “five girls from [a college], one more than should have been in my car, were all going for subs—and they got me one.” Fazil felt good about the service he was doing
for people who had been drinking: “I don’t mind. With those drunk people, I am always happy to get them home safe and sound, and happy that they are not driving.... You are proud of yourself, you know you are out doing something good.”

Other drivers actively try to control passenger behavior, to make their work easier, or to prevent incidents. The most common strategy is to call riders when the driver is approaching the pickup location to make sure that the time the driver has to wait for a rider is as short as possible, and that the location of the rider that has been assigned by the software (if the rider has not entered it directly, which many do not) is accurate. Tim, the graphic designer, described learning how to do this on the job, and the importance of doing it in order not to lose income while waiting:

The pins [the location the Uber software automatically assigns for riders when they request a trip] don’t give us a specific destination. It was the fourth or fifth week I’d been doing it, and I was parked in front of somewhere and the woman was four blocks away when I called her. Another guy didn’t speak great English and the police had blocked part of the road, and I couldn’t find him. I finally talked him over to me. And I got caught in traffic one day for twenty-five minutes, and it was for a five-block fare. So in the future, when it’s down there I’ll tell them you have to walk out to a certain point and meet me. That’s what I do with [stadium] events; I got stuck down there too for half an hour, and for a ride that was $9. Uber tells you the customer prefers a text; I think they prefer a call. And I call a lot faster than I used to. If it’s cold or raining, I call.

Many drivers try to avoid passengers whom they think will vomit in their car due to alcohol. Salman described this technique:

I try and make sure if someone looks passing out, I tell them no. I got in trouble for that too. With Uber, for cancelling fares. Because they don’t want you to cancel, they want you to pick them up. But for me, my personal safety and my car’s safety is more important. You get emails. Saying, “oh, this person complained about you, ‘you drove off on this person.”

Getting paid, and understanding earnings
In 2016, when this research was conducted, Uber drivers were paid once per week by electronic direct deposit to their bank account. After this research was completed, Uber introduced “Instant Pay,” which allowed drivers to “cash out” their earnings up to five times per day with no fee if they obtained an Uber Debit Card. Uber’s partner leasing, purchase, and rental programs deducted the amount drivers owe for their vehicles directly from drivers’ pay (these drivers were not eligible for Instant Pay). During the time of this research, drivers received three weekly statements from Uber communicating their earnings. On the Uber website, drivers could view their “week totals.” These totals subtracted Uber’s commission (of 20% or 25% depending on when the driver signed up), but included the amount reimbursed to drivers for surcharges (such fees added by the port authority for pickups at the airport) and tolls. Since drivers already expend money to pay tolls and surcharges, reimbursing them is not income, though it was represented as such under “totals” and “trip earnings” in the online statement. Drivers could also use the smartphone software to view a weekly “payment summary.” This listed the driver’s current rating, number of trips driven, and daily “earnings:” calculated as “fares” plus “surge” minus “Uber Fees” (its commission). The payment summary also gave a “total payout” for each day, and the week in total, and listed the “hours online” the driver spent that week logged on to the software.

A third communication from Uber about income was a “weekly summary” emailed to drivers. Ostensibly a scheduling incentive, it contained an hourly grid showing how much more drivers could make if they worked at certain hours (typically overnight and early mornings). It listed drivers’ “fares/hour” for the previous week, and encouraged

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27 This summary is based on the author’s direct experience of signing up to become an Uber driver in Massachusetts in the summer of 2016. The Uber communications referenced are on file with the author.
that if they drove the additional hours suggested by the grid: “You could earn up to $432 more,” or, “$36/hour on average.” During one week I worked as an Uber driver, my “weekly summary” stated my “fares/hour” as $30. Yet when I compared this against the “payment summary” available in the app, dividing the “total payout” from the “hours online” produced a number was far lower: $21.26. The “fares/hour” in the email perhaps indicated the total fares for the week divided by the time I spent on trips with riders, but this did represent the total time I worked: waiting to receive a ride, driving to pickup destinations, and waiting for riders to enter the car. (Nor did it suggest that I deduct my expenses for the vehicle (rented), gas, and the taxes I would have to eventually pay on the income, which would have given a more accurate picture of my net earnings.)

Uber’s unclear, perhaps deliberately misleading, communication about drivers’ earnings accounts for the wildly varying accounts they give of their income from driving. Among the drivers who participated in this research, when asked about their hourly wage, the number ranged from $7 an hour, for drivers like Thomas, who had a master’s degree in finance and was doing a “full cost accounting” that included vehicle depreciation, to $30 to $40 an hour, for drivers like Jamal who had just started and was not doing any kind of accounting. Uber advertised that drivers in Boston could make “$25/hour.” In a lawsuit alleging such earnings portrayals as misleading, the Federal Trade Commission determined that, nationally, fewer than ten percent of drivers make this amount. This number does not reflect what Uber drivers can expect to “take home” after expenses. But as I have already indicated in the section on driver typology, whether drivers view their


earnings in light of their expenses is largely determined by whether they are driving full- or part-time. The presence of another job, which the great number of part-time drivers have, allows them to use the primary source of income as a cushion to absorb the shocks that can flow from loosely understanding what their Uber earnings actually are, in relation to the expenses drivers’ have to make in order to work. Lewis, the security guard who drove for Uber part-time, described being aware of this: “If you’re a person who’s good with numbers, who’s an accountant, they’re not going to like it, ‘cause they know how much they’re getting paid….But if you love flexibility you love Uber. It’s the flexibility that grabs a lot of people.”

Cooper, the real estate rental agent, for example, knew that he would eventually have to pay tax on his Uber income. He said, however, that he would “put money aside from my primary job to pay for Uber,” and “maybe next year I’ll look into trying to get a little bit more, trying to itemize.” For drivers who cannot rely on another source of income, however, the situation is far more dire. Afonso, who previously worked in a restaurant kitchen and drove full-time for Uber for a year, said he owed twenty-three thousand dollars in tax. Since he did not realize that Uber was not deducting taxes, and he had not set any income aside, he did not know how he would pay the tax owed other than by continuing Uber driving. Another driver said his son, who was an accountant, told him to stop driving for Uber after he helped him file taxes: “he showed me the numbers, oh my god.” Joy, the pre-med student, said that because she had just gotten old enough to file on her own when she started Uber driving, she knew she would be paying taxes for the first time. She went to the Uber office to ask for guidance on taxes, because, “I was like getting paid so much, but I didn’t realize it was like before [taxes]. And the guy said,
like, he couldn’t really answer the question. So it was sort of a ‘worry about it later’ kind of thing, because I have to pay my rent.”

Some drivers attempted to account for their expenses, including taxes, if they become aware they should be doing so. These messages do not come, however, from Uber. Lewis, the security guard, explained getting some advice from a customer:

Tax season, you gotta have a good tax person. The deductions, to claim everything...I got the mileage, gas, um, let me see what else, the tires, beside the tires, cleaning, and I got a deduction based on me, I gotta live too; clothes. But I didn’t start it off like that this year. What I picked up from this other client I was giving a ride, who was like, “you create a separate account for these things,” so at the end of the year it’s easier.

Lewis explained coming to a similar recognition about how to understand what he was really earning after expenses:

If you put $500 into the EZ Pass [for tolls] and you make a thousand five hundred, you didn’t really make a thousand five hundred, you made a thousand. I didn’t know about this until I sat down and let it marinate in my head, like, “hold up, you did not make a thousand five hundred, you only made a thousand...I didn’t sit down and write nothin’, but I thought it through: when you see your statement, you start looking at the toll, and the, the, gas, and the IRS half you didn’t take out, and you say, “wow, you only makin’ probably a chunk, a small chunk of what you think you really makin’.”

Cody, who had the PVC mask company for which he also had to file taxes, used a software called SherpaShare to keep track of his mileage, which he found was far in excess of the “on trip” mileage that Uber provides (it accounts only for the distance travelled with a rider in the car). He saved his receipts for gas and car maintenance, but, regarding taxes, was still “putting it off because I don’t know how much it’s gonna be.”

Uber offered a “tax information session” at its Boston office, in 2016, conducted by H&R Block. At the session, drivers were notified that, for a discounted rate of $200, they could have their taxes completed by H&R Block (they were encouraged to bring in previous years’ returns to check for “errors,” suggesting that fee could expand). The session
encouraged drivers to keep track of their mileage, gas, maintenance, and other expenses for the purposes of deductions. Uber continued in 2017 to recommend that drivers use professional tax preparation services, offering promotional rates for other companies and no longer advertising H&R Block. As Salman, the real estate broker said, by bringing many more people into part-time work requiring self-employment tax: “The tax business has bloomed around Uber.”

Drivers who choose to do their own taxes face a significant hurdle that many fail to clear in regards to their Uber income. It required recognizing that the official tax document they receive from Uber is a 1099-K, which represents “Payment Card and Third Party Network Transactions.” The figure it provides includes Uber’s commission, a “safe ride” fee charged to riders, and any tolls or surcharges: in other words, the total amount charged to a rider for a trip. Drivers must understand that this form functions to allocate to the driver the entire value of all the credit card transactions for riders for whom they provided rides. In other words, the 1099-K construes Uber’s software as the equivalent of a credit card machine that drivers use to charge riders (hence “payment card” or “third party network”). Uber provides drivers with a “tax summary” that shows the amount of Uber’s fees, tolls, surcharges, that should be deducted from the 1099-K. Yet many drivers fail to associate this separate document with the tax form. Hence Eleftheria, who worked in a pizza place and drove for Uber part-time, said that the tax form she received from Uber listed more than she actually made, and she did not know how she would pay the amount she owed. Similarly, Jefferson, the psychologist who worked part-time as a driver, said: “after doing my tax, what I saw scared me. Federal about $8,000 something.” He almost filed without deducting the Uber commission, fees,
and “safe rides” fee, and he believes that other drivers may do so. Given the possibility of overpaying tax by misunderstanding what the 1099-K is reporting, he said: “This is stealing.”

Accidents and insurance

Drivers are aware that accidents may occur, and that this is a risk they must insure against. Most drivers either already had personal auto insurance policies or took out such policies when they obtain a vehicle to do Uber work. Drivers were not naïve about insurance companies’ desire to know about changes in the use of a vehicle, however, many actively practiced strategies to keep their insurance companies from knowing that they were working as Uber drivers. Drivers were aware that Uber carried $1 million in coverage for both rider and driver, but few drivers could specify the distinctions that Uber used to determine whether its coverage applied (for an accident on a trip with a rider in the car), did not apply (for an accident while logged into the software), or applied only after the driver accessed her primary insurance (for an accident en route to a trip). That information was not contained in the Services Agreement, were drivers to read it. Lewis therefore described what he understood about Uber’s insurance coverage as “a rumor.” “I don’t know, as of Uber, there’s a rumor saying that Uber does cover everybody for a million dollar policy. But I don’t know, I don’t know if that’s true or not, cause I aint really dig deep into that.” When I asked whether he had seen any “paperwork” concerning insurance from Uber, he said: “There’s no such thing as paperwork…there’s online things where you click and agree, but you know how it goes, where people [don’t] read thoroughly everything, they just click agree, agree, let’s start, let’s work!”
Salman similarly described his situation, in relation to insurance coverage and his Uber driving, as being in “some murky water:”

That’s some murky water. Because it’s hard to really figure out how their insurance is supposed to work. Because they tell you that your regular insurance is supposed to kick-in first, and that if that insurance doesn’t go through, their insurance picks up. But I don’t think that’s how it works because I’ve seen people who claim that they had accidents and Uber will not fix their car.

Within his first week of work, Jamal, who had an Uber partner lease, was rear-ended in a hit-and-run while on an Uber trip, causing damage to the car’s bumper. He was surprised that he could no longer use the Uber software when the rider reported the incident, and he went to the Uber office, “because they had shut my app off; I don’t know why. But I went there and I found out it was because of the accident.” He understood the need to make sure the car was drivable, but he “had no idea what happened” when suddenly he had no access to Uber’s software—which he needed to use in order to work to pay his weekly lease fee, deducted directly from his Uber earnings. At the office, Jamal was told to “go and get an estimate on what it is going to cost [to repair the bumper], an then pay a thousand-dollar deductible.” This deductible was based on Uber’s insurance policy covering trips where there is a rider in the car, and until the accident Jamal had been unaware of it. He said he would put off the repair for a while because he was “not looking forward to” paying the deductible. When I asked him if he could repair the damage our of pocket and not pay the deductible he said, “I don’t know.”

This lack of knowledge about Uber’s insurance coverage Uber often did not become apparent to drivers until an accident occurred. At this point, what they understood about the insurance, such as from Uber advertising, was contradicted by their experience of trying to recover for an accident. Bibek, the data analytics student,
described in detail attempting to recover the cost of damage to his car from Uber’s insurance, after an accident with a rider in the car:

Before, with these advertisements, they said they had up to 1 million dollar insurance, but they sent no terms or conditions to us. You know? ....I had an accident last winter; it was right after the winter, when there was a snowstorm that had ended. I hit a pothole. And my tire was blown out and my rim was bended. And I took a picture and everything, and went to the service place and changed to a new tire, and then I had to repair that rim. Either repair it, or change the rim, total was $700....I had all the receipts and sent them to Uber. During that accident there was a customer, so the customer cancelled the ride; I didn’t get the money [for the trip]....After sending the receipts to ubersupport.com, ten or fifteen emails and they did not respond. After ten emails, I was cursing them, and they said, “we’re going through it, we’ll come to you.” And then, after that there was no response for some days. I kept on sending emails, and they asked for the insurance details. I asked why they needed that, because I don’t want to go through my insurance. It is a brand new car, I bought it just for doing Uber, otherwise I can’t afford the car. They said, “oh we have this kind of insurance,” they sent me the information, they said it was not covered, then they said the deductible was $1,000. They said when there is a ride in progress, there is one million dollars covering both sides. But there is a $1,000 deductible—the driver doesn’t know.

Ultimately, Bibek paid the $700 repair out of his earnings.

Many drivers feared that if they asked their insurance company to cover an accident related to Uber, their policies could be cancelled, or could increase in price.

Cody, for example, wanted to have appropriate insurance coverage for his Uber driving, but he was too afraid to ask his insurer about it:

I don’t know. I’ve heard that you can have your insurance cancelled for driving for Uber, but I just haven’t told them. If there was a way to say, like “this is Uber insurance,” and it wasn’t horribly expensive, I would probably go for it, but they’re, like, the insurance company hasn’t caught up to Uber drivers yet. But right now, even if you ask about it, they can shut your insurance off, which is what I’ve read on forums and stuff.

Oscar made a similar statement, when asked if he had communicated with his insurance company about Uber driving:

No I didn’t; I’m on the edge, if I call them, if I called my agent, and if I told them, they would probably...that’s questionable. I really don’t know. If I told them, they might say forget about it [the policy, or driving for Uber]. I know that the passenger is insured by Uber, for like
a million bucks. You electronically sign. Every time they have an update, you electronically sign.

Other drivers learned explicitly from experience that they should not say anything about their Uber driving to their auto insurance company. Cooper explained being dropped by an insurer as a result of his Uber driving, and afterwards deliberately concealing that he was doing it:

Um….well I had [a policy with a well-known company] originally, and they did not [know]. I guess they found out about it because I had [the Uber partner leasing company] listed as my other interested party. And they sent me a kind of stop and desist, and at the end of my policy they would have cancelled me if I didn’t stop doing the ridesharing. But I got another insurance company like the next month, my boss’ boyfriend hooked me up. So with this new insurance company, I didn’t list [the leasing company] on that, cause I was like “alright, I hope they don’t say anything.” And it was good. So, free and clear.

Joy told a similar story, relating it to the persistent question of whether Uber was overall a legal service:

I feel like for your insurance you don’t necessarily write that you are using your car for commercial purposes. It’s kind of like; it’s putting me in an awkward situation because I don’t even know if it’s like, illegal….I actually got dropped from my one insurance, which was a really good insurance; it was a really good company. And I actually got dropped on the last month because they found out I was driving for Uber….I was like “how did you know?” and, I didn’t really ask for specifics, they were like “it was reported to us.” That’s what I thought, that something was wrong. You know, what is Uber? Is it like legal? It is legal, but like…That’s why I was kind of confused, and I didn’t want to talk to them [the insurer] very much, because I didn’t want to like get in any trouble. Like you assume that because everyone takes Uber and that’s what everyone tells you, but like I actually told them “no, like why did you drop me, because I asked Uber and they told me everything was o.k.”—like it was on their list of like accepted insurances.

Drivers who experienced accidents in the course of their Uber driving that they reported on their personal policies avoided saying anything about Uber. Jefferson had been in an accident after dropping a rider off, for which he was still in physical therapy. Asked whether he told his insurance company that the accident happened in the course of
Uber driving, he said: “No. If I tell my insurance that I am using the car for Uber, they will increase my insurance.”

Police encounters

Similar to insurance issues, about which drivers are not naïve but are willing to stay in the dark (or “murky water”), whether Uber work is actually legal, or might result in some police sanction, was an open question for many Uber drivers. Several drivers who participated in the research had been stopped by police because of their Uber driving. The number was perhaps far fewer than would have occurred had Uber not used a program known as “Greyball” to evade regulators, in Boston and other cities (its use was exposed after this research was completed). Bibek received a ticket for picking up a paying customer without a hackney license or livery plate and explained the experience:

What happened was, I had to pick up a customer. I got turned around; there was no sign and I made a u-turn. I waited for the customer for two minutes, I gave her a call, she came down. Then after riding with her for a little bit, the police pulled me over. One thing he told me was I shouldn’t be doing Uber....He asked “do you know what is the problem?” And I was like, “I don’t know.” And he said “you shouldn’t be picking her up, she doesn’t know you, you don’t know her.” And he gave me a ticket for turning around and for being an Uber driver. $100 for turning and $100 for being an Uber driver. I emailed that to Uber, and after sending ten or fifteen emails, they said it was a moving violation, “you are a private contractor we don’t have to worry about it.” I kept on sending emails...And I asked, “what should I do?” They said: “You have two options. Either pay $200 now, and we will reimburse you [for the Uber ticket], or you can go to the court, and then file a case. They were explaining to me “there is a lot going on, we are trying to make it the law”...but it’s not legal yet.

Salman recalled getting pulled over in 2013, as UberX was beginning in Boston:

[The] cop didn’t know what Uber was—this was the beginning—and a bunch of kids were getting in my car, and she pulled up next to me, put on her siren: “What the hell are you doing, it’s illegal to pick up people on the street.” I was like, “what are you talking about, this is Uber.” “What the hell is Uber? Wait here.” So she goes to her car, gets on the radio, and the radio people told her Uber is a new transportation company. She comes back asking, “how does this thing work?”

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was pretty cool after she came back, she looked at the app, and was like “oh, keep going.” The passengers were not happy because of the time they had to wait. I don’t think they reported anything because I ended the trip. And no complaint came out of it, because it was new and people didn’t really know Uber.

If Salman had received a ticket for an unlawful pickup—typically a $500 citation that taxi drivers receive for picking up outside of their hackney jurisdiction—Uber would pay the ticket. In 2016, this could occur through the Uber software using a section entitled, “I received a citation,” which contained the following message: “Please upload a photo of your citation(s) below. We will review to determine if we can provide support. Please note that we do not support all citations. For example, we do not support citations for unsafe driving, moving violations, parking violations, or toll evasions.” Salman explained how to interpret this statement:

They say they’re going to pay for it. They send us emails for that, “we’re going to cover it.” But you know what they don’t get, even if you pay the $500, it’s a criminal act. It gets on your record as a criminal act. Not even points, they don’t tell you those things.

Fazil recalled strategically evading a ticket for precisely that reason:

Before I had a livery, I got a ticket. I was parking on a no-parking zone. But the cop asked me—this was in Cambridge, by the way; they used to give $500 tickets. Uber paid the ticket, but it goes to your record—so the police asked me, he took my driver’s license and registration, and came back and asked me if I was a car service. I was waiting for the customer; I said “no, I am not,” because I knew he was trying to trap me. And he looked at me like he knew I was lying to him. He gave me a ticket for the parking, $30. Which I was like “whew,” $30 is not $500. I cancelled the trip right away.

Fazil and Salman were both longer-time Uber drivers (working for two and three years each), and Salman knew taxi drivers, conditions that made both more likely to understand that the consequences of getting a citation unlawful pickup could not be removed by Uber simply reimbursing the amount of the ticket. Cody, a more recent driver without this experience said: “When Uber first started, I heard they were giving out, like, tickets if you didn’t have commercial plates. And that Uber just started paying
the tickets, for the drivers I guess….I know when I first became one and my friend linked me all these articles and was like, “hey, you’re gonna get tickets!” and I was like, “hey, whatever.”

Software-induced work changes

The final type of issue that Uber drivers encounter in their work process concerns changes that affect how the work must be done, what it pays, or the interface through which drivers use the software. These changes are implemented though changes in the Uber software, which means that drivers encounter them during the work process, have little or no advance information, and must adapt during the course of the work.

In the beginning of 2016, Uber switched how it presented to drivers the areas where “surge pricing,” which applied a multiplier to the base rate per minute and per mile, was in effect. Previously, a surge was indicated by a red area that could be as large as the city on the drivers’ map, suggesting they could navigate to that area and receive rides at a higher price, in turn solving the problem with the area having high demand and low supply. Ron described a change whereby the surge area started to appear as a honeycomb structure, with color shades varying in small degrees across small areas, making it difficult for a driver to intentionally access surge pricing:

The surging was much bigger blocks, so it was nice because you were able to pick up—you got more surge, essentially, with the bigger blocks. It’s super, super tiny now. When you zoom in and you look, one hexagon is like a 1.8, and then the surrounding hexagon is like a 1.5, and then the larger mass of the thing is only like a 1.2. And a hexagon might be like only a couple of blocks.,,,And I think—it was really, really bad at first—and I think they may have changed the calculus…Like there were two months when there was almost no surge in Boston. And I think they changed it again, late March. But I don’t really have my finger on the pulse of the—I feel like it has a lot to do with, around here, whether the colleges are in or out. And how many drivers are on the road. I don’t know. I think most of what they do is because Lyft has done it, or Fasten is doing it. I think they are trying to stay competitive while trying to extract the most amount of profit. I
think the January hexagon change came around the same time as they started taking...they moved [Uber’s commission percentage] up to 25.

A far more impactful change in drivers’ work experience occurred when Uber began to offer a service known as UberPOOL, which required drivers to pick up multiple riders on a single trip, and drop them at different destinations. Additional riders were added as the trip was in progress, requiring drivers to accept the new passengers and divert the route, sometimes several times during a single trip. This service was presented to drivers as an asset to be “unlocked.” Many described the experience as being like a shuttle bus driver, questioned whether it was really a benefit to them, and said that it required additional skills. Jamal, who had only been driving for two weeks, and had just been sent his first UberPOOL trips, said, “I guess you do so many trips and you open that up. Unlock it, kind of like a bonus. So, I unlocked it….but I’ve got to get comfortable with doing one passenger first. And another thing about it; that navigation thing is horrible.” Tim, who had just started his third month of Uber driving, said: “They offer it to you after a certain amount of time, after twenty rides.” Todd also said he was “offered” UberPOOL, but felt like he was involved in some sort of experiment that was not beneficial to him:

What I found out is that UberPOOL is not in every market, they are testing it in a number of different markets. Maybe I read something in the Wall Street Journal. It wasn’t from Uber itself. They are going about finding what works and doesn’t work. I was in the marketing business, and they’ve got the best market for test marketing you could ever have. They could put something in right now, change one or two little things. I am rather impressed by that. But for me, I don’t want to mess with it because I have a sense that it doesn’t benefit me. Here’s what I think: They are trying to expose as many people as possible to Uber. And UberPOOL is less expensive.

Aristedes echoed this sentiment, believing that UberPOOL was an innovation on behalf of customers, at drivers’ expense of both income and favorable work conditions, and that drivers were being tricked into it:
Ohhh, UberPOOL rides. Ohhh. That UberPOOL. I don’t like it, honestly. I don’t know why I even signed up for UberPOOL. I wish I failed. Because they give you a test or something, and once you pass the test it’s like, now, it’s like the first option. Once you turn the Uber app on there’s no UberX, it’s like there. And I’ve tested out UberPOOL several different ways to see how it works....UberX was fair for the passengers and the drivers, because passengers hardly pay anything, and we still get paid good. But UberPOOL I feel like it’s unfair, because we’re taking like two persons, and a twenty minute ride; the twenty minute ride should come up to like at least fifteen dollars or close to twenty bucks, but we’re only getting ten dollars. And it bothers you after a while. Only the passengers win with UberPOOL, the drivers don’t win with UberPOOL.

Apart from the change to their work experience, drivers suspected that UberPOOL reduced their earnings. They were skeptical about Uber’s representations it was financially equivalent to one-rider UberX trips for drivers. Cody explained the difficulty:

So like, when you finish a trip, you [the rider] see a number, and I’ll usually see that number too. And then later, I’ll see a different number, and that’s the number I actually got paid. And then it’s hard to compare that number to an [Uber]X trip. They claim that it’s the same amount, assuming you were driving just X.

Rizal said that even if UberPOOL paid an equivalent amount to drivers as UberX, it could reduce his net earnings because more riders meant more wear-and-tear on his compact car: “the more people you put in the car, the more you got weight, so it’s like, I’m ruining my car.” Another driver explained that UberPOOL involved the possibility that he would have to manage social and physical interactions between riders who did not know each other, and who might not get along. He recalled a ride where two men were the first riders, and the third rider assigned was an attractive woman: “they were going to mess with her; they were talking about it.”

Other drivers pointed out that Uber’s software change also affected riders in ways that drivers had to manage. Riders did not know what the service was in the beginning,
leaving it up to drivers to educate them. Doing so was always underscored by the presence of a rating, as Joseph described:

They’ve done a terrible job of educating their customers as to what it is. I’ve had people show up with four people; the limit’s two. Four people start to get into the car. So of course I had to say, “I’m sorry, I can take only two.” Of course they were drunk, and when you say no to a drunk, you know; then the guy said, “pull forward please,” and I said, “no, two of you have to get out.” “Well all four of us will get out and you’re going to get a one star rating.” I said, “well so are you.”

UberPOOL became the default choice on the passenger side of the app, sometimes without passengers realizing it, which could also cause problems for drivers. When I was working as an Uber driver for this research, I received an UberPOOL trip from two passengers who wanted to go to the airport. They were not aware when they requested the ride that their app had been on the new default setting for UberPOOL. Several minutes into the trip, the Uber driver software added a third passenger to the trip. The first passengers wanted to continue the trip anyway, until I picked up the third rider and the software assigned the new rider the first drop-off, based on its route calculation. The first passengers had budgeted no extra time other than for a direct trip to the airport. As a driver, I knew of no way to change the drop-off order or the route being dictated by the software, and after several stressful minutes determined that the only solution was to “end the trip” using the software, have the airport passengers get out and use the app to seek another Uber driver under the UberX setting, and have the third rider, who selected UberPOOL, re-request it, and hope he was assigned to me again, as he was already in my car. This resulted in several problems: the trip was ended although no rider had gotten to his or her destination, requiring me to write to Uber to make sure they were not charged; because they were not charged, I would not be compensated; and the social energies I expended to ensure everyone stayed calm while determining the best outcome in the
particularly stressful situation of trying to make sure someone did not miss a flight. In this occurrence, everyone remained polite; unlike many similar incidents of UberPOOL misunderstandings that I heard about in the course of the research.

Many drivers wanted to avoid UberPOOL trips entirely, but were not sure if they could refuse or were obligated to take them. In either case, Tim felt that “you’d lose a lot of rides if you didn’t.” Cody explained his impression that drivers “don’t have a choice. They just send you requests. And you have to keep up a percentages of acceptances.” Asked what the percentage was, he said: “They claim it’s ninety percent. I have never hit ninety percent, and they haven’t disabled me because of it. So it’s actually lower, but I don’t know what it is.” Like many drivers, Cody disliked the experience, and began to turn down any ride request that appeared on his screen as UberPOOL. He explained the consequence: “I got one warning one week for, like, a fifty-six percent acceptance rate. But half your trips are pool, so you can’t just not [take them].” Salman offered a similar story, but articulated a willingness to be deactivated as a consequence of refusing UberPOOL: “I hate that thing. I don’t even pick it up. I fell for it in the beginning. It affects my acceptance rate. They say 75%, but I’m probably lower than that now. But I don’t care; it’s a waste of my time and a waste of my money.” As an Uber driver for over three years, Salman had experienced several software-induced changes, and saw them as part of what he explained as problematic relationship between Uber and its drivers:

They call themselves peer-to-peer...Uber originally claimed it was going to be the middle man between rider and driver; it was just claiming to be the platform where the transaction takes place. And they went from that to, “we’re the boss,” kind of thing. “We decide what promotions go up, what we’re going to put in.” Like the ice cream thing [he is referencing a summer offer Uber made for passengers to use the app have an Uber driver deliver them ice cream]. They run promotions like that all the time. I think there was one where they were doing newspapers, for like $30 in the morning to drive the newspaper guy around. They don’t run that through the driver, they just deploy the
drivers. It’s not a question asked, they only ask “do you want to opt in.” They make it seem like the offer isn’t mandatory, but if you don’t opt in, you can’t log into the app. So a person like me, I’m just looking to make a few bucks, I’m not carrying ice cream! I may be pissed off and just turn it off. But the other people working a full-time shift they have to do it. Most of them have to pay their cars through the app system, so they are incentivized to work it off.

Bibek agreed that drivers had little option other than to accept the software-induced work changes or drop out of the work:

They just change the things: update, ‘you got new updates.’ You agree to update it or either lose the account. Every week I get two to three updates. I don’t know what that update does. Sometimes they say when they need to change the price only. If they change other things, they don’t tell us. Sometimes I wake up and go online, and they say ‘you have to install the updates.’ So I don’t know what that update is.

Other drivers spoke simply about the effectiveness of Uber’s software in influencing them to accept trips, regardless of whether or not it was UberPOOL. These are techniques used in the design of software, such as default settings that send drivers the next rider before they have completed the current trip.31 Jimena said, whether a ride was UberPOOL or not:

It pops up on the screen, it will show like a pin of where you are, and then around the circle, the pin, there’s like a countdown. And usually I just—honestly when I hear that “ping” noise, because I can’t stand pinging noises, like beeps, I try to shut that up real quick and I accept it….once I hear that bing, bing, bing I just press the button.

Another driver associated this with the famous behavioral experiment with dogs: “This ping, it makes this noise, when it pings, and you know you’re gonna get money when you press this button, so its like this Pavlovian thing.”

Major Preoccupations Emergent from Coding of Interview Transcripts

This research produced over thirty hours of recorded audio data, gathered from the twenty-seven drivers who participated in a semi-structured, sixty-four question

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interview (Appendix I). These recordings were transcribed and coded using twenty-five inductively and deductively developed codes associated with the drivers’ experience of work, control of work, financial matters, and assessing language (Appendix II). The most frequently occurring code across all interviews was the code for risk (RSK). This code was defined as uncertainty in relation to Uber drivers’ descriptions of what they experienced in the course of work. It appeared in proximity to the SOC code, indicating sociality, such as when the uncertainty stemmed from the social interaction with the passenger; the PHY code, indicating physicality, such as when the uncertainty had to do with bodily harm or harm to vehicle or property; the INF code, referring to information, such as when drivers were uncertain about communications from Uber or the information they were receiving from the software; the LEG code, indicating legality, when the uncertainty had to do with insurance or legal sanctions, such as from the police; and a series of codes signifying income, capital, profit, expense, finance, and accounting. The conclusion that can be drawn from systematic coding of interview transcripts is that risk—uncertainty about the foregoing—is the major preoccupation of Uber drivers. This reinforced what was already apparent from the narrative accounts that I have drawn on to characterize the typology of issues that drivers encounter in the work process. Working as an Uber driver involves a high degree of uncertainty that drivers must tolerate, or to which they must adapt, if they are to continue the work. A large number of drivers in this study simply dropped out, which is what Uber’s data shows to be the case for almost fifty

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32 An explanation of this method of analysis can be found in Kathy Charmaz, *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis* (London: Sage, 2006).
percent of Uber drivers: they begin the work one year, and are inactive on the software by the next year (other studies put the turnover rate over ninety percent).33

Notably, Uber drivers do not enter the work with a sense of the uncertainties it entails, but acquire that sense as the work goes on. It is not too strong a statement to say that not knowing what they do not know is a condition of Uber drivers’ entering the work, which is why so many drop out when they start to become aware of the uncertainties. This is part of what substantially constitutes the Uber workforce as a working class, as I argue in Chapter 4. Why drivers take up work they know little about, perhaps as a kind of experiment, as many drivers describe, is related to Uber’s software and the pocket computer on which it is placed (the “smartphone”), first, and the automobile, second. Both were part of what sociologists call “everyday life” by the time Uber developed its software to organize a new labor market for (essentially) taxi work. It is useful here to review the regulation that Uber’s triangulation routes around at the beginning of Uber work, and see if any of it can be linked to the uncertainties that Uber drivers perceive after they begin to work.

Taxicab drivers are mostly regulated by specially-dedicated units within police departments called “hackney divisions.” Private for-hire transportation, or “livery” services (usually either black sedans or limousines), require a business license, registering with the secretary of state as “doing business as,” as an LLC, or corporation, and obtaining a federal tax identification number and livery registration number plates at

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the department of motor vehicles. Livery drivers do not need special licenses, and their vehicles are not inspected other than in the manner of private passenger vehicles, once per year. However, like taxicabs, livery vehicles must carry commercial vehicle insurance, at a cost typically four to six times greater than an auto insurance policy for a four-door vehicle in personal use (because the coverage limits are much higher; $1 million in comparison to the typical $100,000 or $300,000 personal insurance policy).

The City of Cambridge Taxicab Rules and Regulations cover more than sixty pages describing the requirements for driver training and testing, dress code, and vehicle markings, physical characteristics, and inspection.34 The City of Boston regulations are substantially the same.35 The rules regulate the taxi driver, the vehicle, its owner, and the relationship to the community, such as mandating that, as a “quasi-public” utility, taxicabs must obey the “rules of common carriage” and accept all passengers and their packages subject to only a few exceptions, such as pets that are not service animals. Prices per minute and mile are fixed by negotiation between taxicab associations and municipal authorities, and are standardized across taxicabs by a specific technology called a “taximeter,” which tracks the distance and time travelled and calculates a rate for each that is added to a base fare. The taximeter is checked for accuracy yearly and locked to prevent tampering by a standards body called the Sealer of Weights and Measures. The taximeter must be kept in unobstructed view of the passenger at all times, and illuminated at night.

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The number of taxicabs in Boston and Cambridge are fixed by the number of "medallions" issued by the municipality, which are plates attached to the rear exterior of the vehicle and required by law in order to lawfully operate a taxicab. The number of medallions is typically based on a formula that requires one taxicab per one thousand residents, with additional medallions added in Boston and Cambridge to accommodate the large university population, and the volume of travellers from the international airport in the city. Drivers in Cambridge and Boston may only pick up passengers who hail them off the street in the city from which their medallion derives (although they can drop off anywhere). The fine for violating this rule is typically a $500 ticket and two license points, which is the same as for picking up a passenger for a commercial purpose without a hackney license, medallion, or livery plate at all. These tickets may be issued by any police officer.

Taxicab drivers must possess both a hackney driver’s license and an employment card issued by the License Commission, and display them in the vehicle they are driving. These can be obtained after a driver attends the Cambridge Taxi School for several hours of training, passes a background check that includes fingerprinting, and sufficiently completes a written exam that demonstrates knowledge of the city streets and landmarks, the ability to read a street map, and knowledge of basic arithmetic. If the driver of the taxicab is not the medallion owner, then the medallion owner is “responsible for training and supervision of each driver” who operates the vehicle. This training and supervision is to “include use of the radio and cellular telephone; use of the meter; preparation of a waybill; discount coupons; radio and service policies and rules at taxi stands; maintenance of the vehicle; and a review of all Cambridge taxicab rules and regulations.”
Medallion owners who hire others to drive their vehicles are required to pay drivers either “a straight hourly wage that is in accordance with the applicable local, state and federal laws,” or a commission that is a percentage of the gross receipts generated by the driver. Unless otherwise approved by the Hackney Carriage Division, medallion owners must allocate to the driver a minimum of fifty or fifty-five percent of the gross amount, depending on how much of the gas and oil the driver pays.

Before the development of smartphone software-based dispatching, owners of medallioned taxicabs typically joined taxicab associations that used a radio service to dispatch service calls to drivers. These associations determined the markings on the exterior of the cabs, which were required by regulation to be “painted with identical colors, the same markings and designs that are individual and distinct,” and so as not to “resemble other Cambridge licensed taxicabs.” The information included in the markings must include the medallion number, business name, and the word “Cambridge,” placed on each side of the vehicle in various positions such as rear side window, back window, door, and fenders. Vehicles must contain, in their interiors, a “bullet resistant” partition extending from the top of the front seat to the ceiling, a requirement aimed at protecting drivers from theft and attack. This provision does not apply to taxicabs that are exclusively owner-operated, or where all the drivers of a leased taxicab waive the requirement (partitions typically do not appear in Boston and Cambridge cabs, in comparison, for example, to New York City cabs). Taxicabs must be inspected twice per year for mechanical soundness and interior cleanliness. Cambridge taxicab inspections take place in April (after the long winter) on a lift, including undercarriage, followed by a
shorter inspection in October. Vehicles typically must be washed once per week in winter and twice per week otherwise.

Many of these regulations we can associate with specific uncertainties that Uber drivers experience as part of their work process, and which, if they encountered them in the first place, may have brought about a different calculus about whether to enter the work—particularly for the part-time, casualized driver who does not need the extra income. For example, the requirement to take a test of street locations signals that uncertainty about geography might impact the work process, such as Uber drivers experience when their g.p.s. software is not functioning. The presence of a standardized meter that fixes rates per minute and mile, while it does not ensure a specific amount of earning, removes uncertainty about what volume of work will produce what earnings. This is something about which Uber drivers are highly uncertain (with potential positive outcomes in the case of surge pricing, and negative ones when rates per minute and mile are reduced, or the fare structure changes, as in the case of UberPOOL). The set number of medallions signals that the volume of competition in taxi driving is fixed; that volume is constantly varying for Uber drivers, many of whom feel there are too many drivers. Finally, the requirement of a physical partition between rider and driver, and the requirement of a waiver, signals uncertainty about physical safety; Uber drivers largely have not thought about the possibility of physical harm until a rider makes them feel threatened. In the absence of standardized measurement by a neutral third party, such as is the case with the taximeter, Uber drivers are uncertain about the validity of the software’s measurements. Drivers say things like, regarding the distance, “I don’t believe these are accurate; these could be nautical miles,” and regarding time: “Their app will at
times give you that you were driving for fourteen minutes, and that number is at times
shorter, sometimes longer. Not only that, when the rider calls you, you see two minutes
[travel time to the rider]. But when you select the trip, it goes to six minutes.”

Yet perhaps Uber driving is not like taxi driving, and the comparison to it is inapt.
Perhaps it is better compared to a franchised livery business, in which drivers operate
their own car-and-driver service under the Uber name and with its advertising. But even a
single-operator livery business requires registering a business with the Secretary of State,
choosing a business name, and getting a tax identification number. All of this involves
paperwork: the thing that is strikingly absent in Uber drivers’ accounts of becoming an
Uber driver. Paperwork can quickly take on an elastic quality for Uber drivers, however:
they find themselves doing a lot of it if they need to communicate with the firm (which
has no telephone number). A driver’s correspondence can rapidly expand as she tries to
adjudicate some issue: an incentive that was not paid, a fare that requires an adjustment, a
problematic rating. This, of course, is work for drivers too. And they realize in these
moments how much paperwork slows things down. It is the opposite of the speed-up that
occurs at the beginning of Uber work, characterized by one driver as: “just click agree,
agree—let’s start, let’s work!” Perhaps if there was more “paperwork” at the beginning,
such as there is for the regulated taxi driver and livery business owner, the Uber driver
would be prompted to think about some of the uncertainties that might be involved in the
work. I suspect that Uber knows this.

What ultimately happens is that drivers experience the various uncertainties in the
course of working. Realizing that they were there all along is an “awakening,” as one
driver put it:
Nothing really terrible happened, so at first I just didn’t notice, or I would ignore the signs. But then sometimes, that one experience...And I think now that I’m more conscious about it. You have like, um, like a sort of awakening. You know? Like you sort of didn’t notice things at first and then once you get settled into the job you’re like, “oh...”

Any work experience can, and likely does, fit this description. Certain things are not really apparent until “you get settled into the job.” However, in order to make her work less uncertain, an Uber driver has to cultivate forms of expertise. She must think like an accountant, managing balance sheets to give accurate measures of profit and loss. She must think like an insurer, assessing the risks of her activity and the cost of protecting against those risks. She must think like a lawyer, understanding the laws under which her activity must be conducted, and either ensure compliance or be prepared for the consequences. Twentieth century forms of organization, such as the vertically-integrated corporation, drew upon all of these forms of expertise in order to direct labor and capital where needed; the Uber driver, a member of a largely casualized workforce who likely has no prior experience in the activity she is doing, must acquire this expertise while working, when there is already a lot at stake, because she has brought both the labor and the capital to the transaction.

Perhaps Uber generates so much uncertainty for drivers because it does not fully understand the underlying activity they are doing. One driver expressed this view while trying to reason about why Uber might have dropped its fares to a third of taxi rates, to the price they had been thirty years earlier, in 1987.36 This required any full-time Uber driver to work extremely long hours, perhaps impossibly long, to maintain a living income:

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36 The UberX base rate per mile and minute was $1.17 per mile and $0.15 per minute according to its May 26, 2016 Service Fee Addendum (on file with author). The New York City taxi fare in May 1987 was higher: $1.20 per mile and $0.15 per minute. Graham Russel Gao Hodges, Taxi! A Social History of the New York City Cabdriver (Baltimore: Johns Hopkins University Press, 2007) Table 3, 187.
I don’t think the people that created the software understand, like when drivers drive for a long time, they get cramp. Cramps in their legs, physical cramps; the body start hurtin’. That’s what they don’t know. They’re looking at it from a business standpoint, but if they start looking at other people’s health and so-and-so...Well if you ask me, in the process of a couple months I’ve been working—well, years: a year and month—I thought whoever created the software only cared for the clients instead of the drivers. The way, it was goin’...I don’t think they do it intentionally, they just don’t know, or [aren’t] informed yet.

A less forgiving view is that the software designers and those directing the design know that under the rapid, easy conditions they have created for people to enter Uber work, more will sign on even as others drop out, after they have the “awakening.” One driver expressed that view: “It’s insane. I suspect some of it’s just laziness, or...I think their business model in general tends to be ‘recruit as many drivers as possible and hope that they stick’—as opposed to trying to keep drivers.” Another driver referenced an interview of Uber C.E.O. Travis Kalanick, recalling that when asked “why he went from 20% to 30% [commission],” he answered: “because I can.” Predicting that this would not prevent people from signing up to become Uber drivers, the driver quoted a line often attributed to carnival showman P.T. Barnum: “There’s a sucker born every minute, and two to take ‘em.”

This chapter opened with a comment from Lewis, a security guard, drama student, and part-time Uber driver whose goal was to move to L.A. to become an actor. He said:

[O]ne of my coworkers told me, in America, the way he looks at things, you need two things: you need a gun license, and a taxi license. In case you get fired from your job, you can always go to the taxi and work for the taxi, or you can always get a self-armed job, where you have your gun license and so-and-so, and you’re ready to work.

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This is a comment about regulation; specifically about the employment security that can be gained in certain types of work that are regulated through occupational licensing (being a taxi driver, or an armed security guard). In fact, Uber made it possible for tens of thousands of mostly non-professional, part-time drivers to make money without obtaining a taxi license, or registering a livery business and obtaining a livery license plate. Uber broke apart, for taxi and livery drivers, the employment security that licensing provided.

In a recent law review article on licensing, Nick Robinson explained the justifications for occupational licensing as five-fold: (1) protecting consumers and the public from harm; (2) economic efficiency; (3) an extension of state administrative control; (4) furthering beneficial social action by organized professional groups; and (5) as a check on the harshness of the market. 38 Robinson’s comment on the fourth and fifth justifications is most relevant to the present study:

In What Do Unions Do? Richard Freeman and James Medoff famously argued that although unions may decrease companies’ profits, they can increase productivity in the economy overall. They argued that unions had a “monopolistic” face that should be limited, but also a “voice/institutional response” face that provides useful feedback to an enterprise, increasing efficiency. Unions also reduce turnover and increase worker savings, creating larger benefits to the economy and society, as well as reducing income inequality. Persons who have an occupational license are not a collective group, like unions, that bargain directly with employers. However, occupational licensing may protect consumers and reduce their search costs, impart a more efficient level of training, and provide licensed workers with more ability to invest in their lives as well as society. These benefits may not be available if practitioners were dispersed, unorganized and unable to maintain professional standards through government regulation. 39

Uber has broken apart the taxi monopoly created by the occupational licensing system known as the medallion system. In so doing, it has satisfied a primary critique of licensing: that it creates monopolies. Uber has also proposed, however, that its software

also satisfies elements that *justify* occupational licensing, making regulation of the ride-for-hire industry unnecessary. Reducing consumers' search costs, in this view, happens through the use of digitally-networked smartphone software that connects drivers to passengers without the latter needing to make a phone call or hail a cab on the street. Consumer protection is accomplished, after the initial background check, by continuous surveillance of drivers by passengers via the rating and comment system. An "efficient level of training" is supposed to be unnecessary in the presence of g.p.s. navigation software which can give drivers step-by-step instructions in real time.

The results of this field research make it clear, however, that problems associated with a lack of training are absorbed by both drivers and riders as they accommodate each other along the steep learning curve that Uber drivers face when they begin the work. This can be perilous for drivers. They must operate the software while watching the road, and develop strategies about how and where to pull over (in the absence of taxi stands, for example). Further, while riders can help drivers to learn, they can also penalize them for not knowing how to do the job by assigning a low rating. As a means of performance review, the rating system also introduces an aspect to the work that licensing does not (and which has nothing to do with efficiency): it suggests certain behavioral performances from drivers. This is the "emotional labor" described by Arlie Hochschild in her pathbreaking work on airline attendants, which emphasized the (uncompensated) cost for those who have to perform it for a living.\(^{40}\) Though Uber drivers do gain income

\(^{40}\) Arlie Hochschild, *The Managed Heart: Commercialization of Human Feeling* (Berkeley: University of California Press, 1983). Aspects of Uber’s ratings system, as described by drivers who participated in this research, brought to mind the first episode of the Netflix series *Black Mirror*, which portrayed a society in which everyone was aware of everyone else’s ratings at all times, through the use of a special contact lens that displayed the rating over a person’s head at the moment you encountered her. The result was reciprocal displays of faux goodwill, conferring the appearance of a polite and friendly society. In fact, the sanction for failing to adopt this emotional performance was the opposite: those who
through Uber work, and in principle gain an “ability to invest in their lives as well as
society” (another justification for licensing), this research shows that Uber’s software
only facilitates investment for the kind of part-time drivers who are using Uber work to
supplement another source of income: Uber’s pricing and its variability makes full-time
drivers feel they may not be able to reliably meet their basic needs in the short term, let
alone make investments in the long.

Robinson concludes his article by speculating that, for “gig economy” services
like Uber, “it makes more sense...to regulate the enterprise instead of the practitioner.”
I agree with this conclusion, and I take it up in Chapter 3 as part of the question of how
Uber was able to breach the regulatory system governing ride-for-hire services so
pervasively and quickly. First, Chapter 2 describes a subgroup of Uber drivers unlike
almost all other drivers encountered in ride-alongs. These drivers had a network of social
ties stemming from an occupational license (a livery license plate), and used these ties to
coordinate collective action in an attempt to favorably change Uber’s working
conditions—or, using Robinson’s phrase, to “provide feedback to the enterprise.”

 refused to perform were excluded from mainstream social life and good employment by their low ratings.
41 Nick Robinson, “Regulating Occupational Licensing” (2016), unpublished paper on file with the
author, 56.
Chapter 2

Uber Drivers in Collective Action

The problem is we’re not making a living wage. We need to make a living wage, and only working forty hours a week. Working a hundred hours a week to pay our bills and put food on the table—we’re working like slaves. That’s the problem.

When you look at your earnings, the way they show it to you, or show it to the media, it’s like we’re making a lot of money. Like a hundred dollars an hour. But if you break down the wages really, it’s fake; it’s not real.

Let’s say you go to Burlington. Nineteen miles. That’s only one way. In Burlington, you’re not going to get any [additional fares]—you’re coming back empty. Another nineteen. That’s thirty-eight miles into your car [pounds fist on the car hood]. You know how much it cost me? Total fare was $33. To Burlington, nineteen miles! You take $9 off [the cost of airport fees and tolls]—how much you going to end up with? [the crowd of drivers answers, “$24!”] So how long does that take? 19 miles, let’s say 35 minutes [each way] back and forth. Let’s say, with traffic, an hour and a half. You add almost forty miles to your car, you downgraded the value of your car, you wasted time. Believe me guys, it’s not worth it at this fare.

If we go to Uber and say, ‘listen, I work for you,’ they’re going to say, “no you don’t. You’re using the app.” You got to get the point! Uber is a bunch of jerks. Playing with some rules that some lawyers—some kids—wrote out. And you signed it. By downloading the shit, you already signed it. So you cannot go to them now.

—Uber drivers preparing to strike at Logan Airport (spring 2016)

A prominent observation about Uber drivers encountered through ride-alongs, described in Chapter 1, is the infrequency with which a typical Uber driver knows other drivers. While it is typical for a driver to have heard about Uber from another driver (particularly given the regular use of money incentives by the company to encourage drivers to “refer” other drivers as a means of increasing the workforce), it is not typical for an Uber driver to know a group of other Uber drivers, or to regularly interact with other Uber drivers. In some cases, but not often, drivers will interact online with other drivers, such as on a web forum (e.g., Uberpeople.net), a Facebook group, or by watching YouTube videos or reading blogs dedicated to subjects like how to work more effectively
(e.g., The Rideshare Guy). However, participation in these groups is typically geographically distributed, often nationwide, and participants are unlikely to ever meet in person.

In comparison, taxi drivers share physical places of work in the form of taxi association depots, where “day cabs”—those rented out to drivers—are parked, serviced, and cleaned, and the radio dispatch is located, taxi stands, which are municipally-provided spaces for cabs to idle, and commercially-provided spaces, such as in front of hotels and convention centers. Taxi drivers frequently encounter each other in these locations, and in other places around town that are known to be friendly to cab drivers: coffee shops, diners, and places they can use the bathroom at the varied hours of day and night they work. Further, taxi drivers tend to share racial and ethnic affiliations and live in residential communities identified with various subgroups (the largest groups in Boston are North Africans (Morocco and Algeria), East Africans (Ethiopia and Eritrea), Haitians, East Asians, and Eastern Europeans).42

Taxi drivers tend to be good organizers on the basis of their frequent encounters and shared racial and ethnic identities, they are able to coordinate effective collective action despite being in competition with each other while “chasing” the same fares. Recently, for example, taxi drivers at New York’s John F. Kennedy International Airport coordinated a strike in response to the Trump Administration’s executive order imposing restrictions on travel from several countries from which many New York City taxi drivers

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42 A recent treatment, with a good bibliography on the sociological study of taxi drivers (from which I derived the characterization above, in addition to my interviews of taxi drivers), is Russell Gao Hodges, Taxi! A Social History of the New York City Cabdriver (Baltimore: Johns Hopkins University Press, 2007). As part of this study, I sampled taxi drivers by hanging out for several days at taxi stands. I spent a day of field observation at the taxi depot of one of the major associations in the Boston area, where cabs are parked and serviced. I observed the work of the dispatcher there, and interviewed the head of the association.
origin.\textsuperscript{43} Showing the effectiveness of its software to also enact coordinated action, Uber counteracted the strike by removing surge pricing for rides originating from JFK (an action for which the company later apologized).\textsuperscript{44}

In comparison to taxi drivers, Uber drivers who come into conflict with the firm have trouble organizing collective action. The typical disgruntled Uber driver likely does not think about organizing at all; he simply “drops out” of the work, as most of the drivers I encountered in random sampling said they would do if the conditions changed unfavorably for them. This accounts for the high rate of turnover in my sample, and in nationwide data that Uber has released.\textsuperscript{45} Uber has imposed unfavorable changes on Boston-area drivers on several occasions: by reducing the minimum fare and the rate per mile and minute several times since the service started; by increasing the percentage of commission taken; and by imposing multiple-pickup, group rides on drivers through the service known as UberPOOL, from which drivers cannot opt-out but overwhelmingly dislike. If part-time drivers become fed-up with these changes, or with an accumulation of unfavorable experiences (such as with drunken or rude riders, or accidents), most will simply revert back to relying on income from their full-time job, or will seek other, more typical, part-time work. As Joy, the student, said: “If I had known it would be like this, I wouldn’t have quit waitressing” (she now works part-time as a nanny).

Yet it is important to recognize this take-it-or-leave-it attitude as characteristic of the part-time worker. Most Uber drivers in the semi-random sample were indeed part-time (as is typical of the rapidly expanding “contingent workforce” more generally\textsuperscript{46}). A substantial portion of Uber work is done, however, by drivers who are full-time, and who do not exhibit the take-it-or-leave-it attitude. These workers must either bear the work conditions or organize to try and compel the firm to change them. Their commonly desired changes are higher fare rates and more autonomy, such as being able to see riders’ destinations in advance of accepting a trip (particularly at the end of a work shift when they want to go in the direction of home), and being able to avoid UberPOOL. Yet Uber drivers have a poor history of being able to organize to obtain these ends.\textsuperscript{47} An active Facebook group of drivers in the Boston area tried but was unable to organize collective action in response to an Uber rate cut in early 2016. A driver who participated in that group told me: “Everyone was gung-ho online, but when the day came to strike, nobody showed up.”

This chapter explores the question of why Uber drivers, who work at rates well below the going rates for taxi cabs, and using software that can impose significant changes on them unilaterally and instantaneously (such as reducing rates or adding new and onerous services like UberPOOL), do not better organize for improved working


\textsuperscript{47} The most successful collective actions of Uber drivers in the United States of which I am aware have occurred in New York City. However, the “union of sorts”—called the Independent Drivers Guild—which formed there in 2016 as a regional affiliate of the International Association of Machinists and Aerospace Workers emerged from a “deal” with Uber, whereby the firm paid “an undisclosed sum to the guild” in exchange for “regular meetings become of its members and Uber officials in New York City.” The guild has encouraged its 50,000 members to strike against Lyft, but not Uber, casting doubt on its independence from its benefactor. While the Guild has been successful in getting a tipping option added to Uber’s app (Lyft has always had it), it has not acted on two other highly-desired changes identified in my research: higher rates per minute and mile, and the option to see where riders are going. Noam Scheiber, “Uber Has a Union. Sort Of,” New York Times (May 14, 2017) BU1.
conditions. A partial explanation has been already suggested by Chapter 1: Uber drivers who are primarily part-time workers with recourse to other sources of income adopt a “take-it-or-leave-it” attitude to the work conditions, and are more likely to drop out of the work entirely than to try and change their arrangement with the firm. These drivers do not generally rigorously examine how much they are earning (as I have shown in Chapter 1, a part-time driver is unlikely to evaluate net income per hour), and are more likely to accept poor working conditions because the number of hours during which they are exposed to them is shorter. This accounts for the notable negative shift in perspective among workers who go from part-time to full-time Uber work, as described in Chapter 1.

The presence of a large body of part-time drivers who are ready to take up work under conditions that most full-time drivers find unacceptable creates a reserve population of surplus labor that exerts a downward pressure on the bargaining power of full-time drivers, a dynamic well-explained by Harry Braverman in Labor and Monopoly Capital long before Uber came about.48

However, this explanation is not entirely sufficient because there is a core group of full-time workers within the Uber workforce who are elemental to the functioning of the firm because they perform most of the work despite comprising the smallest segment

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48 Harry Braverman, Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century (New York: Monthly Review Press, 1974). Braverman was following Karl Marx in concluding that unemployment plays a valuable role within capitalism. “[U]nemployment is only the officially counted part of the relative surplus of working population!” the unemployed or under-employed are an irregularly and casually employed surplus of labor power that “is necessary for the accumulation of capital and which is itself produced by it” (386, 388). This reserve labor population is “necessary for the accumulation of capital,” Braverman argued, because it asserts a downward pressure on the bargaining power of the employed population. Unemployment, therefore, has been part of twentieth century working life, even for the employed: “An ordinary working life for many workers, consists of movement among a considerable number of jobs, so that such workers are in turn part of the employed and the reserve labor populations” (387).
of the workforce.\textsuperscript{49} The question then becomes why this segment is not organizing for better working conditions; or, if it is, why it has not been more effective at obtaining them.

In this chapter, I offer data that helps answer this question based on direct observation of collective action undertaken by full-time Uber drivers in the spring of 2016 at Boston Logan International Airport. Remarkably, these actions took a novel form in response to the new kind of organizational structure that Uber has, in which authority is exercised over workers primarily through the use of software. Drivers’ perception of this source of authority led them to first target collective action directly at the Uber algorithm, which they attempted to manipulate into imposing surge pricing (increasing the rate per minute and mile) by “faking” a driver shortage at the airport. Only after the firm responded by threatening the drivers with “deactivation” for “improper use of the Uber application” did they shift into a more traditional form of collective action, going to the Uber office with a list of problems and desired solutions, backed by the threat of a work stoppage.

Work stoppage as a form of collective action has been generally unsuccessful against Uber in disputes between its drivers and the firm. Yet collective action by a small group of full-time Uber drivers at Logan Airport in 2016 was, for a time, effective. Why? Explaining this paradox requires understanding that the working environment for Uber drivers at Logan Airport was atypical of the Uber working environment generally: it was

\textsuperscript{49} Krueger and Hall, who analyzed national Uber data, concluded that 51% of Uber drivers who work 1-15 hours per week deliver 19% of Uber’s service, which is the same percentage delivered by the 7% of drivers who work more than fifty hours per week. The largest percentage of Uber service (37%) is delivered by 30% of drivers who work 16-34 hours per week, and 25% is delivered by 12% of those who work 35-49 hours per week. Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” Working Paper No. 587, Princeton University, Industrial Relations Section (Jan. 22, 2015) http://bit.ly/1E6ySyL (accessed Jul. 19, 2017) Table 4, 20.
regulatory-compliant. In 2016, the ride-for-hire workforce at Logan Airport was regulated by the Port Authority under a “Ground Access Agreement” that required drivers to apply for “Public Side Identification” using their social security number and two forms of identification.\footnote{Massport, “PSID Application” (Nov. 8 2016) http://bit.ly/2sSS2jp (accessed Jul. 9 2017).} It disqualified any vehicle other than Boston-medallioned taxicabs and vehicles with livery plates and commercial insurance, a requirement that was heavily enforced by a specialized hackney police unit operating out of the airport. This barred most Uber drivers who were non-professional and part-time from working at the airport, an issue over which the company was strongly lobbying the Port Authority, but nonetheless complying with in real time (unlike its approach to regulation in the cities of Boston and Cambridge and Commonwealth of Massachusetts in general). Uber only sent ride requests originating at the airport to drivers who had already submitted proof of their livery plate registrations to Uber.

This compliance was of significant import to Uber drivers who worked at the airport during the conflict that occurred in the spring of 2016, for two reasons. First, because of Port Authority regulations, airport Uber drivers had ongoing and routine contact with each other in a physical location: the parking lot in which they were required to congregate as they waited for rides, and out of which they formed social ties. Second, because ride-for-hire regulations held at the airport (unlike in the Boston area at large), airport Uber drivers’ work environment was not invaded by drivers who were unlikely to register a livery business (a costly and time-intensive process) in order to work—which excluded virtually all part-time laborers of the types described in Chapter 1. Regulation, therefore, drew a boundary around the airport into which Uber’s casualized workforce, and the dynamic of the reserve labor population, could not intrude. This was precisely the
opposite of the environment outside the airport, where Uber was able to coordinate a large number of unskilled part-time workers to breach the regulatory system governing the ride-for-hire industry. How it did so using a novel organizational structure and form of authority is the subject taken up in Chapter 3, following this.

**UberBLACK drivers: from lucrative early years to striking**

Understanding why the Uber drivers at Logan airport organized a strike in 2016 requires understanding the history of two distinct groups serving the non-taxi, ride-for-hire market in Boston: those driving high-end luxury vehicles, usually black in color (and colloquially referred to as “black cars”) and operated either by the owner or employees of a registered business called a “limo company,” and those driving ordinary vehicles not associated with any larger “fleet” who entered the ride-for-hire market only after Uber debuted its low cost service, UberX, in Boston in 2013. Unlike limo companies, these drivers tended to be vehicle owners who were not previously in the transportation business, and therefore lacked advertising or referrals to generate clientele prior to Uber. Once Uber gave these individuals access to a market for riders, many began operating their personal vehicles in competition with limo companies. UberX also brought Uber into direct competition with the cab industry, and many taxi drivers who did not own medallions left their cab associations and drove UberX instead as the customer base moved over to Uber because of its lower cost. Some of these drivers chose to invest in livery plate because of the specific access it gave to doing business at the airport—which

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originated a higher proportion of lucrative, long-distance trips, as cab drivers knew from prior experience.

Uber drivers with livery plates were almost always full-time drivers. This was because obtaining a livery plate required a significant process: filing a declaration of a business with the Massachusetts Secretary of State, obtaining livery insurance with a million dollars of liability coverage, and receiving specially-marked “LV” (for livery) vehicle plates. Whereas insurance for a personal car in private use may cost $1,000 to $2,000 (or less) a year, livery insurance can cost anywhere from $3,000 to $14,000 depending on several factors, including where the business is registered. While livery businesses did not receive a taxi medallion or hackney license, and therefore could not pick up by hail on the street (they must be booked directly), livery drivers were allowed to register with the Port Authority and pick up customers from Logan Airport and the Boston Convention Center. Since airport trips tended to be longer, on average, than city trips, a livery plate driver focusing her attentions (though like taxi drivers, most are male) on the airport could generate a lucrative car-for-hire business.

However, by early 2016, UberX and UberBLACK livery drivers at the airport were in direct conflict with one another, as well as with taxi drivers. This was because they were competing in largely the same market for riders under different pricing: UberBLACK with a base fare of $7, per minute cost of $0.45, and per mile cost of $4; UberX with a base fare of $2, per minute cost of $0.20, and per mile cost of $1.29; and taxicabs at a rate of $0.47 per minute and $2.80 per mile. Customers seeking a high-end service continued to use UberBLACK, however, many switched to the lower cost

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UberX—particularly if under pressure to cut costs or “look good” for corporate accounting. Further, because the number of UberBLACK drivers had greatly expanded during the lucrative the years before UberX was available, in 2016 there were more of them than necessary to meet the demand at the airport.\footnote{Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” Working Paper No. 587, Princeton University, Industrial Relations Section (Jan. 22, 2015) Figure 7, 17.} Waiting times stretched to two and three hours for UberBLACK drivers. Often after waiting this long, drivers received short trips into the city center, where the margin for profit was extremely low; sometimes profit was negative. Commonly operating large luxury sport-utility vehicles, typically under costly auto loan payments, many UberBLACK drivers were losing money in 2016.\footnote{This progression from lucrative early rates, which led many drivers to make investments in both physical and human capital to expand their businesses to serve Uber’s growing demand, was not unique to Boston; it was substantially similar in New York City, and the basis of driver complaints in strikes that occurred there in 2016 around the same time. Alan Feur, “Uber Drivers Up Against The App,” \textit{New York Times} (Feb. 21, 2016) MB1.}

The feeling of being undercut by UberX was particularly acute for UberBLACK drivers who had experienced the heady, lucrative days of the first years of Uber service in Boston in 2011 and 2012. During that time, a core set of drivers were paid fixed rates; $30 an hour or $1,000 a week, said drivers who experienced it, to simply “keep the app on,” particularly when the service was first launched. At least two small-fleet limo company owners working at Logan Airport had fixed contracts to supply vehicles and drivers to Uber to meet its first rider demand in this manner. As Uber’s customer base expanded, and its incentives for driver sign-ups increased, more UberBLACK drivers started working under the more standard “user agreement” by downloading the app. Still, the minimum fare, base rate, and per mile and per minute price, combined with the volume of work, made UberBLACK as lucrative or more lucrative than working for a
limo company during this time. An early UberBLACK driver recalled those days: “We were all making a ton of money: $3,000 for a forty- or fifty-hour work week. An average guy, just doing UberBLACK, staying at the airport.” He explained the work before Uber as less lucrative, but more secure: drivers were not taking large loans on luxury vehicles whose maintenance and upkeep was their sole responsibility. “An average chauffeur was making $20 an hour, not paying anything for the vehicle, working for a limo company with a properly maintained vehicle. That was the business before Uber.”

By the time I began field observations at the airport in early 2016, UberBLACK drivers had undergone several rate cuts and experienced the introduction of Uber’s low-cost service, UberX. They reported hourly earnings after expenses of half or less than the twenty dollars per hour that was typical for chauffeurs before Uber. The previously quoted driver, a man in his mid-thirties named John, said he was now keeping his Uber app online for eighty hours a week simply “in order to make a living.” Many black car drivers at the airport were working eighteen-hour days. I was told several times that “if the customers knew that the drivers are working so long and not making enough to maintain basic upkeep of their vehicles, they wouldn’t get in.” Uber had recently sent an email encouraging UberBLACK drivers to start accepting UberX trips at the airport if they wanted to decrease their waiting times and increase their trip volume. Drivers had heard this rationale from Uber before, as it explained several rounds of fare reductions. “Uber is really good,” one driver explained: “They’ll tell you, ‘making less money means you’re making more money!’ and you’ll walk away believing it.”

Yet in early 2016, Uber drivers at Logan Airport were expressing disbelief and anger at being expected by “those guys in the [Uber] office, who do nothing” to work at
UberX rates that could not sustain their luxury-car expenses—and, in many cases, their sense of self-esteem. Most black car drivers at the airport were still maintaining the outward standards of limo service: wearing crisp suits and collared shirts, displaying fresh haircuts, shined leather shoes, and a sense of pride, yet a sense of the degradation brought about by Uber’s deskilling the business through UberX’s part-time, non-professional workforce was also in evidence. One driver in jeans and a sweater waved me over to his black luxury sport-utility vehicle and pulled out a pillow to illustrate that he was sleeping in his car during the long hours spent at the airport waiting for rides. Increasingly, he was staying there overnight instead of going home. He described the situation bitterly: “I used to wear a suit, but if this is what they are going to pay, there’s no point. I’ll dress like they’re paying.”

The earliest group of UberBLACK drivers, the ones who had special contracts at the very beginning of the service, particularly felt that Uber had “built its service on their backs” and was now driving them out of business. There was a distinct subaltern dimension to this history. These drivers believed the “guys who started it up”—the Uber employees who approached them in 2011 as Uber launched its app in Boston—had sought out the smaller, immigrant-owned fleets, instead of the larger, more established ones because they were more likely to take the lucrative contracts because they were less established. These small fleet owners expanded their stock of vehicles quickly to meet the increasing demand of Uber’s growing customer base, in many cases, taking on new expensive luxury car loans to satisfy Uber’s criteria for cars that qualified for UberBLACK service. The small fleets also tapped into their community network to find more drivers. A group of Moroccan and Algerian Muslims with strong religious and
ethnic affiliations and residential ties in particular entered UberBLACK work as a result of these networks. John, the driver who would eventually lead this group and others in a strike against Uber’s algorithm, described how this dynamic encouraged him to take on a role in organizing the airport drivers:

[A prominent member of the Moroccan group of airport drivers] looked at me and said: “You’re a white guy, why aren’t you fighting harder?” He thought that a white guy wouldn’t be happy working 80-100 hours a week. He said we could set up a petition, and get the guys together. So I went home and wrote the petition even though I was scared about being deactivated [unable to use the Uber app]. If he didn’t say that, I would be beaten just like the rest of these guys. You should see those guys who had the thirty-car fleets; you look into their eyes and they’re dead now. They got a lot of their friends and families into this, and now they’re all struggling. They quit their good jobs. It’s all built on the backs of these immigrants.

To organize collective action against Uber at the airport, the UberBLACK drivers had to coordinate across the various ethnic groups of which they were comprised (primarily North and East Africans, Haitians, East Asians, and Eastern Europeans) and across religious distinctions (most prominently, Sunni and Shia Muslim, and non-Muslims). They also had to collaborate with precisely those drivers who had undercut them: the low-cost UberX drivers with livery plates (these drivers could easily impede an UberBLACK strike by working when the UberBLACK drivers would not). Ultimately, the UberBLACK and UberX drivers were brought together by an unusual coincidence: the UberX airport drivers were already striking when the UberBLACK drivers started to get organized.

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55 Here is a representative conversation, observed at the airport, that demonstrates the importance of ethnic ties in the airport Uber drivers’ organizing process (each line is a different driver speaking):

“We should pick one person from each culture and they can talk to their people.
I will be there for [the] Somali community.
I’ll talk [to] the Moroccan guys and some of my fellow Arabs.
We need [a] Haitian bro too.
And a brother from West Africa if we can.”
UberX at the airport: Fixing a miscalculation, creating a problem

The UberX drivers at the airport, many of whom were ex-taxi drivers, were working at rates well below taxi rates: $.20 per minute and $1.24 per mile (Boston taxi rates were $.47 per minute and $2.80 per mile). UberX drivers with livery plates therefore tended to concentrate their work at the airport, where trips were longer on average and therefore more lucrative than in the city, enabling them pay for one million dollar-coverage insurance policies, as required by Massachusetts law to obtain a livery plate or taxi medallion, and in turn required by the Port Authority to work at the airport.

In early spring 2016, however, Uber corrected an error in its reimbursement of fees at the airport that greatly reduced UberX drivers’ profit. To pick up a rider, an airport livery driver had to purchase a $3.50 ticket from the Port Authority kiosk at the limo lot, and then wait at a terminal for ten minutes to pick up a rider while displaying the ticket. Drivers also paid a $5.50 toll upon leaving the airport. Uber reimbursed the drivers for the toll if they had a rider in the vehicle when they went through it, and it reimbursed the terminal ticket as something called an “Uber-Driver Partner Incentive Fee” in the amount of $8.75, which it recouped from riders in the form of an airport “surcharge.” This provided a windfall to drivers of $5.25, which was the difference between the actual cost of the Port Authority terminal ticket and what riders were charged. Drivers’ viewed the fee as a dependable source of income that made working at Uber’s lower rates per minute and per mile worthwhile.

In the early spring of 2016, Uber redefined the “Uber-Driver Partner Incentive Fee” as an incentive for riders in an email sent to drivers: “To encourage riders to take more trips with Uber to and from Logan Airport, we are changing the drop-off and
pickup fee to $3.50 from $8.25.” While this aligned the fee with the cost of the Port Authority terminal ticket and responded to rider complaints about the $8.75 surcharge not being tied to the actual amount of reimbursement, it meant a significant reduction in the overall earnings of UberX airport drivers. For example, for a driver taking five airport trips per weekday (a conservative estimate for a full-time driver), the $5.25 reduction translated into a loss of $125 per week, and over $500 a month. Many drivers already felt that they were being routinely under-reimbursed by Uber for tolls, especially for trips to East Boston, which was close to the airport. Their overall sense of fairness was offended by the fee reduction; drivers widely interpreted it as punitive and needless. As one driver put it: “All the guys with a livery plate, they have to walk inside there, get a ticket, go to the terminal. And you guys deduct $5.25 from all these drivers for no reason! The taxi drivers just take their ticket from a machine. That walk alone deserves the $5.25.”

Large numbers of UberX drivers began to refuse to work at the airport at all, in what effectively became an organic strike that endured for weeks. As one driver explained to others at the “limo lot,” a large holding area for livery vehicles provided by the Port Authority, adjacent to the airport terminals:

> It’s not working. It’s not working, trust me. Listen, it takes you how long to pick someone up? You wait for a call, ten minutes; you drive into Boston, considering traffic, that’s twenty minutes, so how much is that, thirty-five minutes, coming back to Boston is another fifteen minutes, so that’s an hour. Total fare is something like $17. You take $8.25 off, it’s going to go down to $8. You pay gas, insurance, everything, it adds up to like $5. *In an hour you make $5.* You stay in the city, you make four jobs, $25. That’s the reason [to boycott the airport].

This point of view spread quickly through the UberX driver population at the airport. Like the black car drivers, these drivers interacted frequently at the limo lot. Drivers spent significant amounts of time there, as attested by the amenities in a central
building in the lot, which included bathrooms, a seating area with televisions, and vending machines. A restaurant truck appeared at regular intervals with sandwiches, hot dishes, and drinks. A specific area was used as space for prayer by the significant number of Muslim drivers. Every driver with a livery plate picking up riders at the airport passed through this limo lot at one time or another; and usually several times per day, because the central building was where the Port Authority dispensed the tickets every driver needed to purchase before a terminal pickup. Consequently, regardless of whether a driver chose to socialize or develop deeper ties with other drivers, this group developed the ability to recognize one another based on continually crossing paths in a shared space. Thus when the UberX drivers’ reimbursement crisis occurred, the limo lot became the basis for conversation about what to do next.

It remained difficult to understand precisely what the problem was that drivers had with Uber’s recalculation of its reimbursement. UberX drivers insisted it was an error on Uber’s part; that they were, in fact, owed the full $8.25—but the amounts for tolls and fees never added up to explain that claim. At the heart of their objection, I concluded, was that the rates they were paid, without the inflated reimbursement, were simply not high enough overall. This enabled UberX drivers to see their issues and those of the UberBLACK drivers as common ones. Thus when employees from Uber’s Boston office came to the limo lot to try and find out what the problem was among the UberX drivers who were refusing to work at the airport after the fee was reduced, one Haitian UberX driver responded with a common sense of aggrievement: “You come here, and think everybody’s stupid. Your kid’s going to college, and you want my kids to come and do the same thing that I’m doing right now.” Uber’s underpayment of drivers was
threatening a longstanding understanding about cab driving: that it could be a gateway for
the next generation to enter the middle class.

John had by this time emerged as the leader of the UberBLACK drivers who were
ready for action. He made an appeal to the UberX drivers at the limo lot to join them in
common cause:

We have the power. Those guys at the office, they are not going to
come down here and drive the customers by themselves. And you guys,
the UberX guys, doing this boycott that you’ve been doing, they feel it.
They’re offering a $1,000 bonus to sign up new drivers. And they have
a new leasing program with unlimited miles, and maintenance is
included. [This is because] they can’t find any more people to drive.
Because we’re not stupid. So if we don’t drive, and we get together and
we’re organized, something’s going to happen. Whether we end up
going somewhere else, or they fix it, there’s going to be a change. Now
for me, anyone with a livery plate, a LV plate, you guys are my
brothers. I don’t care [what value or brand of car] you drive. If you
drive for a living, you’re my brother.

He was successful. The UberX drivers agreed not to work at the airport for twelve hours
on the day of UberBLACK drivers’ rate strike. John estimated that using the meetings at
the limo lot, a Facebook group, email, and two WhatsApp groups he had communicated
with twenty leaders of the various groups that spanned the airport Uber driver population.
He said that seventy-five UberBLACK drivers, seventy-two UberX drivers, and twenty-
five who did both UberBLACK and UberX had committed to either participate in the
strike, or not interfere with it.

Striking Against the Algorithm

In an email sent to the leaders of various groups of airport drivers, John wrote:
“The goal of this Rate Strike is to get Uber to pay its drivers a living wage. We are not
asking for much but we should be able to cover vehicle depreciation, maintenance, and
all other business expenses without having to work 80 to 100 hours a week.” At the
meetings, he explained a plan to strategically limit the number of drivers with the Uber app online at the airport, with the goal of making Uber’s software “believe” there was a driver shortage and increase the price. This was common under conditions where demand was high and supply was low—what Uber called a “surge.” Taxi regulation had outlawed such measures as rate-gouging, but Uber argued that “surge pricing” made it possible to keep its prices low overall.

The UberBLACK drivers’ aim was to push the surging algorithm specifically up to one and a half times the normal per minute and per mile rate, and to keep it there for twelve hours on a specific day. John described this action as a “rate strike,” because it was specifically directed at increasing drivers’ rate of pay.\(^{56}\) While the software was their target, the means of affecting it were analog: the drivers planned to layer a traditional taxi-like dispatch over the Uber system by paying someone to sit at the limo lot taking the names and phone numbers of drivers who came in to work, and keeping a sequential list. The dispatcher would hold only two drivers at the airport signed into the Uber app; the others could stay there offline, or go into the city and work (which was preferable). When the algorithm surged to 1.5 times the normal price, the dispatcher would release the first drivers, and call the next in line to come online at the airport. As explained by John:

\[
\text{So when a driver shows up, he checks in with one of our dispatchers. The dispatcher will make $1 for each ride. We have raffle tickets; you tear off one end we keep the other, so we create a line. We have you download a two-way radio chat app, so we can call you when you are up. You go into the city and work. We keep only two phones online at the airport at any time, waiting for a surge based on the low number, adding by calling from the list once the surge is on.}
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\(^{56}\) A similar strike occurred at New York’s LaGuardia Airport around the same time as the events described at Logan, however, that strike was aimed at accomplishing a traditional work stoppage. To my knowledge, what I have reported here is the first report of a coordinated action aimed at influencing the Uber algorithm, beyond simply making rides unavailable (e.g., a traditional stoppage). Adrian Chen, “An Uber Labor Movement Born in a LaGuardia Parking Lot,” \textit{New Yorker} (Feb. 8, 2016) http://bit.ly/1QTIShA (accessed Jul. 19, 2017). Mareike Möhlmann and collaborators in the Information Systems Management Group at Warwick Business School have a pending paper also on this subject.
John convened the planning meetings, but he disclaimed credit for the notion of “striking against the algorithm,” saying: “it isn’t even my idea, it’s another driver’s idea, it’s just the best I’ve heard. He was an old taxi guy. The more people we get together, the better the ideas are.” Using “Uber’s system against them,” he said, meant that drivers “don’t need to beg Uber to raise the rates.” This was because drivers had recognized how the software worked: “It’s all supply and demand. This is ‘Strike 2016’—a whole new way to strike. We don’t have to beg the company to pay us more, we just need to only work when there is a living wage.”

The rate strike began on a weekday morning around six, and within three hours the algorithm had surged to 1.2 times the regular rate. Then it dropped. Those managing the strike did not have a good explanation for this. They logged into the customer side of the Uber app (using a strategy often deployed by experienced drivers who compare customer surge maps with the ones in the driver app, before deciding where to go) to see if any cars were online at the limo lot. Seeing several, they began to look for the strike-breakers: presumably, livery-plated Uber drivers that did not know about the strike, or did not support it. However, they had a difficult time identifying any. John and others strongly suspected Uber of placing “fake cars” at the limo lot to make it appear that some drivers were online, as a way of breaking other drivers’ commitment to strike. Shortly afterwards, the drivers received an email from Uber stating their accounts had been “flagged for improper use of the Uber application.” “Repeatedly logging off the app in coordination with other partners with the intent to artificially increase the price multiplier,” the email read, “severely degrades the Uber experience for both riders and

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partners while ultimately reducing your earnings. Please note that this activity and its impact on the Uber experience is not permitted under your services agreement. Continued improper use of the app may result in temporary or permanent account deactivation.”

“Begging them to raise the rates”

John convened another meeting at the limo lot to talk about what to do next. About fifteen drivers gathered around the back of his large luxury sport-utility vehicle in a light rain as he stood under the raised trunk door. The group grew larger as the discussion went on; as drivers arrived at the limo lot, they were waved over by others whom they knew. The atmosphere was buoyant; drivers talking over one another in a cacophony of different-accented English, celebrating their success and discussing what was said in the email. An UberX driver in his thirties, named Jamal, switched between English and Arabic depending on his listener, and suggested putting together a list of drivers’ problems and their solutions:

[Jamal:] Let’s get into the problem first, then we’ll find the solution. Let’s get organized. First problem, we need more than the minimum wage. Destination not shown to drivers, that’s another problem.

[driver:] Flat rate.

[Jamal:] That’s a solution. I’m not there yet.

[John:] Short fares to the city from the airport. Too many of them, too low paid. The longer trips, we’re ok with the wage per minute and distance.

[Jamal:] You guys don’t mind going to Providence [Rhode Island; fifty miles away] for a dollar a mile?! [laughter from the group] Now, I got four problems. The first problem is: The mileage [price/mile] is too minimum, we can’t make a living. The destination is not shown. That’s problem number two. The cost of short trips is too low, like Boston, Fenway, that kind of thing. The toll added to East Boston fares is too low. That’s problem number four.

[driver:] Uber is taking too much from us. 20% is a lot.
[Jamal:] I don’t think it’s going to happen, but I’m going to put it.

[driver:] You know they just keep dropping the fare. They need to stop dropping the fare.

[driver:] You guys all pay the livery plate, and it’s really expensive, right? So we need Uber to also stop sending us the UberPOOL [the multiple-pickup group rider service that is lower cost for riders than UberX].

[Jamal:] Now let’s get into solutions. The minimum wage is too low. I agree. For UberBLACK, the short trips are too low; they want a $50 flat rate [UberX group chuckles]. Let’s be more specific. This is really important; the fare is really important. Let’s do this, minimum fare UberX, $25.

[driver:] $2 a mile, that’s reasonable. $.40 a minute.

[driver:] Put the price up a little bit higher than the cab. Let the cab work. We’re not here to kill our brothers. We’re all here to make a couple dollars. Uber is about killing us. Uber is about destroying us.

[Jamal:] The next problem. They are deactivating people. And then telling the driver later [several drivers interject with examples of this situation]. Ok, I now have a list of all the problems; all the solutions we agreed on. Now the next step is: action to be taken if nothing changes. There’s like what, 30 or 50 of us now. Now we need to consider actions in case nothing happens.

At this point, Jamal made an impassioned argument for the drivers to go as a group to the Uber office with the list they just created. The drivers debated this idea:

[driver:] We work on it, and then we decide what the next move is.

[driver:] They don’t want to talk to me. I’m not nice to them.

[John:] They don’t want to talk to any of us.

[driver:] Go to Uber like a bunch of dummies? Uber doesn’t care about us!

[driver:] We have to be serious, not play games any more. [This driver proposes to wait to go to the office, and get the media involved so they would be there.]

[driver:] [about the media:] Yes! The customer needs to know that Uber is using us!

[Jamal:] We want to bring these issues to Uber, present them nicely, give them time to work on them. If not, then take action. We want to put the problems on the table with Uber.

[A driver proposes they get legal representation first.]
[Jamal:] Why are you afraid to talk to Uber?

[another driver:] You don’t know you’re worth. When someone steps on your feet, you have to stand up and yell at the person who steps on your feet.

[another driver:] When they see us all together, coming in…

Ultimately, the drivers decided to go the Uber office. They piled into vehicles and left the airport together, laughing and joking on the fifteen-minute ride into downtown Boston.

Upon arriving at the Uber office, the drivers were greeted by two large men in black shirts marked with the Uber brand, black pants. One of the enforcer-types at the door spoke into his earpiece. In a heavy Boston accent, he then said to the drivers: “We gotta have you sign in—anybody coming in for any type of business—and then we’ll take it from there.” Two touch screens were displayed on high tables at the entrance for drivers to enter their Uber login information. Behind these, around fifty chairs stood in front of a large screen scrolling slides: an advertisement for Geico insurance, a notification that the minimum rating for UberX was 4.6, and a reminder that drivers should ask riders if they had a preferred radio station, and offer water and magazines.

There were around fifteen people in the chairs. Most appeared to be new drivers signing up. They were called by young people in grey shirts marked with the Uber logo who sat in front of laptops at tables lined up in a horseshoe around the chairs. 58

The airport drivers immediately balked at the request of the large men to “sign in.” They congregated to decide what to do. A young man in jeans and a fitted sweater,

58 All but one of the drivers in the office who appeared to be signing up for Uber work was non-white, and all but one of the Uber office employees I could observe were white. While I do not want to essentialize racial categories or make inferences without more data, I recorded in my field notes that the Uber office conveyed the impression of “a mostly minority and immigrant worker-processing center.”
with a fashionable haircut and rimmed glasses appeared from an office. He reiterated that Uber drivers are unable to speak to anyone until they sign in, and he asked if the drivers need parking passes. The drivers demurred and remained to the side of the sign-in screens, discussing whether or not it was a good idea to identify themselves given their reason for being there. They decided collectively to sign in.

In a remarkable transition from the obstreperousness of the airport meeting and car ride they had just taken together, the drivers began the process of inputting their information into the two touch-screens, lining up and doing so one-by-one, in silence. John, Jamal, and Odelin, who was the leader of the Haitian UberX drivers, stepped forward to speak with the man with the rimmed glasses and fashionable haircut and who appeared to be in a position of authority. The four went into an office and closed the door. The other drivers split off into small groups: some had coffee from a complimentary coffee machine, others plugged in their phones for charging, talking in low voices.

Half an hour later, John and the others emerged and left the office with the group of drivers. They congregated in the lobby of the building, near a glass door with black lettering that read: “Commonwealth of Massachusetts, Department of the State Treasurer, Alcohol Beverages Control Commission,” a government regulator that shares the first floor with Uber. John spoke first: “They’re going to take it seriously. They have done flat rates on the Cape and in Rhode Island.” Jamal announced that the man with the glasses had made a promise to correct the toll underpayment from the airport to East Boston. Further, he had given the leaders his phone number, and said that he would get back in touch with them after he met with his boss.
The following day, John, Jamal, and a few other drivers went to the office for a prearranged meeting with several Uber managers. These managers were insistent that UberBLACK and UberX negotiate separately. After nearly two hours, they came to an agreement for a flat fare for UberX drivers leaving the airport. The UberBLACK drivers felt that the managers were amenable to discussing their concerns, but did not offer any solutions for these drivers. In February 2017, a year after the airport drivers first organized, the Massachusetts Port Authority eliminated the livery plate requirement at the airport.\textsuperscript{59} This allowed the more typical, non-livery plated Uber driver to enter the airport market, and eradicated the leverage livery drivers once had. A significant number of the drivers who were involved in the collective actions that took place at the airport in 2016 were no longer working in the ride-for-hire business by summer 2017, although UberBLACK remained on Uber’s website as “our original ride option...an elevated ride experience” with “high-end black cars” and “professional drivers.”\textsuperscript{60} As of when this thesis was submitted, John, the UberBLACK strike leader, no longer worked as an Uber driver, though he was still in the black car business, operating for his own clients. In July 2017, he told me that a taxi driver had crashed into a group of other ten drivers at the airport taxicab lot,\textsuperscript{61} and that the word circulating at the limo lot was that he had been working for twenty hours when the accident occurred. This length of working day length, John said, was not unusual for many of the UberBLACK drivers remaining at the airport in 2017.

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Conflict and Collective Action Among a Digital Working Class

Three primary conclusions about conflict with the firm and collective action among Uber drivers can be drawn from analysis of the events described in this chapter.

1. Who’s in charge: the computer program or the “man behind the curtain”?

One of the remarkable features of the collective action undertaken by Uber drivers at Logan Airport in the spring of 2016 was its shifting target; shifting as drivers tried to figure out who or what was the source of authority they needed to confront. This can be thought about as like the quest in the *Wizard of Oz*, in which Dorothy and a needy band she acquires along the way (Scarecrow, Lion, and Tin Man), seek an authority who can help them: a “wizard.” This entity is seemingly omnipresent and omnipotent, and has workings not well-understood or easily locatable—existing somewhere in the Emerald City, down a Yellow Brick Road.

The airport drivers debated who was the key decision-maker in their quest for better terms of work. Was it the algorithm that determined surge pricing? Or was it the managers at the Uber office, as representatives of the CEO (a more typical target of worker bargaining during the twentieth century)? Could it be that the situation already hopeless (as the Tin Man and the Lion often thought)? This was certainly the belief of the UberX driver whose comment opened this chapter, asserting that the drivers had bound themselves to a kind of Faustian bargain when they downloaded the Uber app and “signed” the user agreement by exercising a typical user behavior and “clicking through” it: “you signed it. By downloading the shit, you already signed it. So you cannot go to them now.”
The drivers did, ultimately, “go to them.” After their strike against the algorithm resulted in a raised rate for several hours, but also an email from Uber threatening the drivers with “deactivation,” the drivers went in person to see the Uber office managers. Yet the first thing they encountered there was another computer. The imposing “greeters” at the front entrance told them they had to “sign in” using their Uber login name and password before having a conversation with a human being. This insistence on signing in was backed by the implicit threat that, once identified by the computer, the drivers who had come to make their demands could be blocked by it from using the app to access the market for rides in the future.

Fear of the Uber computer’s omniscience and omnipotence was already strong among the group. Many drivers felt the app had reacted to their strike against the algorithm by strategically adding “fake cars” to the airport lot. This prospect was more ominous than the threat of being deactivated: they believed the computer had intended to make them question the veracity of other human beings, in order to breach their sense of solidarity with other drivers who had promised to participate in the strike, or to not interfere with it by staying away from the airport. Drivers’ sense that Uber’s software is both all-powerful and impetuous is akin to what ultimately made Dorothy and her band skeptical of the Wizard. He told them that he would grant their requests (for a heart, a brain, and so on), if they completed a quest: returning with the broomstick of the Witch of the West. After they did so, the Wizard delayed. This is when the dog Toto pulled back the curtain, revealing him to be an unimposing, middle-aged man.

Professional drivers and casual drivers alike feel this way, in particular, about Uber’s rating system. In the lieu of training drivers, Uber presents the rating system as a
way to weed-out bad drivers and problem riders by requiring that they rate each other after every ride in a kind of 360° review. Yet many Uber drivers feel that the rating system works to their disadvantage, irrespective of the quality of service they deliver, because riders can use the rating to be impetuous and because the software is not transparent. Airport drivers firmly believed, for example, that when they rated riders badly, their own rating went down: “it hurts our score; they say it doesn’t but it does.” John said that one of his early tactics in response to Uber’s rate cuts was to tell customers how bad the Uber experience was for drivers. He stopped when he started suspecting that doing so was affecting his rating.

Uber founder and (until recently) CEO Travis Kalanick was recorded having a debate on the subject of ratings with an UberBLACK driver in San Francisco in 2017 during a period of particularly bad press for the company. In the video, Fawzi Kamel, who, like many of the Boston airport UberBLACK drivers, had been driving a luxury car since 2011, and was previously a professional livery driver, accused Kalanick of driving him out of business by dropping the rates. Kalanick (inaccurately) denied dropping the rates, but also attempted to reassure the driver by saying he was going to raise the required rating for Uber Black, implying that soon there would be fewer drivers and less competition for Kamel. Kamel pointed out that the problem was the frequency and the speed of change, in relation to both pricing and ratings: “You’re raising the standards, and you’re dropping the prices. But people are not trusting you anymore....I lost $97,000 because of you. I'm bankrupt because of you. Yes, yes, yes. You keep changing every day. You keep changing every
day.” Kalanick responded: “Some people don’t like to take responsibility for their own shit. They blame everything in their life on somebody else. Good luck!”

The Boston airport Uber drivers did ultimately decide to “sign in” in their attempt to negotiate with someone in charge at Uber. John described the result to the drivers who gathered in the lobby of the building after the meeting:

We came here; we talked civilized. We let them know what our concerns are. We have his number, and we’re going to hear from him tomorrow after he talks to his boss. And if they don’t want to play ball, we’ll take action.

The drivers pressed their leaders to explain the source of authority. John identified him as “basically the representative for the drivers” whose “job is to make us happy.” Trying to ascertain his place in the organizational hierarchy, a driver asked: “So he is the branch manager?” Another voiced skepticism: “So why does no one know who he is? How come he was not giving his number out to drivers before?” The driver standing next to me emphasized that having his phone number was a big deal: “because before, there was no way to communicate” with the people who were in charge of the software. As the seemingly powerful Wizard would disappoint Dorothy and her friends, however, this manager would disappoint the airport Uber drivers. Within a few weeks of the meeting, he was no longer communicating with them and they were left with the software and the terms for work that it imposed.

Uber began its operations in Boston like a traditional firm: by showing a human face to the drivers it sought to hire. As Uber’s service grew, however, its form of communication and, correspondingly, drivers’ understanding of where authority in the firm was located, became more and more remote. A driver explained how he, “in the

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early days,” had asked for, and received, “verbal authorization” from one of the Uber managers to allow riders to book with him for future rides using Uber. Later on, when he asked for written authorization, he was sent what he described as a “cease and desist” email by Uber’s lawyers. When the driver tried to re-contact the manager who had given verbal permission, he was unable to get a response. Another driver recalled incidents like this and voiced skepticism about the benefit of having the new manager’s phone number: “We used to have a guy like him in the early days; we had his number. This guy basically took his job; the other guy moved up. We never heard from him again.”

Uber did not provide a customer service number for its users (either drivers or riders), until, in 2017, it placed a “phone support” icon within the app. Most drivers communicated with the firm by email. A driver explained what emailing is like:

So any time we try and get an answer for customer service, it’s some kind of robotic reply. If you want to get a real response you have to send your email, then when they send you a canned response, from someone different than the first person who wrote you, you have to say “no, stupid, read my first email.” It takes a while to get a real person.

There is a cost to such inefficiency in communication with drivers. Knowing that, in the kind of work they do, “time is money,” many drivers who become frustrated with the asynchronous email process and go to seek help at the Uber office. It, too, did not exist when Uber first began operating (early drivers describe individuals camped out in various places with laptops). The office opened as the service grew, and Uber opened a second office in the lower-income neighborhood of Dorchester during the summer of 2016.

Going to the office, however, is not typically a clarifying experience for drivers; visiting one conveys much more the sense of a new employee processing center. The airport drivers described the office workers as “college kids—most of them straight out
of college.” Yet while the early Uber managers deferred to drivers’ expertise as they sought to launch a ride-for-hire service in Boston, the drivers now felt that the “guys at the office” “don’t want to deal with the customer or the driver. That’s dirty.” They emphasized that this division of labor that could work out for both types: “that’s fine; they do software, they get the customer, let them do that.” But it does not work out: the comment illustrates the growing sense of division between the drivers and the people who “do software,” with the power over the work conditions firmly controlled by the latter and not the former. This sense of division ultimately raised the question for professional drivers of whether they and Uber shared the same interests at all. Said one driver: “they’re disconnected from the drivers. They’re not building a limo company. And who knows what their endgame is. Right now they think they can replace us with an endless supply of stupid drivers, and then, [in] five or ten years, replace us with automated cars.” (In the next chapter, I will introduce a theoretical concept of “triangulated transacting” to explain how it is possible for a firm, which directs millions of drivers to provide transportation for other people can, nonetheless, not be in the transportation business or even understand much about it from the perspective of experienced line-level workers.)

Reassembling the Regulatory

A second notable feature of the collective action that Uber drivers undertook at the airport can be addressed briefly, because the interaction of the software with regulation will be elaborated in much more detail in the next chapter. Let it suffice here to note the close resemblance between the changes that the airport drivers sought, and the
regulations already in force governing the livery and taxi industries in the Boston area, but that Uber was ignoring (as it was in other cities around the country and the world, exhibiting an illiberal attitude to regulation that appears to be its business model). The airport drivers wanted a flat rate from Logan Airport to downtown of $25 for UberX and $50 for Uber pool. Similar flat rates already existed in the taxicab regulations of both Cambridge and Boston, in relation to airport travel.\textsuperscript{63} The UberX drivers wanted a rate of $2 per mile and $.40 per minute. The going rate for taxicabs in Boston was $2.80 per mile and $.47 per minute. The airport Uber drivers wanted to be able to make a better living outside the airport by requiring all Uber drivers to comply with livery regulation (in the words of John, the strike leader, “if they make them all [Uber drivers] use livery plates” it will “level the playing field for everyone else”). Yet the law in Massachusetts already required any vehicle used to transport people for money to be either a medallioned taxi cab or a vehicle with a livery plate, covered by the requisite insurance.\textsuperscript{64} Uber was simply ignoring these regulations by providing the technological means for its drivers to work without complying with them, by using an organizational form and mechanism that I theorize in the next chapter.

\textit{Shifting Gears: The Differential Speed of Digital Change}

A final observation is the degree to which airport Uber drivers’ sense of injury was generated by changes in their work conditions that happened extremely rapidly.


\textsuperscript{64} Massachusetts General Laws, Chapter 40, Section 22 (defining vehicles required to obtain a taxicab license); Code of Massachusetts Regulations, Chapter 540, Section 2.05 (defining livery vehicles); Code of Massachusetts Regulations, Chapter 540, Section 2.05(4)(i) and Massachusetts General Laws, Chapter 90, Section 7D (requiring livery vehicles to display a livery registration number plate).
These changes occurred in a different gear than conditions that structured Uber drivers’ work experience, like livery business registration, insurance contracts, and auto loan financing. I will elaborate much more systematically on this observation in the next chapter; the main point is to notice that a differential pace of change can be easily introduced into work conditions when the thing that primarily structures the work process is software.

Regulatory processes and types of contracts with which workers are more familiar change far more slowly than the rapidly clicked-through “user agreement” commonly used with software. Here again we have the driver whose quote opened this chapter: “By downloading the shit, you already signed it. So you cannot go to them now.” John, the UberBLACK strike leader, was unusual for having realized the potentially significant impact of updates to the user agreement. He proudly told me that he had not agreed to an update of the user agreement that bound drivers to arbitration, and therefore he could “still sue Uber.” He explained his shrewdness: “but again, I’m an entrepreneur, independent operator, so it’s not my first time dealing with that stuff. But these guys that just want to drive, they don’t know.”

Uber made over twenty changes to UberX pricing during the last five months of 2015. In the first month of 2016, it cut rates by as much as forty-five percent in cities across the U.S., generating driver protests nationwide. Most of these changes amounted to four or five cents on the mile and minute, and not all were decreases. A fair conclusion may be that the firm was simply testing the market to see what price would sustain its

desired volume of ridership, which was an important metric for Uber’s valuation pre-public offering. Yet even when the financial effect on drivers was not large, Uber’s price instability contributed to their feelings of loss of control. For much of Uber’s history, it has been engaged in a devastatingly bottomless (for drivers) price war with its main competitor, Lyft. Not all drivers attributed Uber’s motivation in cutting rates to greed; one driver told me, in the race for market share, “they even forgot the value of their own app.” However, drivers realize that Uber is speedily reshaping customer expectations about what they can get at a certain price. Its group service, UberPOOL, competes with the cost of a “T” (metro) ticket in Boston, which is a public transportation system that is faltering alongside the “ride sharing” price war.\footnote{Predicting a budget deficit of $80 million in 2017 due to declining ridership, the Boston transit system sought to cut labor and other costs. Nicole Dungca, “MBTA looks to trim 300 workers through buyouts,” \textit{Boston Globe} (Jun. 2, 2016) B4.} John, the UberBLACK strike leader, speculated that Uber’s ultimate intention was simply to replace public transportation:

This Uber and Lyft war...they’re geared toward this lower class. They’re trying to get the price so low, that whenever someone thinks transportation they think “Uber.” And it’s working: they have more people taking car-and-driver transportation than ever before. Customers are spoiled; it was never around before, but now somebody expects to be able to open an app, get a ride within five minutes, and pay very little. A lot of these gig economy things, which were supposed to be cheap and more convenient...you gotta realize its cheap because it is coming off our backs.

This was not the view of part-time drivers of the type described in Chapter 1; however, those drivers lacked the perspective of full-time drivers who previously worked for limo companies (their rates varied only slightly around an industry average), and taxi drivers, whose rates were set by municipalities and standardized by the taximeter, a technology that, in contrast to Uber’s rate-fluctuating software, carried the weight of
state’s regulatory authority, which checked the taximeter for accuracy yearly and installed a visible lock to prevent tampering.

The casualized, deskilled UberX driver is not likely to know the precise rate that Uber charges per mile and per minute, and often cannot precisely state Uber’s percentage of the fare taken as commission. This driver is extremely unlikely to know the going rate for taxicabs. She is likely to look at her earnings only as a lump sum. This lump sum is income simply “added on” to her primary employment, which is the source of income out of which she meets her essential needs. Uber income, for such a driver, is typically sought for additional consumption (a trip, a new computer) or to meet non-essential needs, such as staying in the family home after a divorce. The speed at which Uber’s software changes affect drivers’ income does not cause problems for drivers like this, because their primary needs do not depend on Uber income.

The problem for drivers for whom Uber work constitutes a full-time job is not only the speed of change in conditions that affect their income, but also the relationship to other commitments drivers have made in reaction to prior versions of the software. Take the case of an airport driver who worked for UberBLACK: moving from a limo company into Uber work, he purchased a high-end Chrysler 300 sedan. This driver was very proud of the fact that he had paid off the loan for this vehicle, and it was a principle of his religion not to carry debt. Without warning in a subsequent year, Uber announced that Chryslers no longer qualified as luxury vehicles for the UberBLACK service.68 For this driver, from one day to the next, his ability to derive income from a choice he had made in reliance on an earlier version of the software evaporated. The driver was faced

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with a decision: take on new debt to get a vehicle that qualified (with no guarantee it too
would not at some point suddenly be disqualified), or use his Chrysler to work for UberX
at a forty percent reduction in his earnings.

Like changes in vehicle types, changes in disciplinary rules also happen rapidly. Recall that CEO Travis Kalanick told a black car driver in San Francisco of his plan to use the rating system as a form of workforce management: raising the rating to reduce the number of UberBLACK qualified drivers. This is something he (wrongly) believes will reassure the driver. Drivers below the new required rating will wake up one day and discover they are no longer able to work, as the driver above discovered in relation to his Chrysler vehicle. That effect will not be because the individual driver failed to perform up to the required \textit{ex ante} standard—which is the purported reason for the existence of ratings—but because Kalanick has desired he needs to control the volume of drivers \textit{ex post}. Here he appears like the impetuous Wizard: changing the quest after it has been fulfilled according to the terms he originally set.

In another example of changes to the work process rapidly enacted by software, a 2016 email to the airport Uber drivers stated the following: “To ensure reliable airport pickups, driver-partners who cancel on riders will be moved partway back in the pickup queue.” The UberBLACK drivers felt that this was a sanction directed at them, because they had developed a practice of calling riders before going to the terminal, in order to find out their destinations and selectively cancel short trips on which they could not recoup their costs (of waiting and of operating the vehicle) as the wait times for rides were now stretching to two or three hours. It was not worth accepting a $17 trip, operated at a loss, to simply turn around and get in back in an hours-long waiting line at the
airport. Yet even when drivers were not practicing this strategy, and it was the software itself that was undergoing a glitch, drivers reported that they had been sanctioned with deactivation. For example, one driver described how he turned down three rides that were sent to him while he was waiting at the limo pool. The problem was that these rides were originating from nearby, but outside of Logan Airport, and he did not want to get out of the cue, leave the airport (and pay a $5.50 toll borne by him because no rider would be in the vehicle), to accept these rides. However, after turning down three rides in a row, his Uber app was deactivated for four minutes. He emailed to complain about this, and received a “sorry”—nothing more.

Because of these experiences, drivers know that deactivation can happen instantaneously. Consider an example that a driver gave as the group debated the list of “problems and solutions” they would take to the Uber office:

They are only listening to the customers. Last week, there was a driver, he denied the ride because she had a dog. He doesn’t like dogs. She said it was a service dog. But they didn’t investigate. They just deactivated.

The absence of a transparent adjudication process for deactivation was a common concern:

They didn’t try to understand what’s going on. If I am working at [the] Uber office, and I see my employees—we are not employees; my partners, are unhappy, I am going to send an email to ask “hey, what is going on, why are you not accepting trips at Logan airport?” That’s the right way. This is not the right way. I am one of the 25% top drivers.

I would like to close this chapter by reminding the reader of a finding based on data gathered during random sampling and reported in Chapter 1: that it is extremely uncommon for Uber drivers to know one another, and uncommon for them to seek to change a work condition with which they are unhappy. Uber drivers of the more common
part-time, non-professional type are far more likely to simply drop out of the work. Yet this chapter gave a detailed history of a large group of drivers who undertook collective action with the aim of improving their work conditions and outcomes: they coordinated a “rate strike” against the Uber algorithm, and then went to the Uber offices with a list of demands. How did I find them? As a field researcher focused on the average UberX driver as a member of a hypothetically new “digital working class,” I was interested in finding and describing the type of person likely to be randomly encountered as a driver when using the app. The chances were small that I would have gotten to know the airport group, because they were circulating mostly at the airport, many doing the luxury service, UberBLACK (which I was not sampling). They did not constitute the majority of drivers in the Boston area, in number or type. I discovered them by a chance event in fieldwork: among the drivers I sampled who agreed to do a longer interview, one UberX driver (among the very few who had a livery plate) stood out in the data. He was the only person who said that he had learned that he should get a livery plate and start working at the airport from experienced Uber drivers. “Old timers,” he called them—a phrase unlike anything I had heard from any other driver. He explained I could find these old timers by going to the airport, and hanging out at a gas station next to the international terminal, near to the limo lot. There, I met an UberBLACK driver who introduced me to John a few weeks before he organized the strike against Uber’s algorithm.

In the next chapter, I will systematically examine the software-driven form of discipline that Uber enacts. My aim is to explain the data presented in Chapters 1 and 2 in relation to “classic” sociological questions—such as what is the structure of the organization and what form of authority does it exercise. These questions will help us to
call into question a common, popular point of view of Uber: that because the activity is being implemented by new technology, the form of authority and the relationship between the organization and the people who carry out its work is also unlike anything seen before. It is true that there are millions of Uber drivers—likely over ten thousand in the Boston area alone⁶⁹—and that the company’s eleven thousand corporate employees⁷⁰ are certainly not directing the activity of the workers in a classic managerial sense, characteristic of a twentieth-century work organization. Thus the question arises: how is the firm organizing the work, ensuring that the product (the Uber ride) is consistent enough, in comparison to organizational structures and forms of authority that are already well-theorized?

Chapter 4

Triangulated Transacting, the Thin Organization, and Regulatory Breach

Let us return to one of the Uber drivers we encountered in Chapter 1. Joy, a pre-med student, decided to try out Uber driving in lieu of waitressing, which was the side job she was doing while pursuing her studies in order to make ends meet; primarily, to cover her car and rent payments. Joy did not need to invest in a large capital asset to become an Uber driver; she already had her own car, and was making payments in a lease-to-own program. Joy’s mother paid her cell phone bill, and she did not think about the extra cost of data needed to run the Uber app until a rider mentioned it. She did not know any Uber drivers other than a friend of hers who suggested Uber driving. Joy had been driving for eight months, and recently switched from part-time to full-time driving while on summer break from school. During this period in particular, Joy encountered a series of issues that had led her to think about dropping Uber driving entirely, in favor of taking a different side job as a nanny. Joy’s story reveals several uncertainties common among Uber drivers interviewed in Chapter 1. Typical of these drivers, Joy was unaware about the uncertainties when she signed up for Uber driving, and she remained unaware for a period of time until the risks materialized. Joy described the result as having an “awakening” about her Uber driving and its uncertainties, which she realized lacked the expertise to manage.

Among taxicab drivers, much of the expertise necessary to do their work is imposed by regulation, such as the requirement that drivers pass a test of city knowledge,
and train for eight hours in ride-alongs with a more experienced driver.\textsuperscript{71} Within fifty days of receiving a temporary Hackney Driver’s License, a Cambridge taxi driver, for example, must complete an eighteen-item checklist and submit it to the License Commission. Items include the rights of passengers to select any cab, maintenance of a vehicle, customer service, serving the elderly and people with disabilities, and knowing how to use a map or navigation system.\textsuperscript{72} In addition to the expertise acquired by drivers because of regulatory requirements, a great amount is learned from the community of workers. This is true of both taxicab and livery drivers, who have frequent contact in physical places such as taxi association depots, taxi stands, the “limo lot” at Logan Airport, and also often in their communities of residence, because subgroups of the livery and taxi driver populations tend to share common ethnic, religious, or national origin backgrounds and live in residential communities that reflect those links. From these frequent contacts, for example, taxi drivers know that a specific type of vehicle, such as the Ford Crown Victoria, is a good choice for taxi driving because its parts are heavy-duty and, importantly, do not vary across model years. This makes the Crown Victoria easily repairable using parts from junked vehicles, which reduces the cost of maintenance: one of the largest costs faced by the owners of vehicles used in ride-for-hire service. Notwithstanding issues like gas mileage, the Crown Victoria’s six-cylinder engine is durable. Taxi drivers tend to think that on balance, cars like this endure best with high mileage, which is why police departments also use them.

Uber drivers, by contrast, typically have not thought in advance about the


requirements for vehicles being used over long mileage, because they have not before been taxicab or livery drivers, and have not interfaced with any regulatory process that has made them think about it. Many do not intend to drive long-term or full-time. This is but one of several domains of uncertainty that Uber drivers of the part-time, casualized type recognize only after they begin the work. Other typical uncertainties concern the net amount of pay and how to calculate it, the need for further capital investment (such as extra vehicle maintenance, or more frequent maintenance), the possibility of legal sanction (in the form of a citation for street pickups without a hackney license or livery plate), the possibility of being dropped from one’s insurance (for using a vehicle covered by a personal-use policy for a commercial use), and the possibility of physical discomfort or harm to them (such as due to driving long hours, or encounters with drunken or hostile riders). Most of Uber drivers’ expectations about these subjects are either unformed when the driver begins the work; formed based on what other people say, such as a referring driver (who may have an incentive to downplay the uncertainties if he stands to receive a referral bonus); or based on Uber marketing. When these expectations are proven wrong by experience—a driver concludes the pay is not good, the work feels dangerous, or seems of dubious legality—typically a driver of the part-time, casualized type will drop out. This problem significantly explains why the rate of driver turnover is so high, and why Uber spends so much revenue on marketing to drivers, including people “of all credit levels” who acquire auto loans and leases through Uber partners in order to do the work. It also explains why Uber’s research and development is heavily focused on automating the driver’s role.

Joy illustrates the arc of a typical Uber driver’s experience with uncertainty
during the course of the work. Quick income and flexibility were the motivating factors for her to take on Uber work after she had a difficult experience scheduling time off from her waitressing job in order to study for exams. Uber pay looked equivalent or better to her. She already had a car, and she had a smartphone onto which she could download the Uber app, and a data plan to operate it. Joy’s first uncertainty appeared when she was dropped from her insurance after the company somehow “found out,” in her words, about her Uber driving. In order to continue driving, she obtained a new plan but did not mention her Uber driving to the new company—something about which she felt ambivalent. Then, Joy shifted from part-time to full-time Uber driving, instead of getting another job over the summer break from school. At this time, she started to experience significant uncertainties about the amount of money she was actually making, as she became unable to selectively target her driving at surge hours, when the rate is higher because of a multiplier imposed due to high demand (many part-time drivers select to only drive at these times). Concurrently, Joy became uncertain about the way Uber driving was affecting her health; and uncertain about whether she was actually safe in her rider interactions. To try and clear up these uncertainties, she visited the Uber offices several times to inquire about her concerns with the Uber corporate employees there. While waiting to have her questions answered, she began to become uncertain about the firm as a whole on the basis of the people and interactions she observed at the office.

How does an organization like Uber enroll massive numbers of drivers like these in its work—tens of thousands in Massachusetts—and then coordinate them, most of whom have no experience with taxi or livery driving, to deliver uniform-enough car-and-driver services in four hundred cities and seventy-two countries worldwide (in 2016) in
order to constitute itself as a business? This chapter answers that question by trying to precisely understand what is the form of the organization; how does it interact with its two kinds of “users”—the drivers who use Uber to work, and the riders who use it to obtain transportation; and what type of authority does it exercise over drivers in order to achieve the order and efficiency that are necessary to produce profit for the firm. My goal is to understand the relationship between the form and function of an organization that coordinates work using digitally-networked computing, before “both the characteristics of and assumptions about the form...harden into custom”\textsuperscript{73} and the functions seem natural, or taken-for-granted.

The following analysis uses several new theoretical concepts to help explain Uber’s form and it functions:

- **Triangulated transacting**, to explain how Uber makes a market that is triangulated between it and its two kinds of “users”—user 1, the driver, and user 2, the rider—and achieves systematic management of the first kind of user without departmentalization within the firm (i.e., controlling workers’ output, and monitoring and evaluating workers’ performance, without direct control by managers).

- **Thin organization**, to explain how, using triangulated transacting, a firm can be both massive, enrolling millions of people in work, while remaining “thin” by traditional standards like capital investments (such as

\textsuperscript{73}This was the comment of historian JoAnne Yates about evolution in the form and function of the office memorandum consequent to changes in managerial philosophy and in communication technology within organizations. JoAnne Yates, “The Emergence of the Memo as a Managerial Genre,” \textit{Management Communication Quarterly}, Vol. 2, No. 4 (May 1989) 485-510, 486.
in “brick and mortar” storefronts) and corporate employment (Uber’s number of corporate employees is the same as its number of drivers in Boston). Uber is one among several thin organizations, including eBay, Amazon, Facebook, and Google, that triangulate exchanges between two kinds of users (e.g., one uploading information such as news or an item for sale, and one consuming it), stay present in the transaction using information technology, and extract some value from it (e.g., a commission on a sale, or information about the users that can be sold or used to sell marketing).

- **Rapidly-modifiable contract**, to explain how user 1, the driver, agrees to terms of work that are not commonly read or well-understood prior to the time the work is taken up, and that frequently change consequent to the unilateral action of the firm.

- **Regulatory breach**, to explain how, through the technological affordances of digitally-networked computing, triangulated transacting can enroll mass numbers of users who engage in activity that is normally regulated without passing through regulatory interfaces (such as registration and licensing requirements), because they have been presented with the means to do so via software.

That a new phase of industrialization should be accompanied by a new form of organization should not be surprising. It was certainly true of the twentieth century industrialization, and the rise of the vertically-integrated, departmentalized corporation to
coordinate work with large machines in the mill, factory, and assembly line. This new phase is a “digital” one, occurring in an age of a small machine: the digitally-networked pocket computer (“smartphone”).

Joy’s interview is a good entry point because she explains, from the drivers’ point of view, what work with a triangulated transacting firm can be like, and the issues she raises are common across the part-time drivers described in Chapter 1 (who make up the greatest portion of the Uber workforce). Subsequently, I will use Joy’s experience to explain the concept of triangulated transacting.

Joy described first signing up to become an Uber driver:

So I was just like, “ok, well, I guess I have a car and stuff, I guess I should just try it out.” And I did, and it was like a really great experience. I think, um, essentially it’s great money, especially if you’re driving surge hour prices. But I think I enjoyed it most when it was like a part-time job, and it hit me when I was [driving for Uber full-time]...I think that’s when it hit me: “Whoa, I do not want to do this.”

An early problem for Joy was realizing that, in addition to driving people from one point to another, she would have to engage in social labor that could at times be exhausting, or make her feel uncomfortable. Recounting an episode when three men she picked up late at night identified themselves as off-duty policemen and flirted with her, Joy said:

You know, I always joke to my friends, I’m like, “blood pressure, high blood pressure at its finest...I’m developing heart disease.” I’m joking, you know? But you really get upset. Like you really have to control yourself. Because, you know, as someone in the street, I’m very rude, I am not flattered by those things...I am a person, you cannot look at me like that—I am not up for grabs. So that’s the men. When the men do it, it’s so annoying, because they’re in your car. So it’s not like you can drop them off...kick them out of your car. Well you can, but that would be awkward.

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She continued:

And one thing I don’t like: some people they just sit in the front. And if it’s during the day, or the person’s friendly, or they look very nice, then it’s different. But when it’s a very huge man, or, at night...I just think it’s so personal. But I also hear that’s the reason for Uber, because cab drivers, or cab companies—people complain about how unfriendly and un-personal it is. I guess Uber is a way of changing that....one person [said], “oh, I just feel bad being in the back and telling someone to drive me around.” And I’m like: “They are driving you around”....I think there’s a sense of control when someone is in the back of your car—as you would in a cab, right? There’s separation. I mean, I would never open a cab and sit in the front.

Another problem of which Joy became aware was that she was putting extensive mileage on her leased car. Though she was planning to purchase the car, she realized that her Uber driving meant she was quickly approaching the end of her free maintenance period, and decreasing the vehicle’s value:

I use the lease-to-buy method on my car, because it was a lot cheaper. But I’m going through the mileage really quickly. I’m getting to the point where [the car manufacturer] will not cover maintenance; everything has been pretty much free up until now. I feel like I’m in a honeymoon stage with my car, everything’s perfect....then one time they asked why I was going like 5,000 miles in a single month.

Realizing that this changed the value of her Uber driving greatly, Joy wondered whether she could get a reimbursement from Uber for vehicle costs associated with her Uber driving:

So essentially do you think, if my car does hit like 50,000 miles, would I get anywhere saying anything to Uber? Or is this just like the liability you take on? Or they assume you’re aware of it? ....With [her particular model of car], I don’t think you have issues until way later, but if I do have to, like, change my brakes, it is rational to tell them—you assume not—but do you think in the future, Uber drivers will have that freedom [to ask for reimbursement]?

Joy subsequently also began to question her Uber earnings, which she had thought were around $20 or $25 per hour, close to her earnings from waitressing:

I read an article that said Uber drivers made $13.33 an hour. Would you say that’s true? I have a friend that works for Uber...she’s a mom, so she calculates everything. She said, “if you do this, you calculate that.” It took her like...I think she realized it much quicker than me.
Another problem was that Joy’s auto insurer cancelled her policy:

I feel like for your insurance you don’t necessarily write that you are using your car for commercial purposes. It’s kind of like—it’s putting me in an awkward situation because I don’t even know if it’s like, illegal. I mean it’s not illegal, but...I actually got dropped from my one insurance, which was really good insurance; it was a really good company. And I actually got dropped on the last month because they found out I was driving for Uber, but I did start driving like way after I got my insurance plan.

Asked how her insurance company found out she was an Uber driver, Joy said:

That’s a good question. I was like, “how did you know?” and I didn’t really ask for specifics. They were like, “it was reported to us.” That’s what I thought: that something was wrong. You know, what is Uber? Is it...legal? It is legal but...that’s why I was kind of confused, and I didn’t want to talk to them [the insurer] very much, because I didn’t want to get in any trouble. Like you assume that [it is legal] because everyone takes Uber and that’s what everyone tells you, but I actually told them: “No, why did you drop me? Because I asked Uber and they told me everything was o.k.”—like, it was on their list of accepted insurances.

Joy experienced difficulty trying to communicate with the firm about this and other issues, which motivated her to go to the Uber office to speak to a corporate representative. However, her experience at the Uber office raised new questions about whether the firm was competent:

It’s not like you can actually call Uber....I kept going in [to the office] because when I would email them or talk to them it would take, like, the response was like having to wait for a week. So for me, if I had to fix a problem today, I went in. And there was no sense of structure. I thought there should be a line for the two-second questions: like you shouldn’t have to spent two hours in line for a two-second question....So why don’t you put a structure, like: “These kind of questions over here”....They were nice essentially, but there was no structure—and that’s why I was like, is this...you know, when you think something is fishy?

Joy further explained that while waiting long periods to ask her questions at the Uber office, she began to notice a pattern that made her concerned about other Uber workers:

...being in the office for so long, I realized the problems the other drivers were having were like language problems. Like one [Uber representative] had to make the driver an email....When I stood in line they were mostly immigrant workers, mostly older, they didn’t speak
any English; like I was the one college kid who had an education. And it wasn’t like once or twice, it was a lot. So I was like, why? There’s something wrong. Is it because they’re exploiting them? I couldn’t figure it out. I’ve never been in the situation where I could stop and think about it until now, where I can decide whether or not to drive for them and still study. Like it was an ethical dilemma. I would have stuck to waitressing, you know? I actually googled this stuff...I actually tried, or attempted to research it, but it wasn’t easy. It [Uber work] was much more flexible, but I think I would have endured the pain of waitressing, or fixing my study schedule, than taking the easy way out.

The final straw for Joy, however, was growing concerns about her personal safety. She began with a story about the cleanliness of her car:

I had a brand new car, and it had that brand new car smell. And I don’t really eat in my car. And like one day I got in and it smelled so terrible. And then I started thinking, and I realized because I am driving at nighttime, and I am picking up all those drunk people...like the sweat, the breath. One guy, I gave him a ride, it was three o’clock in the morning and he was drunk and the bouncers just threw him in my car. And then he passed out, and kind of like tipped over. And the smells that were coming out of him...It was...I went home after that. I actually didn’t drive for Uber for like a really long time after that, because it was such a scary experience; I drove all the way until the middle of nowhere, where there were only fields, and to get to the houses you have to go up like a half a mile drive; and he didn’t wake up. I had to wake him up.

She went on:

I don’t feel like I’m fit to return to it. It’s also kind of scary, for a woman, at night. And I didn’t really notice the dangers. Yeah, I didn’t really notice. Like I never told my mom I drove for Uber. To me, I’m like, “oh, I can go save the world.” Nothing really terrible happened, so at first I just didn’t notice, or I would ignore the signs. But then sometimes, that one experience, when I was driving all the way to the [rural area], that could have been a terrible experience, you know? And I think now that I’m more conscious about it. You have, like, um, like a sort of awakening. You know? Like you sort of don’t notice things at first and then once you get settled into the job you’re like, “oh...”

Joy explained that she put all of her concerns together and quit Uber driving after eight months:

I think if you do it for too long you start asking yourself all these questions the riders ask you....They’re the ones that make me think about it. Like one person, the one guy, he mentioned (I never thought about the [smartphone] data thing)...“oh, so does your data plan, does it take up a lot of your space [to use the Uber software]?” And I was just like, “well, I never really thought about that.” And then some riders
ask you, “oh, do you carry pepper spray?”...Once I got my exposure I was like, “oh, pepper spray, I get it.” But it was also like I would never tell my mom, “I’m a cab driver,” because she is going to think that something is wrong.

As is evident from the foregoing, Joy likely never should have gotten involved in ride-for-hire work in the first place. In this, she is like several drivers of the part-time, casualized type described in Chapter 1. These drivers failed to perceive at the outset of their bargain with Uber several uncertainties, or risks, that were present: the risk of earning less than one expected (because of a failure to account for expenses); the risk of encountering a legal sanction (such as a citation from the police for doing a regulated activity without complying with regulation, or being dropped from one’s insurance); and the risk of physical or psychic exhaustion, or even harm. This is largely because Uber has been able to accelerate the speed for entry to work and decrease the amount of information that workers have as they make that choice. This speed-up and uneven information are central features of triangulated transacting.

Triangulated transacting is a means of making a bargain: an agreement to make an exchange using software. Bargains for exchanges are the underpinning of economic activity in modern society. The basic principle was articulated by Adam Smith, who explained that the only means of persuasion a person has in a society where she cannot use force to bend others to her will is to “gain the favor of those whose service it requires” by “shew[ing] them that it is for their own advantage to do for him what he requires of him”—or, in other words, to propose a two-way bargain: “Give me that which I want, and you will have that which you want.” People like Joy bargain with Uber by agreeing to provide their vehicles and their labor to do the work of drivers, in exchange

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for access to a market linking them to riders via Uber’s smartphone software, which also provides payment as a percentage of the rate per minute and mile paid by the rider. The formal text of this bargain is Uber’s digitally-agreed “Services Agreement,” but the actual experience of making the bargain is a process of fairly rapid “clicking through” in which the agreement is never read. Drivers upload a few photos: of the driver’s license, vehicle registration, and insurance card, and fill out an online form. If they pass a background check, they are quickly able to begin to use the Uber app to be connected with riders. It is the speed and relatively frictionless, paper-free, nature of the work-enrollment process that results in drivers only later experiencing the friction brought about by several uncertainties that are present in the work once they begin it. This is what Joy describes as “a sort of awakening” that causes her to reevaluate her bargain with Uber. It occurred, Joy says, only “once I got my exposure.”

Uber provided a new infrastructure within the ride-for-hire industry for labor mobilization, production, and sales. This infrastructure used software to triangulate what is more typically a separate bargain between capital and labor (the employment contract) and between producer and consumer (the sales contract). This triangulation is what made it particularly easy to enroll workers in a rapid manner, to link them to a market for sales, to disseminate the necessary skill using information technology, and to evade regulation.

Here is the more typical model:

<table>
<thead>
<tr>
<th>Employment</th>
<th>Production</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer</td>
<td>Firm</td>
<td>Consumer</td>
</tr>
<tr>
<td>employment contract in context of regulation e.g., minimum wage</td>
<td>sales contract in context of regulation e.g., product safety</td>
<td></td>
</tr>
</tbody>
</table>

Triangulation takes the following shape (right), which is different from the more typical (e.g., vertically-organized) firm (left), whose form of management is not based primarily on software:

We can see immediately the inadequacy of the term most frequently used to describe firms in the “sharing economy:” this is the concept of the platform. It conceptually reflects a more typical structure for exchanges (left), but emphasizes only the part of the exchange that is occurring between the users (right, bottom axis). The platform concept places the firm at the bottom of the “t” structure (left), as though it has simply created an infrastructure for the users to transact, after which the firm largely remains passive. But it does not. This point requires further elaboration:

The primary means for enrolling a part-time, largely casualized group of workers to do the work of taxi drivers was to “deskill” taxi work. Uber accomplished this through the use of software along the axis between the firm and user 1 (right figure, axis at left of triangle). G.p.s. software, which delivers step-by-step instructions to the driver concerning how to reach the pickup location of riders, and how to deliver riders to destinations, takes the place of the driver needing to possess knowledge of the roads, such as is tested by a taxi driver’s license exam. A driver need not know how to listen to calls
from a radio dispatch; Uber’s algorithm determines who are the closest riders and links them to drivers in the area. Nor need the driver understand how to charge fares and accept payment. Along the axis between the two users, the exchange of the fare is also automated by software, and the driver is paid by Uber directly based on its calculation of the rate per minute and mile and deduction of a commission for the services it provides to the driver. The Uber driver, unlike the taxi driver, is not covered by a price-setting mechanism regulated by the state, such as per-mile and per-minute rates fixed by municipal law for taxis and standardized by the taximeter. This means that the consumer (user 2) and the firm can drive down the price, because the triangle is not permeated by the state (such as by the installation of a state-secured taximeter in the vehicle).

Performance assessment and discipline are carried out after the work has begun, through the mechanism of the “rating,” which operates along the axis between the second kind of user, the rider, and the firm (right figure, right axis). Riders are prompted to “rate” drivers at the end of completed trips on a scale of one to five stars, and to leave a comment if they choose. That Uber’s service works in the absence of ex ante training or regulation suggests the importance of this function. Riders not instructed in what criteria to base their rating of drivers. Still, their input is essential: they are the only part of the triangle likely to have in-person interactions with drivers, because there is no requirement that drivers ever meet a corporate Uber employee, and drivers evade the regulatory points of contact that taxi and livery drivers undergo (registration of a business, for example, and taxicab inspections).

There is a production-consumption junction on the axis between the firm and user 2, consequently, because user 2 plays a large role in disciplining the work of user 1. We
can emphasize that user 2’s work “replaces” regulation, such as licensing to establish minimum competency to do the work (such as a taxi driver’s test), and also replaces a certain kind of managerial control, i.e., a “boss.” The low barriers to entry and high degree of autonomy are what Uber drivers overwhelmingly appreciate about the work, but both raise the question of how minimum standards are maintained to ensure a uniform-enough service that users of type 2 will continue to consume it.

Here it is useful to turn to Max Weber, who sought in the early twentieth century to discover what kind of authority compelled subordinates in a bureaucracy (a form of organization that characterized the new industrial firms) to carry out its mission in the absence of the kinds of power characteristic of earlier eras: charismatic authority, such as of a monarch or guru, or traditional authority established by custom, as in religion. 77 Weber specified that these organizations were ordered by a kind of authority he described as “legal-rational,” which allowed them to operate at a great scale through rules and procedures, and corps of bureaucrats who abided by and enforced them. As JoAnne Yates has shown, documentary communication in the form of memoranda flowed downward from management to line employees, and reports flowed upward, becoming a powerful means of “control through communication” within organizations during the twentieth century. 78

Much “documentation” abounds in Uber: the software continuously creates records that make legible what occurs along the axes of the digitally-enacted triangle. The software records the routes of trips, and the rates charged, for the purpose of charging

user 2 and paying user 1. Communication flows speedily one-way from the firm to user 1, as most of Uber’s management communication is fully automated. Information concerning payment, ratings, and incentives for more work (such as bonuses for a certain volume, or for work at specific times and places) flow continuously and automatically to drivers. When user 1 tries to reverse the flow of communication and obtain answers from the firm, communication vastly slows: rapid responses are likely to be unhelpful, or “canned,” and often the driver must engage in an extended period of exchanging messages. Because, also along this axis between the firm and the driver, the terms of work can change frequently, such as on the basis of incentives or changes in the services agreement, the axis between the firm and user 1 is best described as a one-way “rapidly modifiable” contract over which only the firm has control. This kind of user’s primary option is either to take up the work, or not; communication to clarify the terms, or ensure they have been met, takes on the character of additional work.

Describing the interaction of users with computerized gambling machines and those who make the software behind them, Natasha Schull used the term “asymmetric collusion” to describe how the user acts voluntarily as part of a human-machine pair: as an agent, but one who is entangled with a script delegated by the designers of a machine that is, according to Schull, intended to addict the user. Schull described this as less an example of Foucauldian discipline than an attempt to regulate flows of “capital, information, bodies, and affects,” which Deleuze described as a “control society,” in which the user is “asymmetrically” disadvantaged. Schull showed how information could form the basis of a sort of violence, by enacting a form of discipline that could

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compel the behavior of individuals in an age that had left the spectacle of violent punishment behind. Foucault gave the example of Bentham’s panopticon as an architectural means of inducing self-discipline through surveillance of prisoners, each of whom can be observed, but cannot know if they are being watched. This was the cheapest way of exercising power, Foucault explained, which is why it was taken up so widely: by schools military groups, in hospitals, as well as in industrial organizations that began to manage worker behavior through continuous observation of their use of time and motion. We can see the applicability of both concepts to Uber, where drivers are surveilled in a continuous fashion by both riders and the software; and while they participate willingly in the work, it serves as a kind of “asymmetric collusion” because their ability to modify the program is severely limited, as can be seen once drivers try and reverse the flow of communication to the firm.

Not only this, but user 1’s perception of the conditions for work are largely the product of what Christian Sandvig has described as an “algorithmic show and tell.” This is apparent, for example, in workers’ accounts of how “surges” are displayed on the map portrayed by the Uber software. The surge indicates areas where the prices of rides are higher because of low supply and high demand. Originally, the software showed red color blots of varying darkness (the darkest indicating the highest surge price) on a map. Then, after a software update, the portrayal of the surge shifted to smaller “honeycomb” structures, in which a surge area could be as small as a few blocks. Drivers felt they were less able to respond strategically to this portrayal by targeting their driving to those areas.

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Similarly, UberPOOL was debuted after a software update. It became the default selection on the rider side of the software, and was “unlocked” after certain number of rides for drivers. UberPOOL was presented to drivers in communications from Uber as an asset, yet almost no drivers experienced it as such—and none were aware how they might get out of offering the service once they had engaged in it, other than by refusing UberPOOL rides when they were sent to drivers via the software. Most drivers felt they could not do so without severely reducing their overall volume of rides, however, or lowering their acceptance rate to a point that risked deactivation. Finally, in the extreme, user 1 can perceive what is being portrayed by the software as totally inaccurate and intended to deceive them—as the airport drivers did when they felt the software was trying to break their solidarity in the strike by placing “phantom cars” at the airport lot.

Uber’s communication with drivers is not the memoranda delivered from management to line-level employees that Yates described, nor that of regulators to taxicab drivers. Once the driver is understood along the axes of triangulated transacting with user 2 and the firm, she can be conceived of not only as a producer and distributor who receives directives from the firm (or regulator), but as a consumer. Under this view, the tenor of Uber’s communication with drivers makes more sense: it is less like management directives, or the explicit prescription of conduct, and more like marketing. The driver is being encouraged to contribute labor and a capital asset (the vehicle) to a transaction that is triangulated between another user, the rider who pays, and the firm, who organizes the market and takes a cut. Yet the terms by which the driver interacts with each kind of user remain fuzzy (what is the actual pay? what is the basis of

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performance review, a.k.a. the rating?). This fuzziness is characteristic of marketing, where the person being marketed to is encouraged to fill in the blanks. In Chapter 1 we saw how drivers do this: they fill in the blanks in regards to what their earnings actually are, whether their insurance coverage is sufficient, and whether the activity Uber is making it possible for them to do through its software is actually legal.

Further, because Uber is marketing to both kinds of users, Uber can offer access to the market for drivers to other sellers. These other sellers are auto leasing and loan companies, companies offering tax preparation, gas cards, maintenance services, and various other “promotions” pushed to drivers through email and through the Uber app.

This is how triangulated transacting becomes a means of ratcheting up consumption, which is quite the antithesis of a “sharing” economy that proposes to mobilize unused or underutilized assets, such as cars that would otherwise be parked. Uber generates not only the consumption of cheaper point-to-point transportation services by user 2, but the consumption of, for example, vehicles by user 1. As an Uber driver during the period of research, I rented a vehicle by the week from a rental company. When I asked how many such rentals they were extending, the answer was over two hundred for the previous three months. When I inquired with a car leasing company, I was told that a single dealership was writing over fifty new leases per month for Uber drivers. Both companies told me that their response to this new source of demand had been to purchase new vehicles. We see here how, in addition to bringing unused assets into a higher volume of service (“sharing” already-owned cars that might otherwise be parked by getting their owners to become Uber drivers), Uber increases the consumption of large numbers of new vehicles. In part this is because it is transforming the producer
side of the ride-for-hire market into a more active kind of consumer (compare the Crown Victoria, a typical taxicab, which is usually in twenty-four hour service under two or three shifts). The cheapness of information distribution across the digitally-networked triangle allows Uber to extend its massive marketing opportunity, given the large numbers of users of its software, to a wide swath of other firms seeking access to new consumers. This insight substantially explains the high valuation of the company (at over $60 billion) despite that it owns comparatively little in real property (corporate offices, computer servers, and the software): it has access to users, to whom it remains connected through triangulated transacting, with asymmetric power over the axes of the triangle.

Thus we see that triangulated transacting presents many more opportunities for both extracting labor and increasing consumption from both user sides of the triangle. This is why the production-consumption junction is split three ways, though it appears most obviously between the user 1 and user 2, which is where the transportation, the most obviously material part of the transaction, happens. Uber actively encourages this interpretation in relation to taxation, by using the IRS 1099-K form, which construes it not along the axes of triangulated transacting, but as a credit card machine that is used by user 1 to charge user 2. However, as we have already seen, user 2 does substantial work: performing the disciplining function of surveilling user 1 and feeding back that information to the firm; and user 1, in addition to surveilling user 2 and producing a rating, also does substantial consumption: not only by consuming the software that is provided by the firm to access a market for transportation services, but in many cases consuming other services that are provided by parties outside of the triangle, such as when the driver needs to obtain a vehicle in order to work.
Importantly, while the axis between user 1 and the firm remains a rapidly-modifiable contract that the firm can alter, such as by changing the rates per minute and mile, the contracts with these outside parties are typically traditional non-modifiable contracts. A vehicle lease cost, for example, is fixed regardless of whether the terms under which the driver is paid change. Uber utilizes the user 1’s outside-the-triangle relationship to other kinds of non-modifiable contracts. When the user has another job, as is the case for the majority of Uber drivers who are doing the work part-time, Uber benefits when drivers absorb the uncertainty of their Uber work (such as its variable rates of pay) by using the stability of their other job. Many drivers who have other employment pay the tax owed on their Uber income at the end of the year using their tax refund or income from other employment. Many deal with aspects of Uber work that full-time drivers dislike, such as having to perform emotional labor for ratings, because they know they do not depend on it for their basic needs. These drivers are stabilizing their end of the triangle using the support of an outside party; a prop that full-time drivers do not have.

The most important productive work that user 1 is doing, however, is acting as though the laws governing the activity of commercial car-and-driver transportation do not exist. When large numbers of users are enabled to do this through triangulated transacting, they effectively breach the regulatory system.

Uber contends that the triangle is a coherent whole not in need of the intervention of regulation. For example, it rejects a category created by legal thought, which is the idea that private activity and commercial activity are different and should be regulated differently. It does this because it has brought a large population of part-time, casualized,
non-skilled drivers into taxi work using personal assets: their privately-owned vehicles. Uber says that regulations of the ride-for-hire industry and the markets they create are monopolistic, inefficient, and result in substandard service. Yet by using the affordances of digital technology, which allows it to convene a market for transportation services that goes around legal authority, Uber substitutes its point of view for considerations of social policy that drove the limitation of taxi medallions: considerations like congestion, and the problems of traffic and pollution externalized to the community. Uber's idea is that there is no need for this kind of civil society planning because rationality is already contained in the market, to which Uber's software is giving people more seamless access. This depends in part on an assumption the users of its software are equipped to act as *homo economicus* as they decide whether and how to participate in this market. Strongly, this idea requires that the users have adequate information. Yet my research has shown that Uber drivers’ entry into and participation in the market is governed by an agreement that they are extremely unlikely read, a software that uses algorithmic show-and-tell to cultivate certain kinds of driver behavior, and marketing that encourages the user to fill in the information gaps based on assumptions and desires (as marketing is wont to do). That the information on entry does not match with the information acquired as drivers go along substantially explains why the rate of drop out is so high.

To fail to see this as part of Uber’s design is to fail to recognize its software as a machine, like an assembly line, that makes certain actions possible and forecloses others. This is not to say that users have *no* control over how they “make out” in relation to the machine. As Burawoy showed in relation to the assembly line,83 users can take action:

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learning about and rationally manipulating the software for their own economic aims. Drivers might use a software that can fake their location, to maintain their space in Uber’s cue while they were actually working using a different ride-hailing software somewhere else (some airport drivers were doing this). This takes sophistication, however, and increases the stress of the work. By far the greater number of Uber drivers encountered in this research, as reported in Chapter 1, do not behave this way.

The interest of the firm is to keep the triangle closed to regulation, to make it accessible only to outside sellers who market to the users, and to draw in a one-way fashion on the stability of third-parties to which user 1 may have access: primarily, the other employment that allow her to tolerate and absorb the effects of the uncertainties of Uber work. Digitally-networked computing is the technology that keeps the triangle closed: it allows the parties to communicate with one another through smartphones by which they create a market and make exchanges. Thus, in describing the problem of regulating Uber, the mayor of the City of Cambridge said about users of both types: “their whole world is driven by their phones,” and from the regulator’s point of view, consequently, lacked any “sort of identifying mechanism.” There was no “sign-up process” by which you could “tell what kind of insurance people have.” The problem, in her view, was primarily how “are we going to tell who they are” in order to regulate the drivers? Regulation, depends on telling what things are—on classifying and listing. The “material culture of bureaucracy,” wrote theorists of classification Bowker and Star, is not “in the first instance at the point of a gun, but rather at the point of a list.”

84 Interview by author.
The legislature of the Commonwealth Massachusetts began its attempt to formally reinsert itself into the ride-for-hire market created by digitally-networked computing in 2016. In March, Massachusetts House bill 4049, “an Act relative to the ride for hire industry,” was passed and sent to the Senate. It defined taxis, livery services, and digitally-networked transportation software companies like Uber under a single classification: as “ride for hire” services. It required them all to have commercial insurance providing at least $1 million of coverage per accident. The bill created a new “ride for hire division” within the department of public utilities, and tasked this division with issuing a “Transportation Network Driver Certificate” to drivers, and establishing a process for “removable decals” to be “used to designate a vehicle as a transportation network vehicle for law enforcement and public safety purposes,” and to be “applied to both the front and back panels of a vehicle” during the time it was being used in conjunction with a transportation network company (TNC). Driver Certificates would be issued by the division “after conducting a thorough review” to ensure that the driver was at least twenty-one years old, not on a sex offender registry, and had access to “a vehicle that complies with all laws...including insurance requirements, and has provided notice to all insurers of said vehicle that the applicant intends to use the vehicle to provide transportation network services.” The bill required an annual inspection of TNC drivers’ vehicles, “in addition to the annual vehicle inspection required for registered motor vehicles.” Sanctions for drivers not in compliance with the law included motor vehicle infractions with $500, $750, and $1,000 fines, and a $10,000 maximum fine or

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86 House bill No. 4049, “An Act relative to the ride for hire industry” (Mar. 9, 2016) on file with author.
imprisonment for a maximum of six months if a driver used the Driver Certificate of another driver.

Placed in the context of triangulated transacting, the Massachusetts House bill clearly inserted a regulator along the axis between the firm and user 1. Specifically, it made that axis less digital and more material in a traditional regulatory sense, by requiring the driver to interface with it: through the application for the TNC Driver Certificate, and at the annual inspection of the vehicle (in addition to the annual inspection required of personal vehicles). Through these interfaces, the state would create the all-important lists by which user 1 would be recognized, and, additionally, slow down the process of enrolling drivers in the work. Uber opposed the legislation for this reason. It stated in a March 2016 blog post called “Regulatory Solutions for the Commonwealth:”

> [P]eople have come to expect digital signatures so documents can be signed on smartphones and people expect rapid turnaround for tasks that can be automated online. In person driver screening and permitting run by the state can be run electronically and far more efficiently.\(^\text{87}\)

Uber explained how it could do the job “electronically and far more efficiently” by describing the legislation as duplicative of its own systems:

> From vehicle inspections to decal requirements, these processes replicate systems already in place, increasing costs for drivers to get on the system and raising prices for riders without adding additional safety benefits.\(^\text{88}\)

Finally, it explained that it favored self-certification instead of the insertion of a regulator into its triangle:

> Transportation Network Companies (TNCs) use technology to create a safe and convenient experience for riders and driver-partners. As

opposed to creating a new state agency to run these processes, the DPU [Department of Public Utilities] should certify TNCs to implement the safety standards with extensive oversight from the division.\(^8\)

Similarly, Uber did not want the regulator to intervene in user 1’s relationship with outside parties like insurers:

TNCs require all diver partners to show proof of automobile insurance before they can drive on the platform. Requiring TNC drivers to notify their insurance is one additional hurdle that could discourage people to pursue economic opportunities of partnering with Uber and has not been mandated by the insurance industry nationally.\(^9\)

After extensive lobbying,\(^91\) the bill that became law in Massachusetts in late summer 2017, was rewritten by the Senate to reflect Uber’s desire to keep the triangle by which it transacted with its two kinds of users closed. This was evident at the outset from the name of the law which was changed from an “Act relative to the ride for hire industry,” classifying livery and taxi services and transportation network companies together, to an “Act regulating transportation network companies” that kept software companies like Uber within a specific classification.\(^92\) Inspection of TNC vehicles, the passed law specified, “shall be available at the same times as the emissions testing” of personal vehicles; no additional inspection was required. The Transportation Network Driver Certificate would be “issued by the transportation network company” to the driver after the company is certified by the Department of Public Utilities (the law eliminated the new department with specific responsibility over this function that had been created by the House bill). Instead of providing lists of driver information in order that regulators may ensure compliance, the law required that a “transportation network company shall


\(^92\) House bill No. 4570, “An Act regulating transportation network companies” (Jul. 31, 2016) on file with author.
notify the division upon receipt of information that a driver utilizing its network has violated a law or rule or regulation related to the provision of transportation network services.” The self-regulation procedure was made the same in relation to insurance, requiring that a TNC “has an oversight process in place to ensure that the applicant and every transportation network driver using the transportation network company’s digital network possesses adequate insurance coverage...and otherwise complies with all laws, rules, and regulations concerning transportation network vehicles and drivers.” Seven separate provisions in the passed law required “an oversight process” or “procedures” “in place” within the firm, with auditing by the Department of Public Utilities.

The law did intervene in the triangle in several ways. It facilitated the flow of two-way communication along the axes between the firm and its users by requiring TNCs to establish “a toll-free customer service hotline that shall be capable of responding to consumer, driver and rider questions and complaints.” It created a two-part background check process in which the firm first conducts a check “on the basis of a suitability standard to be determined in regulations” and then “submit identifying information regarding an applicant” to the Department of Public Utilities, which conducts a further background check. In Massachusetts this resulted in 8,206 of 70,789 drivers being disqualified from TNC driving during the first round of background checks in April 2017.93 (It is worth pausing to consider this number; it tells us that 1% of the population of Massachusetts have been Uber drivers.) The bill required transportation network companies to disclose to drivers “in writing...the insurance coverage, including the types of coverage and limits for each coverage” it provided, including “a statement that the

transportation network driver’s own automobile insurance policy may not provide coverage...depending on the terms of the policy.” And the bill required an appeals process for driver deactivation that included drivers’ input.

This thesis’ reporting of extensive data on the experience of Uber drivers as they do their work shows that what regulatory breach meant for workers was a mystification of what was once rationalized. The largest impact is on the calculation of pay. Thus where taxi rates were standardized by municipalities at per mile and per minute rates, and enforced through the standardizing technology of the taximeter, Uber rates have varied, first around “surging” based on the calculation of supply and demand, and more recently based on “predictive pricing” designed by economists and statisticians at Uber headquarters who use machine-learning to estimate how much a customer is likely willing to pay for a ride.94 The driver continues to be paid according to the user agreement at a per mile and per minute rate (plus surge, “Quest,” or “Boost” add-ons, if they are in effect). However, in 2016, it drivers might see three different portrayals of their earnings depending on whether they were looking on Uber’s website, the smartphone software, or an email from the firm. What this meant for drivers was the opposite of rationalization: obfuscation.

Drivers must contend with the mystification of their earnings even when the outcome is supposed to be positive, such as with surge pricing and add-ons like referral bonuses, Quest (“drive 25 trips to unlock x rate!”), and Boost (an earnings multiplier for working at certain times). The latter two especially treat earnings like a game. Many drivers spend a lot of time scrutinizing their pay statements and “litigating” with the firm.

to make sure they are getting what they are promised; or must simply trust that Uber’s calculation is correct. The latter is what part-timer drivers do; they are more focused on short-term earnings goals than on long-term relationship with the firm, which would incentivize knowing whether it was paying them correctly most of the time. Among full-time drivers, however, inaccurate pay is major and recurring topic of discussion. They feel that Uber has a low incentive to get their pay correct, and they are justified in reaching that conclusion: Uber admits it owes millions to New York drivers for an “error” in calculating its commission using drivers’ pre-tax income over several years, and it may owe even more to drivers for deducting taxes from their fares, while drivers later paid tax themselves under the 1099-K system.95 Full-time drivers are more likely to “litigate” their pay by engaging in sequential, asymmetric email communication with Uber that is not handled by a single employee and is interspersed with automated responses—and this too is a form of work.

Massachusetts’ “Transportation Network Company” legislation, passed in 2016, attempted to insert a regulator into the system of triangulated transacting. It created a way for drivers to reach the firm by phone. It shifted regulatory authority the Department of Public Utilities, who are not specialized technocrats, like the Department of Parking, Traffic and Transportation, for example, which prior to the legislation regulated ride-for-hire activity in the City of Cambridge. Uber is less actively regulated under this law than it is threatened with the possibility of oversight. For example, the Department of Public Utilities will “ensure” the company “maintain[s]” that drivers “shall” have appropriate

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liability insurance. But the legislation has not intervened along the *axes* of triangulated transacting, such as by requiring the software to prompt the driver to recognize or resolve certain uncertainties: for example, a notification that pops up at the beginning of the work process and reads, “are you aware that you should deduct your vehicle operating expenses to obtain a clear picture of your earnings?” In lieu of requiring drivers to submit to the regulator proof of insurance or receive a driver certificate that the regulator issues, the new legislation has not substantially slowed down the process of driver enrollment. Speed is the factor that contributes to drivers taking on the work rapidly and under conditions where they are uncertain about several key components of the work.

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Chapter 4

Making a Digital Working Class

[C]lass is a relationship, and not a thing... The question, of course, is how the individual got to be in this “social rôle”, and how the particular social organisation (with its property-rights and structure of authority) got to be there. And these are historical questions. If we stop history at a given point, then there are no classes but simply a multitude of individuals with a multitude of experiences. But if we watch these [individuals] over an adequate period of social change, we observe patterns in their relationships, their ideas, and their institutions. Class is defined by [individuals] as they live their own history, and, in the end, this is its only definition.

—E.P. Thompson, The Making of the English Working Class

In the title of this thesis, I have used the term “class” to emphasize the relationship between Uber drivers’ work experience and other historical class formations. Understanding this historical relationship is something that neologisms like “sharing economy,” “gig economy,” and “on-demand work” do not do. These terms describe features of the work: “on demand” suggests that workers are in control of their schedule, “gig” suggests that they work in an atomized way that does not involve continuing relationships with workplaces, other workers, or customers, and “sharing” suggests that the primary action is between the users, not with a business organization or firm. These descriptions are not inaccurate (other than “sharing,” which connotes that what is happening is not, in fact, commerce), but they focus on the newness of the technological form through which the work is taking place. In so doing, they tend to obscure the fact that—like all other market-based labor transactions historically—Uber constitutes an arrangement between people who organize the work (traditionally, the “employers”), and people doing the work (the “employees”), and that this arrangement concerns the relative

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shares of the labor product (profit and wages) and the conditions under which the work is to be done (hours, difficulty, etc.). 98

Labor unrest vis-à-vis Uber, such as that described in Chapter 2, illustrates a desire on the part of some Uber workers to renegotiate this arrangement. Yet many workers of the types described in Chapter 1 do not know about such negotiations or care about their outcome. They enter into Uber work already willing to drop out if the conditions change unfavorably, and they exhibit this “take-it-or-leave-it” attitude from the very beginning, because they have employment elsewhere. This is characteristic of a worker typology described in Chapter 1 as the part-time, casualized driver. This does not mean these drivers are not part of the formation of Uber drivers as a “class.” To the contrary, their attitude is substantially what holds the class formation in place, because it ratchets up the dynamic of the reserve labor population. The presence of part-time, casualized Uber drivers who do not care about the labor conditions because they are willing to drop out dilutes the bargaining power of workers who want to stay in and renegotiate the relative shares of the labor product and the conditions of work. 99 This dynamic persists even though the data show that a small percentage of full-time drivers do a substantial portion of the work on which Uber depends, suggesting that it could deliver the same services if the full-time drivers did, indeed, organize and walk out. 100

The difference between the professional Uber drivers who waged the airport

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98 Historian Raymond Williams made this point about the term “management,” which arose alongside “employee” during the twentieth century to replace “master” and “servant.” “Management,” Williams wrote, “displaces the character of negotiation about relative shares of the labour product to a sense of dispute between the general ‘requirements’ of a process (the abstract management) and the ‘demands’ of actual individuals.” Raymond Williams, Keywords: A Vocabulary of Culture and Society (New York: Oxford University Press, 1983 [1976]) 191.


100 See footnote 49, page 98, and associated text.
strike and the part-time, casualized driver frequently encountered in random sampling illustrates the difficulty of defining Uber drivers as a single class. Measures of class like occupation, education, and employment status, which are the most widely validated, fall apart when employment is split among several types of occupations, such as it is in a “gig” economy. Many Uber drivers, for example, are “professionals” in their full-time job, but cross over into the category of “unskilled manual worker” while driving for Uber, falling to the lowest rung on the occupation-defined class strata. Among the drivers encountered in this research, a financial planner logged onto the Uber software during his commute home and took a few rides if he gets them, a real estate agent whose romantic relationship recently ended filled his free time with Uber driving, and a young man studying to be an electrician used Uber to discover Boston and encounter people different from those in his low-income suburb. These Uber drivers are willing to convert their leisure time into income generating-activity. They have very little in common with full-time Uber drivers, for whom each rate cut means less leisure time if they are to maintain a steady income level. Much of the airport strike had to do with full-time drivers trying to reclaim the value of their time, which had been diminished so greatly as to justify sleeping at the airport, for some, while waiting for the possibility of work.

Nor do the part-time casualized drivers want to have much in common with full-time drivers. They do not want to be “treated like a taxi driver;” do not want to open a passenger’s door like a livery driver, and “put out the red carpet;” and many do not want to be tipped. “It will make me feel a particular kind of way,” said Cooper, the real estate

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101 Summarizing twentieth century usages and measurements of “class” and proposing a new contemporary model, see Mike Savage, Fiona Devine, Niall Cunningham, Mark Taylor, Yaojun Li, Johns. Hjellbrekke, Brigitte Le Roux, Sam Friedman, and Andrew Miles. “A New Model of Social Class? Findings from the BBC’s Great British Class Survey Experiment,” *Sociology* 47(2) (2013) 219-250.
rental agent. “I’m not sure that I feel comfortable accepting one,” said Todd, the nutritionist. This reveals another dimension of the concept of class: one linked to its symbolic and cultural operation on people’s sense of personhood and value. Full-time drivers greet the possibility of a tip with joy: they know that it can increase their income significantly. Thirty dollars in tips per day becomes one hundred and fifty by the end of the week, the Logan Airport drivers emphasized. In the spring of 2016, these drivers were putting up tip solicitation notices in their vehicles after hearing they were allowed to do so as part of a class action settlement involving California and Massachusetts drivers, alleging that Uber misrepresented to riders that gratuity was included.  

Tipping, however, is a bridge too far into the master-servant relation for part-time drivers, whose identity is rooted higher up on the occupational-class ladder, because it risks their stigmatization as “working class” or “service” worker. Uber already made it possible for these part-time, casualized workers to avoid the regulatory waypoints where “service” identifiers attach in the ride-for-hire industry: in the form of hackney tests, background checks, and markings on vehicles such as livery plates or a taxi number and taxi light on top. Tipping is the social practice that aligns with the signifiers of service produced by the regulatory process. Both have the outcome of communicating to the public and to the person doing the work, “this person is a service worker.” Yet part-time drivers take up the work specifically because they do not have to transform into taxi or professional livery drivers. Regulatory breach means they do not have to take on the outward markers of those roles, and tipping is a behavioral practice that many part-time drivers also want...
Defining Uber drivers as a class based on demographic markers is also difficult. As Chapter 1 shows, it is almost impossible to say that “typically,” Uber drivers have $x$ income level, $x$ education, $x$ race, or $x$ age, because the range in these characteristics among drivers is so large. The range reflects that of the work population as a whole. 104

“Uber Driver Week,” a cartoon series drawn by Mike Lester and published in the *Washington Post* in 2016, satirized this variability in the Uber driver population by portraying a baby in a diaper, a cow, and a person in a hockey mask (evoking the horror film *Silence of the Lambs*) as Uber drivers. 105 Airport strike leader John referred to this as the “X-Factor” of UberX’s deskilled, casualized workforce: “You never know what you’re going to get.” At most, it is possible to say that Uber drivers are typically male, although there are a higher percentage of female Uber drivers (14%) than taxi drivers (8%) (and, in my observation, livery drivers). 106

Karl Marx distinguished between a class seen in terms of economic relationships, and class formation, which depends on recognition by the class members of their oppositional relation to other classes. Consequently, the summary historian Raymond Williams gives of Marx in the definition of class is: “A class is sometimes an economic category, including all who are objectively in that economic situation. But a class is

104 It is possible to make demographic statements about the taxi driver population. Large-scale studies of Uber drivers with which to compare them, however, are rare because driver data is closely held by Uber as proprietary information (for example, it is not shared with regulators). This paper compares Uber drivers demographically to taxi drivers: Jonathan V. Hall and Alan B. Krueger, Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” Working Paper No. 587, Princeton University, Industrial Relations Section (Jan. 22, 2015) http://bit.ly/1E6y5yL (accessed Jul. 19, 2017) 7-8.

105 On file with author.

sometimes (and in Marx more often) a formation in which, for historical reasons, consciousness of this situation and the organization to deal with it have developed."\textsuperscript{107} This definition can only be applied to the workers who organized in Chapter 2, who recognized that they were rapidly being constituted as an underclass to the part-time, casualized type of drivers. Here is a representative conversation between drivers at the airport:

Man 1: There are some people who either don’t know the difference between net profit and gross income or they never plan on paying taxes....Uber has an unlimited supply of stupid drivers that will work for below minimum wage.

Man 2: This is not good at all. What we supposed to do when there is some ignorants that never drove in their life and got an account with Uber and start taking trips without lifting their heads up and seeing that they are being slaves?

Man 3: Uber is a conglomerate. Don’t forget that. Who are we, drivers? Bunch of hungry foreigners.

Man 2: If they could, they will have donkeys working for them.\textsuperscript{108}

Again, then, I return to the question: What justifies calling Uber drivers a “digital working class”? The answer is in the modifier, \textit{working}. I have used the combined term, \textit{working class}, as did E. P. Thompson in his study of industrialization and the English working class.\textsuperscript{109} When working is the main focus of comparison, we can see that Uber drivers, while having a variety of different \textit{consumptive interests} in the work (ranging from avoiding loneliness to making a living), different orientations that are conferred by their widely varying economic starting points, all use the same \textit{apparatus} to do the job: a digitally-networked pocket-size computer, or “smartphone” on which Uber’s software is

\textsuperscript{107} Raymond Williams, \textit{Keywords: A Vocabulary of Culture and Society} (New York: Oxford University Press, 1983 [1976]) 68.


downloaded. This is a small machine, in comparison to industrialism’s large ones, but like the assembly line, the factory, and the mill, it produces a number of effects on workers that we can describe:

The first thing Uber drivers share is a sense of risk. This is the widespread uncertainty across several elements of the work process described in Chapter 1: learning how to do the job, performance review ("rating"), payment, earnings, and legality. Uncertainty is present in all Uber drivers’ discourse about their work, whether they are part- or full-time. Only when uncertainty materializes in a negative way do part-time and full-time drivers diverge, with the former more likely to drop out and the latter more likely to want to change the conditions, possibly in collective action with other drivers (as occurred at Logan Airport). Here is where the prior economic position of the driver matters, because it substantially determines the degree to which the driver can respond to the risk in a self-preserving way. Self-preservation is what the student Joy is seeking after she drives three off-duty police officers late at night, and one flirts with her in a way that makes her uncomfortable, and ultimately fearful for her personal safety. She drops out of Uber work after this experience, saying that if she had realized this possibility before she would have "stuck with waitressing." Self-preservation is also what Cody is seeking, after he decides to take one more ride before going home at two a.m., and the Uber app assigns him a passenger who wants to go to New Hampshire—an hour in the opposite direction of his home. He does not want to cancel the trip, because it will negatively affect his rating. Like Joy, he could drop out of the work and find another job when an event like this occurred, but this is a period when he is relying on Uber work for full-time income, and he does not want to lose time and money looking for another job. Cody starts
to keep a pillow in his car.

The important thing to notice in these two stories is the dynamic of the reserve labor population. Reserve labor is constituted by people like Joy, who will do the work until some risk materializes like the one represented by the three police officers. She has not encountered any regulatory pass-through points that might have raised the possibility of this risk before she took on Uber work, such as training that taxi drivers receive about risky passengers, or the imposition of a plexiglass partition between front and back seats in her car. Consequently, she has not thought about the risk until it materializes. Others drivers like Joy will take up Uber work for a time, and then drop out under a similar uncertainty or another related to pay, rating, or software-induced work changes. Yet their presence cycling in and out of Uber work, and being replaced by others like them, means that people like Cody, who would like to be able to selectively avoid long trips in the wrong direction at the end of a shift but cannot simply drop out of the work, more likely has to adapt to the poor conditions and stay in the work. Even if he knew other drivers with whom he might try and bargain with the firm for better conditions (he does not know any), they are unlikely to succeed because of the presence of part-time laborers like Joy. This dynamic carries with it the possibility of creating a permanent underclass: people who take up work under poor conditions in the midst of other casualized, part-time laborers with a take-it-or-leave-it attitude to those conditions. As long as the volume of workers cycling through the reserve labor population can sustain consumer demand, this underclass will persist if moving to another job is also risky or uncertain. In 2017, a year after the airport Uber drivers’ strike against the algorithm, many drivers had indeed moved on to other work. Yet many were still in it. John, who had organized the strike,
sent me a photo of a mattress in a parking space in the limo lot, and did not say whether it was being actually used or was put there as a protest.

The second defining feature of Uber's digital working class is that its members share a particular kind of legal consciousness. It is best described using a centuries-old literary analytic phrase, as a *willing suspension of disbelief*. Samuel Taylor Coleridge first used that phrase in 1817 to describe the "poetic faith" that was necessary for true enjoyment of literature. A reader, Coleridge wrote, must adopt an "illusion, contradistinguished from *delusion*, that *negative* faith, which simply permits the images presented to work by their own force, without either denial or affirmation of their real existence by the judgment."[^10] The reader must, therefore, *willingly suspend her disbelief* in the reality of the "images presented" by the author, and allow them to "work by their own force."

A suspension of disbelief is the basis on which Uber drivers participate in breaching the regulatory system. Uber makes available an "app" for car-and-driver transportation—without, to use Coleridge's terms, "either denial or affirmation" of its "real existence" as a legal service. In this, it becomes like the images that an author places before a reader, that appear to "work by their own force." Drivers use Uber's software to pick up riders without needing a registered livery business, commercial insurance, livery plates, a medallioned cab, or hackney license. Uber encourages its users' to suspend their disbelief that going around these regulations is legal, by simply making it possible for them to do so. Without exposure to regulation, most drivers are not compelled to ask further questions that might interfere with them taking on the work

based on a kind of faith. Not asking further questions, Coleridge makes clear, is the *sine qua non* of the suspension of disbelief.

Uber not only gives drivers the *means* of illegal work, it counteracts the consequences of legal sanction when they occur. This is the case when it conveys to drivers that the firm will “support citations,” and then pays police-issued tickets of $100 to $500 that drivers receive for illegal pickups. It did this for several years in the Boston area, and for several of the drivers who participated in this research. Paying the citations has the effect of upturning] a usual assumption about a society governed by law: specifically, that when sanctioned by a law enforcer for doing an unlawful activity, one should stop the activity—if not because it is “wrong,” in the moral sense, then because of its practical consequences (e.g., paying a hefty fine and receiving driver’s license points). Uber cannot completely neutralize drivers’ sense of moral wrong, or completely neutralize the practical consequences of sanctions. Joy, the pre-med student and part-time driver, recalled being dropped by her insurance company and thinking: “That’s what I thought, that something was wrong. You know what, what is Uber? Is it, like, legal? It is legal...but, like...that’s why I was kind of confused.” Joy is cross-examining her suspension of disbelief as she tries to understand why she was dropped from her insurance: If something is not “wrong,” then why is she facing this consequence? Joy says she “asked Uber” about her insurance before she was dropped, and “they told me everything was o.k.—like it was on their list of like accepted insurances.” By having drivers send in their insurance documents and “approving” them like this, Uber exploits everyday people’s ignorance about a major distinction in insurance underwriting between personal and commercial activity. Literary analysis has a term for this too: “cognitive
estrangement.” It is when the author uses a person’s ignorance of things to promote the suspension of disbelief through the “factual reporting of fictions.” To see this one need go no further than the section of Uber’s Services Agreement on insurance, which reads like the instructions for a game of red-light green-light. Section 8.1 informs the driver she should obtain insurance for a “private passenger vehicle;” section 8.3 informs her she should be aware that such insurance “may not afford” coverage for offering the “Transportation Services” she provides as an Uber driver.

Drivers’ accounts of what they do in relation to this situation conveys their sense of dis-ease. Joy obtained a new insurance policy. To get it, she said nothing about her Uber driving, having learned from her previous experience. Cooper did the same thing. Jefferson lied to file a claim that occurred while Uber driving and for which he is still receiving physical therapy. Salman and Tim concealed their Uber driving from their insurers. Bibek endured $700 in uncompensated damage to avoid filing a claim. Joy’s suspension of disbelief never fully recovered: “I feel like for your insurance you don’t necessarily write that you are using your car for commercial purposes. It’s kind of like…it’s putting me in an awkward position because I don’t even know if it’s legal.”

Almost all drivers interviewed had exercised some kind of “legal creativity” in regards to not reporting accidents to insurers, strategically changing insurance companies, or not telling insurers that their vehicle was being used for Uber driving. Uber’s illusion of legality did not really “operate by its own force,” it was based on yet more work that Uber drivers had to do so sustain their participation in the workforce as a digital working class.

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Robert Merton noted in his study of the “unanticipated consequences” of social action that those flowing from ignorance are the simplest case: “where…lack of adequate knowledge is the sole barrier to correct anticipation.” 112 One of the technological affordances of the pocket computer is to speed-up all sorts of things: communication, banking, and, in the case of Uber drivers, enrollment in work. Enacted via software, it is typically rapid and “paperwork free.” Many drivers sign up in a flurry of marketing advertising high rates of pay and a variety of incentives, some of which were misleading enough to generate a $20 million settlement with the Federal Trade Commission in 2017. 113 The speed-up, and the casualized driver population’s prior ignorance of what taxi and livery work are about, meant that Uber drivers exposed themselves to unanticipated consequences: the social, physical, financial, and legal risks they encountered, as described in Chapter 1. The failure to anticipate was also a result of the absence of the regulatory system, whose rationalizing procedures can have the effect of making risks apparent: e.g., a display of standardized driver identification with a number, suggesting that this person is a worker and the appropriate kind of sociality is arms-length, an illuminated and locked fare counter (a “taximeter”) suggesting that rates could be gouged but for the device, or a partition between drivers and passengers.

The suspension of disbelief, the speed-up, and the lack of any regulatory interface has two main effects on drivers: it conceals several things about which they later discover they are uncertain, such as whether or not they are legitimately insured, and it allows drivers to persist in the idea that they are law-abiding people. As one driver put it: “what

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it’s doing isn’t evil itself....If Uber was an app to let you go rob banks, it would get shut down.” Uber work, while it does raise the level of uncertainty that drivers have about several things, including legality (which is why the code for risk predominates in analytic coding of interview transcripts), it does not transform drivers’ legal consciousness into that of mafiosos or gang members. Drivers end up extending their suspension of disbelief to themselves—to the idea that people who break the law are not lawbreakers, and they do this while lying to their insurance companies. It is a very uncomfortable situation, as comment’s like Joy’s attest.

But the effect is not only on the drivers. Legality is a structural component of society. Not only the law “on the books” but the law “in action,” in Roscoe Pound’s famous formulation, are part of the social life in which Uber drivers participate, as we all do. Patricia Ewick and Susan Silbey offer a definition of “legality as social structure” in The Common Place of Law:

...legality consists of cultural schemas and resources that operate to define and pattern social life. At the same time that schemas and resources shape social relations, they must also be continually produced and worked on—invoked and deployed—by individual and group actors. Legality is not inserted into situations; rather, through repeated invocations of the law and legal concepts and terminology, as well as through imaginative and unusual associations between legality and other social structures, legality is constituted through everyday actions and practices.  

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Where legality is not inserted into situations, where it is deliberately overlooked through a suspension of disbelief, or through ignorance, there can also be “imaginative and unusual associations between legality and other social structures.” Uber work is a situation where law is not invoked, and where the users, instead of constituting legality, constitute its opposite, and avoid the sanctions normally associated through the technological affordances of triangulated transacting, and through Uber’s offer to monetarily compensate for the effect of legal sanction by paying for citations. Phrases like “technological disruption” gloss over the specifics of this attitude to law and social order, which is the legal consciousness of Uber the firm that its workers do the work of enacting. I have called the aim and the result regulatory breach, and I have tried to abstract this phenomenon in Chapter 3 because we should expect to see more firms mobilize similar workforces under similar suspensions of disbelief to execute regulatory breaches, because Uber has shown that it can be done.

*The Common Place of Law* was a report of extensive ethnographic investigations into people’s “everyday” legal consciousness. It also importantly showed how individual conceptions formed part of a process of socially constructing legality, thereby structuring society. Silbey and Ewick described this:

...we use the phrase ‘legal consciousness’ to name participation in the process of constructing legality. This formulation of consciousness as cultural practice and specifically as participation in the construction of social relations attempts to keep alive the tension between structure and agency, constraint and choice....each person’s participation sustains legality as an organizing structure of social relations. Every time a person interprets some event in terms of legal concepts or terminology—whether to applaud or criticize, whether to appropriate or to resist—legality is produced.\(^\text{17}\)

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In subsequent work, Silbey emphasized that the critical edge and theoretical utility of finding out what people think about the law, and how they use it, would be sacrificed if we focused simply on the policy project of making specific laws work better for particular groups or interests. She urged instead that we explain “how the different experiences of law become synthesized into a set of circulating, often taken-for-granted set of understandings and habits” that people hold, and in turn explain “the relationships among [people’s legal] consciousness and processes of ideology and hegemony.”118 Here I have tried to show how Uber drivers’ suspension of disbelief about the legality of what Uber is offering them bears a relationship to the firm’s hegemony. Under the suspension of disbelief, significant risks are shifted to the worker that the firm will only partially mitigate if they materialize: paying tickets for unlawful pickups, but not being able to eliminate license points; covering “on trip” accidents but not “off trip” ones, which will be denied by insurance companies under personal policies because they occurred in the process of doing commercial activity, which may result in the driver’s policy being cancelled or, if the driver lied in the process of trying to make a claim (as several in this study did), prosecution for insurance fraud.

Let me be explicit: the assumption of risk by users under these conditions, as a consequence of ignorance that might have been cleared up through regulation, or of a firm-encouraged suspension of disbelief in relation to the legality of the activity, serves the profit-generation interest of the firm. Drivers’ assumption of those risks under this legal consciousness as part of the work process, no matter how little or much they work, is what constitutes them as a digital working class.

Conclusion

“You talk as if a god had made the Machine,” cried the other.
“Men made it, do not forget that.”

—E. M. Forster, The Machine Stops (1928)119

Uber has done something truly “magnificent” in its less than a decade of existence, if we focus on the Latin root of the word, magnus, meaning great, and link it to a related word, magnify, meaning to increase in significance, or intensify.120 Since its founding in 2009, the company has expanded its operations to seventy-five countries, and in the last quarter of 2016 it generated $6.9 billion in transactions, an increase of twenty-eight percent from the prior quarter, and was valued at $69 billion by investors.121 Driving this rapid expansion of both revenue and valuation was Uber’s rapidly expanding number of users, both drivers and riders. They made Uber’s rapid growth possible, while the firm remained “thin” by traditional organizational standards (it has 12,000 corporate employees). In large cities like London, Uber riders downloaded its software at a rate of thirty thousand people per week in 2016.122 By the end of that year, it had forty million monthly active users.123 Uber drivers showed a similar growth rate. By the end of Uber’s fifth year in service, in 2014, there were more than 160,000 U.S. drivers “actively partnering” with the firm (providing at least four trips to passengers during the prior

In 2015, the number of U.S. drivers more than doubled, to 400,000, and there were 1.1 million drivers globally. In early 2015, the *Boston Herald* reported that Uber had ten thousand drivers in the Boston area, its sixth largest market in the U.S. There were just over 1,800 licensed taxis in Boston at that time, and 1,200 in neighboring Cambridge. Later that year, the company marked the end of its fourth year operating in Massachusetts, and sent a congratulatory email to its “driver-partners” noting that forty-five thousand of them had given twenty-eight million rides to 1.75 million riders since 2011, and two million rides in a single month alone.

Massachusetts’ total population is 6.75 million, for comparison.

Also in 2015, Uber was subject to fifty lawsuits filed in U.S. federal courts. Lyft was sued one-third as much, and Airbnb was subject to five federal suits. Uber retains today nearly two hundred in-house lawyers, making its legal team larger than half of the four hundred largest law firms in the United States. Some of the lawsuits have been the result of its driver recruitment policies. When Uber expanded its workforce to people who did not already possess cars through its “Vehicle Solutions Program,” it enlisted automobile retailers and leasing and rental companies as “partners” who offered installment payment contracts to drivers. Uber advertised “a car that fits your budget” with “affordable weekly payments,” and “no mileage caps,” for which “all credit levels

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In January 2017, Uber paid $20 million to the Federal Trade Commission to settle a suit charging it with substantially misrepresenting the terms of these leases and loans to drivers, and misrepresenting their average earnings, which was important information for deciding whether to take on an installment contract. In its court filing, the FTC identified Uber’s need for a large and expanding driver population. In a press release announcing the settlement, it indicated that Uber’s misrepresentation of vehicle lease and purchase terms was part of the strategy by which it “recruited prospective drivers.”

Continuously adding drivers was necessary not only to continue to deliver quick service (Uber aimed for pickup times under five minutes), but to compensate for an annual driver turnover of almost fifty percent, and by some estimates much higher. This rate is atypical for taxi and livery drivers, but not unusual in part-time work, and understandable on the basis of drivers’ experience of the working conditions described in Chapter 1. Uber compensated for this turnover by offering drivers who did not already possess cars access to auto loan and leasing programs, and by offering other incentives such as cash bonuses for new driver sign-up and referrals by existing drivers. In 2014, leaked financial data suggested the large marketing costs that this kind of continuous driver recruitment entailed. A leaked spreadsheet listed marketing as twenty-five percent

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129 Email on file with author, June 15, 2016.
of Uber’s expenses for one quarter, consuming seventy-five percent of its revenue.\footnote{\textsuperscript{133} Sam Biddle, “Here Are the Leaked Internal Documents that Prove Uber is a Money Loser,”\textit{Gawker} (Aug. 5, 2015) http://bit.ly/IIXEuFm (accessed Aug. 9, 2017).}

Similar to its misrepresentation of auto loan and lease terms and driver earnings, Uber’s misrepresentation of its legality was important to convening its workforce. It offered its drivers the chance to make money doing taxi work while avoiding fingerprinting, getting a special license, registering a business, or obtaining commercial insurance, which were all parts of the non-breached livery and taxi regulation that was law during the five years that Uber operated in Massachusetts prior to the 2016 “transportation network company” legislation described in Chapter 4. Encouraging drivers’ “suspension of disbelief” in the legality of this activity is one of the things that I have argued constituted Uber drivers as a “working class,” in Chapter 5. Uber drivers do a lot of work, particularly in regards to insurance companies, to walk the line between suspending their disbelief in the legality of what they are doing in order to do it anyway, and knowing that in certain respects they need to take active measures to conceal it, such as in regards to insurance companies. When drivers do encounter a sanction, the firm exploits part-time drivers’ lack of knowledge about the ride-for-hire industry and its regulations and generates cognitive estrangement for the drivers via the factual reporting of falsehoods, such as by “supporting” citations through reimbursement, as though that does not somehow signify a breach of the law.

Combined with the deskilling enacted on car-and-driver transportation by g.p.s. routing software, breaching the regulatory system and cultivating drivers’ suspension of disbelief made it possible for Uber to get large numbers of people who were previously unlikely to have become taxi or livery drivers under existing legal requirements, to take
up work with the same essential characteristics (picking up strangers and driving them where they wanted to go for money) by becoming UberX drivers. In this manner, it was able to convene a large population of part-time, casualized drivers, of whom more than half worked only between one and fifteen hours per week. This created the typology of the part-time, casualized ride-for-hire driver and the dynamic of a reserve labor population within the workforce. The case of Logan Airport, described in Chapter 2, proves the point. At the airport, regulations held far longer than they did in the city at large. These regulations required for-hire vehicles to be either medallioned taxicabs or livery-plated vehicles, and the drivers of these vehicles had to be registered with the port authority, pass a background check, receive a badge, and know how to follow a procedure that required waiting in a designated lot until fares came in and obtaining a ticket that gave access to the terminals for fifteen minutes. These regulations blocked the emergence of the part-time, casualized driver type at the airport. In the absence of this reserve labor population, full-time drivers staged a successful “rate strike” against the Uber algorithm in the spring of 2016, increasing the price multiplier for a few hours. This was followed by a negotiation at the Uber office that produced a guaranteed minimum fare for UberX drivers leaving the airport. When the airport was subsequently opened to Uber drivers without livery plates in 2017, the striking drivers’ leverage disappeared.

By early 2017, the value of a taxi medallion in Boston was one-tenth of its price before Uber entered the market; in Chicago, forty percent of all taxicabs were determined to be inactive after not having picked up a fare in a month; and in New York, three credit

unions specializing in financing taxi medallions were facing bankruptcy.\textsuperscript{135} Few people wanted to defend the monopolies associated with the medallion system, which enriched those who consolidated large numbers, giving owners great control over drivers who leased the cabs, and also leading to capture of legislators and police who regulated the industry.\textsuperscript{136} A 2015 article in the \textit{Boston Globe}, advocating for Uber and Lyft, derided the taxi cab medallion system as a “government[] extortion racket” and “an oligopoly.”\textsuperscript{137}

Hostility towards regulation has been a general principle of American conservatism since at least the Regan Administration.\textsuperscript{138} Uber’s spokespeople hold that view regardless of political affiliation. Bradley Tusk, a lobbyist working on Uber’s behalf, told the \textit{Financial Times} in 2016 that Uber was “ultimately such a more democratic system” than taxi “cartels,” because it promoted “economic freedom.”\textsuperscript{139} Also in 2016, Eric Holder, a member of Barack Obama’s cabinet subsequently hired by Uber,

\textsuperscript{135} Jeff Jacoby, “Why were cabs ever limited in the first place?” \textit{Boston Globe} (Jul. 19, 2015) A.11.

\textsuperscript{136} Prominent in Boston’s history of taxi medallion consolidation are Frank Sawyer and Edward Tutunjian. Sawyer was founder and owner of Checker Cab, controlled the company in Boston for sixty years, and became notorious for bribing legislators. After Sawyer’s death in 2000, Tutunjian bought one hundred and sixty of Sawyer’s medallions. By 2013 (when Uber entered the Boston market), he owned almost four hundred medallions and controlled twenty-one percent of Boston’s billion-dollar taxi industry. Tutunjian came under federal criminal investigation after drivers who leased cabs from him reported being forced to pay bribes in order to obtain vehicles to work their shifts. In another lawsuit, Tutunjian had his assets frozen after drivers represented by Shannon Liss-Riordan (who has since led several Uber driver lawsuits) claimed they were wrongly classified as independent contractors instead of employees. A judge deemed the drivers likely to be awarded hundreds of millions of dollars in unpaid wages and benefits, and froze Tutunjian’s assets as he tried to sell off more than half of his medallions before the case was finally determined. Daniel Golden, “Driver of hard bargains since founding Checker Cab 70 years ago, Frank Sawyer has given headaches to three generations of Boston’s leaders,” \textit{Boston Globe} (Mar. 19, 1989) 16; Chris Berdik, “Fare Game,” \textit{Boston Magazine} (September 2004) \url{http://bit.ly/2uKDXV0} (accessed Jul. 22, 2017); Thomas Farragher and Jonathan Saltzman, “Amid criminal probe, taxi owner looks to sell,” \textit{Boston Globe} (Sept. 16, 2013) A.1.

\textsuperscript{137} Jeff Jacoby, “Why were cabs ever limited in the first place?” \textit{Boston Globe} (Jul. 19, 2015) A.11.

\textsuperscript{138} In one of his first official acts in 2017, the newly-elected Republican president signed an executive order mandating that federal administrative agencies “identify at least two existing regulations to be repealed” for each new regulation promulgated. “Presidential Executive Order on Reducing Regulation and Controlling Regulatory Costs,” \textit{The White House} (Jan. 30, 2017) \url{http://bit.ly/2jOGnL} (accessed Jul. 22, 2017).

sent letters to several legislators explaining his opposition to state-mandated driver fingerprinting (the standard imposed on taxi drivers) describing it as among “regulations that impose unnecessary burdens on individuals reentering society” that have a disproportionate impact on minorities.\footnote{David McCabe, “Eric Holder goes to bat for Uber,” \textit{The Hill} (Jun. 15, 2016) http://bit.ly/1WOXqMs (accessed Jul. 24, 2017).} In 2014, David Plouffe, President Obama’s former campaign manager, joined Uber to help it expand in new cities. He told the \textit{New York Times} that Uber was “on an inexorable path to progress,” with a “mission” of “making transportation safer...providing jobs...[and] cutting down on drunk and distracted driving.”\footnote{Mike Isaac, “Uber Hires Ex-Adviser to Obama,” \textit{New York Times} (Aug. 20, 2014) B1.} These appear as less business objectives than social goals, and the “Uber Story,” an origin narrative on the firm’s website, identifies the company’s business with—or even as—social progress. It defines Uber’s goal as to “connect people” across “borders, cultures, and languages,” with the effect of “changing the logistical fabric of cities around the world.” “Whether it’s a ride, a sandwich, or a package, we use technology to give people what they want, when they want it....we help strengthen local economies, improve access to transportation, and make streets safe.” The story portrays Uber as a well-functioning and critical public utility: “When you make transportation as reliable as running water, everyone benefits.”\footnote{Uber, “Finding the way; Creating possibilities for riders, drivers, and cities” (Dec. 1, 2016) http://ubr.to/2tzMk6v (accessed Jul. 22, 2017).} It is an ironic comparison, as it is unlikely that an Uber model—regulation through the market—would be widely popular as concerns the water supply.

In his essay, “Computerization and Social Transformation,” Rob Kling described this kind of rhetoric as accompanying all the “major campaigns to computerize” that industrial societies embarked upon beginning in the nineteen-sixties after the invention of
the integrated circuit, demonstrated in 1958 and patented in 1959. These campaigns were buoyed by the “energetic prose” of “technologists and futurists” who predicted major social changes “framed with a particular brand of utopian thought” that Kling called “technological utopianism.” Since that time, Silicon Valley’s entrepreneurs (notwithstanding several bursting tech bubbles) have promised to architect social benefits, through technology, as wide-ranging and important as empowered individualism, collaborative community, ecological and social justice, and spiritual communion—the vision of founders, software engineers, and their financial backers, rooted in a kind of “digital utopianism,” and fundamental to the shift from “counterculture to cyberculture” that occurred in Silicon Valley from 1960 to 1990, according to historian of computing Fred Turner.

Microsoft Research Lab scholars danah boyd and Kate Crawford note that the portrayal of electronic computing as having “mythological dimensions” triggered not only utopian, but dystopian rhetoric. This is certainly true as concerns Uber. Books like Steven Hill’s Raw Deal describe the firm as “screwing” American workers. Izabella Kaminska writes in the Financial Times that Uber is “subtly turning its private taxi service into an economized carpool experience and...[ultimately] into a bus service,” and “hoping customers wouldn’t notice” while it reinvented public transportation on a

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privatized model. Uber has been called a “cash-burning machine” and a “charity case in disguise,” after reports that it subsidizes 59% of the actual cost of passengers’ trips. It has been called “Randian,” and described in reference to Ayn Rand’s philosophy of resistance to society as a threat to “man’s right to exist for his own sake,” almost too many times to count. It has been analogized to both “modern day sharecropping” and called a “pay-to-work” scheme. In 2013, the online industry publication Tech Crunch included Uber among other “gig economy” firms in an article that bore the headline, “Meet The New Serfs, Same As The Old Serfs,” showing peasants thrashing wheat before an overseer holding two large sticks.

This clash of utopian and dystopian rhetorics about Uber, and the concurrent large volume of legal disputing concerning it, suggests that we are experiencing another a major shift in fundamental social organization that is linked to computerization. Crime and innovation can both be explained as “norm violations,” said sociologist of science Robert Merton, and science and technology studies scholars have dedicated much work

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to legal disputing in relation to technology and its uses. These disputes are not simply about technical matters, but about social organization, because machines exist within the social worlds of human beings. We can conceive of these interactions, following Latour, as actually networks that include people, ideas, and things. I have shown that within the network of triangulated transacting, machine protocols, like Uber’s algorithm, interact with “human protocols” such as norms, custom, tradition, and law. I have focused on what happens along the axes of triangulated transacting, and what forms of authority are exercised there. This has heeded both a call in STS to move beyond the production-consumption junction to understand how technologies are socially-constituted among a range of actors, and has served as a critique of a prevailing way of describing Uber, and similar firms, as simply producing a “platform” on which users interact primarily with each other.

Law is perhaps the most “rationalizing” of all the things and people and ideas that externally interact with technology, which it must order in order to be effective. Rationalization occurs when something to be regulated is abstracted and generalized; written down in legislation and implemented by regulatory codes. Often at the end of the process, what has been rationalized is no longer recognizable as the ordinary thing encountered in the world, which was what Max Weber critiqued about the logical-rational mode of domination in modern societies, when he called it an “iron cage.” Law’s rationalizations—the lists it makes of things—are an information “technology” that

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disciplines.

For example, a section of the Massachusetts code for registering (creating a list of) motor vehicles defines a “Commercial Vehicle” as “[a]ny vehicle which has five or more wheels on the ground.”158 It seems absurd without interpretation. This is the reason that, accompanying such rationalizations, are bodies to interpret and administer them (in this case, a Department of Motor Vehicles). These bodies focus expertise on the sector of activity to be regulated, and delineate rules to be enforced by what Weber called the “special staff” of the society. Massachusetts was one of the earliest regulators of the automobile, creating an “Automobile Department” in 1903 to rationalize problems of traffic congestion; shortly after, it became the first state in the nation to register vehicles.159 Boston’s taxis are licensed under a law from 1930, but their regulation has been rationalized since the middle of the previous century by the Hackney Carriage Unit, the oldest specialized unit in the Boston Police Department, and founded the same year it was (in 1854).

Uber’s approach to regulations like these has been to use its software to go around them entirely. It has been hugely successful in doing this—not only in the United States, but also around the world.160 It has attempted regulatory breach in its deployment of

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160 Only one country—Denmark, a site of follow-up fieldwork to this thesis research—has successfully restored a preexisting regulatory system breached by Uber’s triangulated transacting. The Copenhagen City Court defined Uber as an illegal “taxi service,” imposed taximeter and seat sensor requirements on Uber vehicles, and limited the number of drivers it could enroll. Saying it was unable to operate under these conditions, Uber ceased making its app available in Denmark at noon on April 18, 2017, leaving only its data centers operative in the second largest city, Århus. Jon Henley, “Uber to shut down Denmark operation over new taxi laws,” *The Guardian* (Mar. 28, 2017) http://bit.ly/2nK8LIn (accessed Jul. 17, 2017).
autonomous vehicles,\textsuperscript{161} though not the UberAIR helicopter service it began to offer in 2015.\textsuperscript{162} It is actually a good thought experiment to consider why not. What is the difference between UberAIR and Uber’s car services in relation to regulation? The first answer that comes to mind is that air travel is more dangerous than driving: an accident is far more likely to result in catastrophic loss, and one would have to be crazy to think air travel should not be regulated or its regulatory system breached. But that is not the answer. The answer is that pilots' licenses, and helicopters, and air traffic control systems are not part of “everyday life” as are drivers’ licenses, automobiles, and smartphones, and so there is an absence of a population of casualized, part-time laborers who can be mobilized under the suspension of disbelief to do the regulatory breach work.

It is helpful to remember why regulatory bodies emerged so widely across industrializing nations during the twentieth century as they were created by governing bodies at all levels, municipal, state, national, and international in response to the uncertainties of industrial transformation. At the beginning of the twentieth century, the industrial workforce was beset by illness and injury, inclusive of child laborers,\textsuperscript{163} and

\begin{footnotesize}
\begin{enumerate}
\item Uber rejected the California Department of Motor Vehicle’s interpretation that its test vehicles were autonomous, comparing them instead to Tesla vehicles that the DMV had already permitted because Uber’s vehicles also had a human driver present to intervene in case of emergency. The important point is how the firm will continue operating under its own rationalizations while rejecting those of technical authorities empowered by the law to make them. David Pierson, “Uber defies DMV’s order to cease self-driving car program in San Francisco,” \textit{Los Angeles Times} (Dec. 16, 2016) http://lat.ms/2htYl7F (accessed Jul. 17, 2017).


\item Particularly in those industries for which they were physically well-suited, such as mining and textile production, the use of child labor was extensive. American Academy of Political and Social Science, “Child Employing Industries,” \textit{Annals of the American Academy of Political and Social Science}, Vol. 35 and Supplement (Mar. 1910).
\end{enumerate}
\end{footnotesize}
injurious, even fatal, workplace disasters were common. An infamous example is the 1911 fire at the Triangle Shirtwaist Company in central Manhattan, a building packed full of sewing machines running hot near piles of flammable textiles. One hundred and forty-one garment factory workers died; the New York Times headline read: “Street Strewn with Bodies; Piles of Dead Inside.”164 Photographer Jacob Riis’ “exposure journalism” photographed conditions in late nineteenth-century New York slums, generating his 1890 book, How the Other Half Lives, a call for housing reform on behalf of the new urban workforce who had transitioned to the cities from the farms, where by 1920, only 11.7% of the population remained.165

There have been few defenders of the system of scarcity created by regulation of taxicabs in the manner we recognize today—through the medallion system—but that system dates to the time of the New Deal and is underpinned by the historical realities of that time. The number of medallions in the cities of Boston and Cambridge is tied to population levels, ostensibly to balance taxicab traffic volume against that of other forms of transportation: personal vehicles, bicycles, and public transportation. But historically, the reason was to limit the volume of horse and carriage “hackneys” on the streets during the Depression, when out of work people of all kinds sought an income by offering rides, not so differently than Uber today. They externalized several undesirable effects to the urban population: horses that deposited over a million pounds of manure per day on the

city streets. In New York, this resulted in a determination by regulators that hackney carriages were public utilities, and in 1909 it created standardized the “taximeter” in the Bureau of Licenses; in 1913, it allocated public hack stands for carriages to wait, and passed legislation to prevent holding companies and limited partnerships from being used to avoid liability for harm done to passengers and pedestrians.166

**Limitations of the Thesis Research and Directions for Future Studies**

A limitation of this research was that it did not study Uber “users” symmetrically, because riders were not sampled and interviewed. This is work that should be done. I suspect, following Walter Benjamin, that consumers are attracted to services like Uber not only because it is cheaper, but because it seems more “authentic.” Uber has individualized activity that was for long prior periods standardized and made uniform by regulation. And just as capitalism’s boom-and-bust cycles have undermined people’s sense of “authenticity,”167 correlative do the regulatory effects that stem from the apparatuses of state administration that grew up to counterbalance the excesses of capitalism by regulating its uncertainties (risks). In taxi driving, these regulatory effects take the form of standardization: uniformly marked vehicles, tests and licensing. Derivatively, this produces a more standardized workforce. Requiring drivers to go through regulation, which takes time and money, makes it unlikely someone will take up the job casually, thereby causing drivers to be a more homogenous working class, with less in common with their riders in terms of economic status, and more likely to be of a

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minority race.\textsuperscript{168} (Requiring livery services to register as businesses has a similar homogenizing effect on the driver population: drivers wear suits, but largely do the work as a full-time occupation.) Other effects of taxicab regulation quite openly communicate the possibility of danger that exists in the work: bulletproof partitions must be placed between front and back seats, unless all the drivers of a vehicle agree to waive the requirement, and driver identification and emergency numbers must be visibly posted. I suspect that even a simple rider survey would uncover that these effects interfere with the riders’ sense of “authenticity” in the experience, as compared to taking an Uber ride in someone’s personal vehicle.

Another limitation of the account I have given of Uber’s digital working class is that race appears unevenly in it. Part of the reason is that my sample size was too small for me to generalize about Uber drivers’ of particular races or ethnicities, though I did try and make race, ethnicity, or national origin apparent where it seemed relevant in the account of a particular driver. What I hypothesize, based on the differences I observed between the group described in Chapter 1, consisting largely of part-time drivers and racially and ethnically mosaic, and the group described in Chapter 2, comprised entirely of full-time drivers and racially and ethnically homogenous, is that the full-time drivers, who constitute the smallest percentage of the workers but do most of the work, reflect the demographics of the taxi and livery driver population and show a higher concentration of minorities and immigrants. Krueger’s and Hill’s study, which is the largest one I know of

\textsuperscript{168} Comparing data from a 2012 and 2013 survey of 601 Uber drivers to Census Bureau data on taxi drivers, Uber Drivers are 40.3% white (taxi 26.2%), 19.5% black (taxi 31.6%); 16.5% Asian (taxi 18%), 5.9% “other non-Hispanic” (taxi 2%), and 17.7% Hispanic (taxi 22.2%). Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” Working Paper No. 587, Princeton University, Industrial Relations Section (Jan. 22, 2015) http://bit.ly/1E6ySyL (accessed Jul. 19, 2017) Table 1, 8.
Uber drivers, compared nationwide demographic data for Uber and taxi drivers. They showed that 36.9% of Uber’s drivers have a college degree, compared to 14.9% of taxi drivers, and 40.3% are white and non-Hispanic, compared to 26.2% of taxi drivers. Yet this tells us nothing about the breakdown within the individual categories of the 58% of drivers who work 1-15 hours, the 30% who work 16-34 hours, the 9% who work 35-49 hours, and the 4% who work over 50 hours.\footnote{Compare Table 1 to Table 2 in Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States,” Working Paper No. 587, Princeton University, Industrial Relations Section (Jan. 22, 2015) http://bit.ly/1E6y5yL (accessed Jul. 19, 2017) 8, 18.} Allowing the large number of part-time drivers to swamp out the racial and ethnic distinctions of the small full-time population I think is probably international (saying so is not meant to disparage the researchers, but to note that the data came from Uber, and specific racial breakdowns by amount of driving may not have been provided).

Uber has only been forthcoming with its data to specific researchers—economists—and their studies of work habits and driver demographics appear largely aimed at understanding whether, and how, and to what degree Uber drivers are \textit{homo economicus}. Apart from Krueger and Hill, cited several times here already, is Michael Sheldon, “Income Targeting and the Ridesharing Market.”\footnote{Michael Sheldon, “Income Targeting and the Ridesharing Market,” \textit{Uber} (Feb. 18, 2016) http://bit.ly/2bUN8sa (accessed Jul. 22, 2017).} Sheldon is an Uber employee who focused on driver behavior, concluding that for a period until they gain more experience, drivers tend to be focused on income goals that lead them to behave counterproductively (they work longer hours when driving is less lucrative). Despite that taxi drivers have already been shown to do the same thing,\footnote{Colin Camerer, Linda Babcock, George Loewenstein, and Richard Thaler, “Labor Supply of New York City Cabdrivers: One Day at a Time,” \textit{Quarterly Journal of Economics} (May 1997) 407-441.} and that Uber actively encourages the behavior by asking drivers why try and turn off the app if they are “sure
you want to log off,” indicating how close they are to some monetary increment, economists are skeptical about Sheldon’s finding. The New York Times quoted one who “wanted to withhold final judgment pending more data and analysis” about Uber drivers: “I think I’m coming around to the belief that people tend to leave money on the table when there’s no question of survival, or market forces pushing them toward getting that money.”\(^{172}\) As a social scientist who has entered the field, however, this is not surprising to me. Clearly we need to generate interdisciplinary conversations, and read each others’ work: so that we can usefully combine data about the people who do the work, gathered by ethnographers who have closely observed and spoken with them, with the patterns that economists are detecting in the “big data.”

Further, the accounts of two black drivers struck me for containing the language of “the hustle,” something scholars of the black experience have described as a racial dimension to neoliberalism that is absent from major works critiquing it.\(^{173}\) The central idea is that black workers are more likely to articulate a rationale for why work (or overwork) is noble or necessary (or both). It is a central thread in popular black culture; as, for example, in the last line of “Formation,” a protest song by Beyoncé Knowles that is focused the black experience of Hurricane Katrina and its aftermath. To this, Beyoncé says: “your paper is your revenge.” “Paper” here refers to money, and having it is portrayed as not only a remedy for the depressed economic condition of the black community, but “revenge” against the dominant group in society whose biases are so pervasive as to generate structural racism that reaches far into black people’s experience


\(^{173}\) Lester K. Spence, Knocking the Hustle: Against the Neoliberal Turn in Black Politics (Brooklyn: Punctum Books, 2015).
of America, such that even a “natural” disaster has different consequences depending on race.

Political scientist Lester Spence’s critique of the hustle is that when people articulate it as a rationale for why work or over-work is reasonable, they are unlikely to advocate for structural changes (e.g., an increase in the minimum wage). I heard this in the account of Lewis, a black man in his early thirties who was a security guard working full-time, taking drama classes on-and-off, and driving for Uber part-time. Uber, Lewis said, was helping him “accomplish what I’m trying to accomplish,” which was to go to LA and become an actor. Yet on Friday and Saturday nights he was typically taking only a “nap” between ending Uber driving at 2 a.m. and going to his other job at 6 a.m.; for this reason, he was not in drama classes “at the moment.” Still, Lewis justified this as a noble hustle: “I do get sleep, uh, sometime, that’s why I said I think I sleep too much. It’s just the days I don’t really sleep that much is Friday, Saturday—’cause those are the money days. Average day might be different, but those are money days.” Lewis justified his extra work as follows: “Cause you know, we live in a competitive world where the younger you are, the better it is. Um, to get a job, you know….it’s how much you work, that’s all it is.” He did not mention the overall economic conditions that made adding more jobs necessary for him.

Jimena, also black, said something similar when explaining why she was proud to have two jobs in her low income neighborhood: “I don’t need a man to take care of myself….They are like ‘look at you with your two jobs,’ and I’m like ‘yeah, look at me, why you living off unemployment? How do you do that? Why do you allow yourself to do that?’” Uber gives this rationale in its marketing, saying most drivers are part-time:
smartly taking on extra work and having fun while doing it. A driver recruitment commercial recently used the explicit language Spence pointed out to describe how drivers can go from “earning, to working, to chilling, at the push of a button:” they are “getting their side hustle on.”174 Uber uses portrayals like these to pressure legislative bodies not to regulate the work too heavily, because people need easy access to a “side hustle” in this economy. This is the same argument made against raising the minimum wage. Vice presidential candidate Sarah Palin arguing against raising the minimum wage, for example, to provide fast food workers with a living income: “We believe in an America where minimum wage jobs they’re not lifetime gigs they’re a stepping stone.”175 Notably, drivers who are using Uber as full-time work rarely articulate this narrative of empowerment about Uber. They do not see Uber as a step on the way to something else. Quite to the contrary, many of the full-time Uber drivers, particularly those at the airport who had experienced it when it was better paid, described it as work to which they felt they would be forever bound: “slavery.”

David Plouffe, as a spokesperson for Uber, commented that Uber is “saving the middle class.” Uber’s marketing and lobbying suggests that the manner of this “saving”—by adding work on top of work—is empowering of workers because they work “on demand,” at times of and to the extent of their choosing. The reality is that wages and incomes were lower in 2012, when Uber was just about to debut UberX in Boston, than they had been in over a decade. In the historically weak expansion following the 2001 recession, hourly wages and compensation failed to grow for either high school

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or college educated workers, and, as a consequence, despite substantial productivity growth (increased by people like Lewis adding jobs on top of jobs), the median incomes of working-age families had not regained their pre-2001 levels; Uber emerged at the end of what economists called a "lost decade" for not only poor Americans, but for low, moderate, and middle-income American households, in which "key living standards benchmarks such as media incomes and wages have either posted zero or negative growth since the early 2000s."\textsuperscript{176} This is to say nothing of the prior "long period of growing inequality" from 1979 until the recession that began in 2007: a quarter century of wage stagnation and slow income growth in which "rising wage, income, and wealth inequality funneled the rewards of economic growth to the top."\textsuperscript{177} These were the macroeconomic conditions under which forty-five thousand people in Massachusetts took up, effectively, taxi work—becoming Uber drivers from 2011 until 2015.

This group faced none of hurdles of regulation that attached to taxi and livery work because Uber was able to use the affordances of a machine—the digitally-networked picket computer—to convene the market outside the regulatory system. The premise is that its technological thing is so good as to render regulation unnecessary; and, indeed, the longer that regulatory breach endures, the more unnecessary regulation appears. This thesis has shown, however, that this is mostly an appearance. The uncertainties for which regulation was attempting to control have been simply shifted to the workers. This risk-shifting is held in place by the dynamic of the reserve labor population. Economists already noted this dynamic as a feature of unemployment during


the period following the recession of 2001: “Because a large pool of potential workers who are not currently employed provides extra competition for incumbent workers employees’ bargaining power is sharply reduced during times of weak labor demand. This reduced bargaining power results in depressed rates of growth of hourly wages.”

This research has shown that dynamic can persist even in periods of low unemployment, where work is split among several jobs that are taken up at the same time consequent to software that allows them to work “on demand.”

The conditions of work and low pay produce large numbers of part-time drop outs among the Uber workforce and full-time worker dissatisfaction, as this thesis has shown. These effects appear not to matter to Uber’s overall ability to offer its service; it continues to expand the worker population by facilitating the take-up of auto loans, leasing, and car rentals for work periods as brief as one hour. Uber props-up these driver acquisition costs, and compensates for what some analysts says are extremely large overall losses, with new infusions of venture capital.

Here we see how both the utopian and dystopian rhetoric about Uber obscure the real issue: that businesses bear a fiduciary responsibility to their shareholders, who are not the workers, and regulators bear a responsibility to civil society, which includes maintaining minimum standards for workers. “Civil society” comes from the Latin


\[179\] Since February 2017, drivers in the Boston area seeking to earn money using Uber, but who do not have a personal car, have been able to rent one by the hour from Zipcar, a unit of Avis Budget car rental, for twelve dollars an hour and a seven-dollar monthly fee. The *Wall Street Journal* noted: “At the special rental rates, it could be tricky for Uber drivers to bring in much of a profit.” Greg Bensinger, “Uber Taps Zipcar to Put More Drivers on the Road,” *Wall Street Journal* (Feb. 8, 2017) http://on.wsj.com/2kt4W21 (accessed Jul. 24, 2017).

civilis, meaning citizens; and Massachusetts is explicitly a *commonwealth*: a group of people united by a common interest.\(^{181}\) Democratic capitalism requires both market and state. Yet Izabella Kaminska, of the *Financial Times*, describes Uber’s “blurring of political processes with business viability:”

[N]obody at Uber seems to understand the difference between a political process and a market process. What they want is for the law to bow to “consumer demand” for cheaper taxi services by granting Uber the right to ignore collective regulations on worker rights [and ride-for-hire laws]....If the population’s top political priority really was a cheap private car service rather than a new public transport infrastructure, political parties would be putting this issue at the top of their political manifestos. The fact that they don’t suggests society as a whole would never endorse policy which campaigned for cheap taxi services to be funded with lower worker living standards.\(^{182}\)

This is another point that E. M. Forster’s protagonist makes. “The Machine is much,” he says, “but it is not everything.” If the history of early industrialism and workers’ experience of it has taught anything, it is of the truth that civil society and business must jointly, but separately, manage the workplace.

Civil societies may want to achieve things rendered substantially more difficult because of the power of triangulated transacting to disrupt regulatory systems. The triangulated transacting model goes far beyond Uber and transportation network companies. Google, Facebook, and eBay, like Uber, have each been subjected to legal action trying to reclaim them within the regulatory system. The defense that each firm has offered is that it is not engaging in the underlying activity attempted to be regulated. Thus, Uber has claimed in a series of lawsuits that it is simply a “lead generation platform” for drivers, and is not in the business of providing car service to riders.\(^{183}\)

\(^{181}\) Constitution of the Commonwealth of Massachusetts (1780), Part II.


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Google, similarly, has claimed it is not in the business of linking users who produce information to those searching for it, but is exercising its own corporate right to freedom of speech. eBay has been sued for facilitating the sale to one user of counterfeit goods by another; and the German government recently took action against Facebook for facilitating the radicalization of users by other users. As a defense, all of these firms disclaimed the bottom half of the triangle—the action between the users—that is linked to them by their proprietary software that facilitates triangulated transacting among their great mass of users. The words of Facebook’s director of global policy management illustrate the point. Pressed on the question of whether Facebook would alter its algorithms to either minimize the exposure of people to radicalizing material oriented towards terrorist activity, or make sure they received exposure to non-radical content, she said: “we’re not content creators; what we try and do is help the people who are creating good content...make their content succeed on Facebook.”

Here we come to the heart of the matter. It is Facebook’s business to keep its users active on the platform, irrespective of the content they seek. User activity is the most important basis of valuation for a thin organization relying on triangulated transacting, precisely because it does not have much else of value (software and servers). It values the activity of its users, their eyes on the screen, and the data they produce.


185 Rejecting the idea that the only important action happens between the “users” (which I have critiqued by rejecting the term “platform” in favor of seeing these firms as triangulating the action), the German Justice minister Heiko Maas said: “Social-network providers are responsible when their platforms are misused to propagate hate crimes and fake news.” Stefan Nicola and Birgit Jennen, “Germany Gets Really Serious About Fake News on Facebook,” Bloomberg (Apr. 5, 2017) http://bloom.bg/2trwPJB, (accessed Jul. 23, 2017).

through their “clickstream.” This is why Facebook has encoded a pop-up box that asks you, when you try and close a browser window in which it is open, “are you sure you want to close this window?” It is why the Apple iPhone applications display, by default, a red circle with a number in it when there is something new for you to do: a message to check, a phone call missed, an update to download. These design choices are based on robust behavioral science that gets a willing and voluntary participant to become involved in “asymmetric collusion” with a firm that is much more powerful than they are within the human-machine pair.  

Uber uses these techniques; and they work, as evident in field data from drivers who spoke about their automatic responses to the sound the software used to announce a ride becoming available. “Gamification” of the Uber work experience became even more explicit after my field research concluded, when Uber debuted the “Boost” and “Quest” software later in 2016. John, the strike leader, scoffs at this idea of “playing a game to make a living,” which has been described by a new conceptual term as “ludocapitalism.” Economists have taken up the question of how drivers play the game as a fascinating empirical question concerning valuation: how “the driver’s expected schedule is determined by the pattern of expected payouts from driving and the weekly pattern of the driver’s reservation wage...shocks to their reservation wage.

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or shocks to their expected payouts.” 190 We see here the driver abstracted as *homo economicus* who is making “labor supply decisions on an hour-by-hour basis” based on pay, 191 for which I see no evidence in the data obtained in this study by speaking to actual drivers in the field.

We should not be surprised by any of this: these are businesses. Their original utopian commitments are often abandoned during acquisitions and in transitions to public stock: most recently, Juno, the much-lauded “driver-friendly” ride-for-hire startup, cancelled its oft-lauded commitment to provide drivers who work thirty hours or more a week with shares in the company, after being acquired. 192

What matters more than noticing that these new technologies are novel in ways that evoke dystopian and utopian visions—which by definition have their reference point in the future—is asking the “old questions” about where power lies in the arrangements of which these technologies are part. Fortunately, these questions we well know how to ask after a century of experience with industrial capitalism and the worker organizations accompanying it. The field results offered in this thesis go some distance in providing answers to those questions. An important insight in this regard has been to notice that, in triangulated transacting, the production-consumption junction does not solely, or most

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191 “We assume that drivers form rational expectations regarding the expected wage and make labor supply decisions on an hour-by-hour basis by comparing their own reservation wage to the prevailing expected wage.” To choose flexible hours, the authors write, “is not the only or even most important source of flexibility provided to Uber drivers. Another important source of flexibility is the ability of an Uber driver to adapt on an hour-by-hour basis to changes in demands on his/her time.” M. Keith Chen, Judith A. Chevalier, Peter E. Rossi, and Emily Oehlsen, “The Value of Flexible Work: Evidence from Uber Drivers,” *National Bureau of Economic Research, Working Paper* 23296 (March 2017) [http://www.nber.org/papers/w23296](http://www.nber.org/papers/w23296), (*accessed* Jul. 20, 2017, 41.

importantly, exist between the users, but is construed as there by the firm: in both the
defenses I have recounted above, and, for example, by Uber in its the issuance of the
1099-K tax form, which portrays its role as simply that of a credit card machine: used by
the driver to charge the rider. This has generated the policy recommendation that
regulation be directed, in relation to this new kind of firm, to the *axes* along which
triangulated transacting happens—which substantially means the regulation of software.
Massachusetts’ “Transportation Network Company” regulation fails in this regard;
redefining, instead, the users (driver and rider) in reference to the “transportation
network,” and then defining the firm solipsistically in relation to the users. Definitionally,
it recognizes the three transacting endpoints of the triangle: the firm and its two kinds of
users, but it focuses not at all on the *axes* by which everything important happens: where
the conditions of work between the firm and user 1 are enacted (e.g., by new algorithms
like UberPOOL), where money flows between the firm and both kinds of users (including
the ever-fluctuating relative share of the labor product between the firm and user 1).

Businesses are likely and, more to the point, required by their fiduciary duty to
externalize the risks of their activities to the society that surrounds them. This has been
the basis of much of what Schumpeter so popularly called “creative disruption,”\(^{193}\) the
darker side of which is suggested by examples like the Ford Pinto and Volkswagen’s
emissions test-cheating cars; and by Uber’s requirement that its workers exercise a kind
of “legal creativity” in order to do their work: they must suspend their disbelief that a
firm could so openly allow them to breach the legal system without consequences; they
must figure out what to tell their insurance companies, and what not to tell them; they

[1943]) 81.
must interpret the meaning of Uber’s message: “Please note that we do not support all citations.” What this does to individual workers’ legal consciousness is something that I have shown in the results presented here; what it does to that of the society is something that must be further studied. If we take the example of the rule of law in illiberal societies, where this attitude is common, we should reconsider whether to “celebrate” firms that generate massive amounts of consumptive activity on the basis of a “better-to-ask-forgiveness [than permission] approach to business.”

Uber’s ultimate goal has been to reconfigure people’s consumption habits in relation to transportation by reducing the price of car-and-driver transportation vis-à-vis alternatives such as public transportation. This is the same essential insight that Henry Ford had one hundred years ago as he made production decisions about the low-cost Model T. Uber founder Travis Kalanick has not concealed the fact that the company wants to parlay those new consumption habits into ridership in driverless cars that will be owned by Uber, which will convert it from a triangulated-transacting organization into a traditional firm that owns assets. This de-triangualtion will occur by eliminating the first kind of user, the driver:

The reason Uber could be expensive is because you’re not just paying for the car—you’re paying for the other dude in the car. When there’s no other dude in the car, the cost of taking an Uber anywhere becomes cheaper than owning a vehicle. So the magic there is, you basically bring the cost below the cot of ownership for everybody, and then car ownership goes away.

Uber, if it does end up a profitable company, will have done so based on the work of Uber drivers I encountered in the field: work that far beyond their provision of a service being paid for by riders. Their biggest work of all was of disrupting the regulatory

system, by ignoring things like hackney driver licensing or livery business registration, and commercial insurance; and, by ignoring them, making them look irrelevant: like unnecessary dams in the stream of commerce. This is what happens when people stop obeying the law and police officers stop enforcing it. Financial analysts explain why it would ever be reasonable to operate in this way, and at such a massive capital burn rate—$8 billion since its 2009 founding—without equivalent revenue: “Silicon Valley elites justify the subsidies in the name of monopolistic growth expectations and the building of ‘eco-systems.’ They believe if monopoly status is achieved, profitability will follow naturally from that point.”

But there is a problem with passing civil society functions, like public transportation, over to machines like Uber’s and the companies that control them. Civil society institutions regulate the worlds of human beings in ways that might not reflect market values, but social ones. Such institutions can generate opportunities like one recently described in rural California, where one-fourth of households have no cars, bus service is sparse, and the lack of transportation isolates a community of 7,000 predominantly Latino residents from employment, health services, education, and healthy food. There, raitera drivers serve the role Uber drivers do, for fifty cents a mile. They are about to be formalized in a public-private partnership (not unlike taxi associations) as an electric car service with help from a non-profit, the local mayor (who calls them “indigenous Ubbers”), and the California Public Utilities Commission, which will build charging stations on the road to Fresno, along which the raiteras frequently operate. A

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city will purchase the electric vehicles, and the legislature of California is likely to provide more funding under a policy to set aside cap-and-trade dollars for clean energy in poor communities. “The goal,” Patricia Leigh Brown wrote in the New York Times in June 2017, “is to lower transportation costs, provide a living wage for drivers and reduce pollution,” which is a significant problem in the area due to agricultural pollutants and the operation of tractors and other farm equipment.198 She quoted a state senator as saying: “If the market is left to its own devices, it will not correct the inequities that exist.” Similarly in Austin, Texas, in the absence of Uber’s monopoly, a “plethora of smaller, often homegrown alternatives” grew up to serve the same function (point-to-point transportation) but often with higher driver pay.199

This critique is often made by Uber’s proponents in relation to taxicabs: they are “dirty,” operated by “rude drivers,” “expensive,” and generative of political payola because regulation has prevented the emergence of alternatives. But the messiness and inefficiency of a social process like regulation should not compel us to let technology made by firms control what we used to control ourselves through civil society technologies like regulation. This means that instead of asking for higher wages through social processes like collective or political action, people depend on technologies like Uber to add jobs upon jobs, which is the very reason David Plouffe as Uber’s spokesman in 2014 when he lauded the company for allowing people to use its software “in order to

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199 Austin passed regulations including fingerprinting, which characteristically resulted in Uber (and Lyft) ending their operations in the city, but after the state legislature of Texas (like Massachusetts’) wrote new legislation that superseded the local ordinance, the large firms returned, in late May 2017. “An inglorious return to Austin for Uber and Lyft,” The Economist (May 26, 2017) http://econ.st/2uLcVx4, (accessed Jul. 23, 2017).
get a pay raise that they’ve been denied for years.”

The *en vogue* term in the days of E.M. Forster’s industrialism was *progress*, and it was used as breathlessly as we tend to use *innovation* today. The historian Jill Lepore has critiqued that word, and Clay Christiansen’s concept of “disruptive innovation,” as “the idea of progress stripped of the aspirations of the Enlightenment.” The Enlightenment was not a revolution only in science, but in politics—in the organization of society. While it *began* with the scientific revolutions of the sixteenth and seventeenth centuries, as the new scientific rationality destabilized the old monarchial and theistic orders of knowing and being, it fell to people to decide what forms of authority might be brought into being to replace them. Among the philosophers whose writings we have on that subject, from that time, are as Hume, whom I mentioned earlier. As we take up Lepore’s question, we should ask—about Uber, as any other innovation or progress—whether a novelty is actually an improvement, and we should keep our focus on Hume’s questions: both the cognitive-instrumental—what *can* we do?—and the moral-practical—what *should* we do?

When we dispute about labor—what it is, who is doing it, for what price and under what conditions—there is more at stake than simply the work being done. As Heidegger, another philosopher, said about technology: “the essence of technology is by no means anything technological,” law professor William Allen said about corporate firms that they were “surely economic and financial instruments” but also “institutions of

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social and political significance,” and “the locus of many conflicting claims, and not all of those claims are wholly economic.”\textsuperscript{203} The debate about Uber, the technology, and Uber, the firm, is in part a debate about Heidegger’s central and original concern: time. The conversion of time into value, and specifically market value—something to be exchanged for money—is fundamental to all modern debates about labor; and it is fundamental here. Uber’s television advertisements directed at drivers tell them that the software application, “lets you go from earning, to working, to chilling, at the push of a button,” because “these days, [with software,] anyone can have a side hustle.”\textsuperscript{204}

What Heidegger said was that “we shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it.”\textsuperscript{205} Here we see the limitation of dystopian and utopian rhetorics about Uber, which either reject or embrace the technology, but are not critically engaged with it. What I have shown in this thesis was the actual experience of Uber workers in the Boston area in 2016. I have not tried to argue that risk is something that can be eliminated in their work, or that regulation can even accomplish that; as the philosopher Anne Dufourmantelle has argued, exposure to threats is a necessary part of everyday life, and indeed, risk-taking, may be part of what makes life


rich. However, work is also a necessary part of life for most people. As I stated earlier, risk operates in the Uber work relationship to increase drivers’ uncertainties about personal safety, about earnings, and about the legality of the activity being undertaken. There are several results. First, the uncertainty operates to enroll a part-time, deskill, and (thereby) “casualized” labor force in taxi driving. They do not pass through a regulatory process, so they remain largely unaware of the risks until they materialize, as my field research has shown. The large group of part-time drivers, who constitute the greatest portion of the workforce, largely cannot state their earnings with definiteness, are unaware of the legal status of the work, and related legal issues such as concerning insurance cover, and have not thought about whether or not it is dangerous. This creates conditions under which a large portion of the workforce will exit the work when one of these risks materializes in a negative way, and new workers who “do not know what they do not know” will circulate in. This creates the dynamic of a reserve labor population, which diminishes or eliminates the power of the full-time worker who wants to bargain for better conditions, but does not exit the work; either because of the transaction costs or because they are bound by a non-rapidly modifiable contract like an auto loan or lease they have taken on in order to do the work. The combined workforce executes regulatory breach, which of massive benefit to the firm: it typically results in a rewriting of the laws in its favor, as occurred in Massachusetts in 2016.

If we have learned anything from prior periods of industrialization, we should recognize that this risk-shifting behavior is not new, whether we call it “innovation,” use the slightly more critical “disruptive innovation,” or an earlier term, “progress.” All of the

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same arguments about efficiency were made by firms in relation to keeping the market free of regulation during earlier periods. Using a theory presented in Chapter 3 that explains how control occurs consequent to the triangulated structure of the organization and form of authority it exercises, this thesis suggested how to look for labor where the conventional signals of work and workplaces are absent, and how, and where, to look for the means of control: along the axes. The axes and the forms of authority exercised along them are elemental to making the labor valuable to the firm, particularly in the absence of forms of management common to the twentieth century that were more recognizable and more regulated. The application of this understanding to the transportation network company legislation enacted by the Massachusetts legislature in 2016 suggests the legislation did not go far enough in regulating the firm, and that the problems for workers identified by the field research reported here will persist.
Appendix I: Interview Questions

INTERVIEW QUESTIONS

I. Reasons for working

1. What factors influenced you most in choosing to drive for Uber?
2. How long have you been doing it?
3. What were you doing before this?
4. Have you done anything similar, like driving a cab?
5. Do you drive for any similar company, like Lyft?
6. What do you like the most about Uber?
7. Dislike the most?
8. Do you generally like to drive?

II. Average Day

1. What’s does a typical day driving for Uber look like for you, from when you start to when you finish?
2. What are your usual hours of working?
3. What is your usual number of trips, or about how many riders do you drive per day?
4. How do you decide how much to work? For example, is it by number of hours or the amount of money you want to make (such as you work until you get to that amount and then stop)?
5. How much do you clean the car – how much wear and tear is there usually?

III. Not-average Occurrences

1. What’s your strangest Uber story?
2. Worst experience?
3. Best experience?

4. Have you ever felt insulted? Physically threatened?

5. Have you ever had an accident while doing Uber?

6. If you had one, how does the insurance work – how are you covered in case of an accident? Who would you call?

7. Have you ever been pulled over by the police?

8. Have you ever had a rider who needed assistance because of physical limitations, e.g., a handicapped or elderly person?

9. Do you pick up UberPOOL rides and what is that like?

10. Other than me, have you ever kept contact with a rider, such as to do other kinds of business or socialize with the person?

IV. Income and expenses

1. What is your usual income, for example, by week or day or month?

2. Could you estimate your hourly pay to be? I know Uber sends you a statement at the end of the week with an hourly wage – do you go by that, or make your own?

3. How do you calculate or keep track of your expenses, and what are they? Can prompt: gas, insurance, mileage, depreciation, cleaning and maintenance, cell phone data plan …

4. Do you take out these expenses when you come up with your idea of what you are making daily or weekly? Do you write down the expenses and the earnings anywhere?

5. How will you do your taxes? Which of these expenses will you deduct?

6. Do you have health insurance?

7. How do you feel about tips?

8. How would you describe the portion of the fare that Uber takes? (Is that like a fee you pay?)

9. What percentage of the ride fare is Uber’s portion?
10. Have you ever signed up anybody else for Uber?

V. Capital investment and finance

1. Is any part of the equipment you use to do this work from Uber, such as the car or phone?

2. Did you have a vehicle before you started doing this?

3. Do you own or lease the vehicle you use now? Did you buy or lease it through Uber’s program?

4. Do you use the Uber gas card?

VI. App software

1. What do you think of the app? Is it easy to use?

2. Is there anything you don’t understand about it?

3. Is there anything you would improve about it?

4. Do you respond to surges?

5. If you had a problem with the app, what would you do?

VII. Rating system

1. How do you feel about the five-star rating system?

2. How do you feel about the ratings you give people? Why does Uber make drivers rate riders?

3. How do you feel about the ratings people give you? Why does Uber make riders rate drivers?

4. Do you ever not pick up a rider because of a rating?

5. Do you think there is anything in particular that gives people better or worse ratings? Can prompt: being old, young, male, female, behaving a certain way, not getting lost (if driver) …

6. Are you worried at all that you might be “deactivated” or “suspended”? 
7. May I ask you what your rating is?
8. Do you know how many ratings you have versus number of trips?

VIII. Summing up Uber

1. How would describe this work to someone who doesn’t know anything about Uber? Like if someone said: “What is the problem that Uber is solving for people?
2. If you had to choose a word describing what you do for Uber, would you say you are a “worker,” “consumer,” “boss,” or some other word?
3. How many people do you think drive for Uber?
4. Do you know any other drivers?
5. Do you ever take Uber rides yourself?

IX. Summing up your experience

1. Is there anything you worry about in this work? Is there something that you would change about it if you were in charge of Uber?
2. Do you have any problem telling people you drive for Uber?
3. How long will you keep doing this?
4. What would you be doing if not this?

X. Demographics

1. Age
2. Gender
3. Race or national origin
4. Residence town
5. Education level

XII. Any questions for me?
Appendix II: Codebook

CODEBOOK

EXPERIENCE OF WORK

1. ORG Organization. This code is used when the driver discusses a traditional firm where authority is concentrated in a boss or manager and expressed through formal written rules.

2. EPT Experience/Expertise. This code is used when the driver describes having either prior experience or expertise in this line of work, such as driving a taxi, working in a personal service job like a hotel concierge, or acquiring such expertise as a result of working.

3. TSP Transportation. This code is used when the driver explicitly references transportation, e.g., as the service being provided, or talks about driving, being a good driver, or specific aspects of driving, such as condition of the roads and traffic.

4. PHY Physicality. This code is used when the driver discusses some physical aspect of work, such as referring to the body.

5. SOC Sociality. This code is used when the person discusses a social aspect of the experience of working. It may mark an expression of being a member of a social community (such as a sense of being part of a network, e.g., of drivers or riders). It may also mark an expression of the need to behave socially in a certain way in order to do the job.

6. INF Information. This code is used when the person talks about receiving, exchanging, or needing information related to the experience of working, or having information about them exchanged, such as by the passenger to the firm in the form of rating or comment.

7. DIS Dispute. This code is used when the person refers to having a dispute, such as with the firm, a passenger, a police officer, an insurance company, or other driver.

CONTROL OF WORK

8. LEG Legal. This code is used when the person talks about involvement with the legal system: courts, police, regulators, or types of contracts (e.g., with an insurance company, an auto loan or lease, or with Uber), including when the person makes an expression of rights or duties that has a legal valence (i.e., comes with the possibility of invoking enforcement action by a
“special staff”), and when the person expresses having a regulatory certification for ride-for-hire work: i.e., a hackney license or livery plate.

9. AUT Autonomy. This code is used when the person references autonomy, in the sense of internal or self-driven control of work, such as a reference to being able to “work when I want to.”

10. ECT External Control. This code is used when the person expresses a sense of being controlled externally, e.g., the opposite of having autonomy.

11. ALG Algorithm. This code is used when the person describes some aspect of the Uber software and/or how it affects their work, or how they can affect it.

12. RAT Rating. This code is used when the person refers to receiving or giving a rating or its effect.

FINANCIAL MATTERS

13. INC Income. This code is used when the person references making money as income in general terms, e.g., by referencing an “hourly wage” or “weekly earnings,” without reference to deducting expenses.

14. PFT Profit. This code is used when the person references gross earning minus expenses (net).

15. CAP Capital. This code is used when the person refers to a capital investment that enables them to work, e.g., the purchase of a car or cell phone, including if that investment is financed, e.g., an auto loan.

16. EXP Expense. This code is used when the person refers to an operating expense like buying gas, cleaning the car, paying taxes, or a cell phone data plan.

17. ACC Accounting. This code is used when the person describes an accounting function such as keeping track of income and expenses (balance sheet accounting), budgeting, keeping receipts, or planning for or filing taxes.

18. ICT Incentive. This code is used when the person refers to a specific money incentive stimulating their work, or enrolling others in work, such as an offer disseminated by the company.

ASSESSING LANGUAGE

19. OPP Opportunity. This code is used when the person talks about an opportunity, either something foregone in order to work, or some
opportunity associated with work *beyond the income earned* from driving (such contact with specific kinds of passengers).

20. RSK  
Risk. This code is used when the person describes some risk, *defined as uncertainty of outcome*, that he or she is exposed to in the course of work, such as being harmed or having property harmed, having a bad rating, or being deactivated, or not making enough money.

21. SCY  
Security. This code is used when the person expresses something akin to the absence of risk (uncertainty of outcome), such as describing something as “reliable.”

22. DCP  
Deception. This code is used when the person expresses a sense of deception, such as a sense of deceptive business practices by the company or by passengers.

23. BIA  
Bias. This code is used when the person references an aspect of the work in which they might be disadvantaged, such as because of race.

24. STG  
Stigma. This code is used when the person references something stigmatizing about the work, for example saying that they conceal that that they are doing it from their peers.

25. ENJ  
Enjoyment. This code is used when the person references something enjoyable about the work, such as a sense of pleasure derived from interacting with other people, getting to learn something new, or the act of driving.

*This codebook was drafted in 2016 as the field study was underway using both inductive and deductive approaches: codes were drawn from preliminary field data, classic sociological literature about work and work organizations, and more recent studies of taxi drivers and of algorithmically-organized work. The codebook was updated at the end of fieldwork, as driver interview transcripts were initially coded, and again in 2017 during the last iteration of coding.*
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