THE ACTUALLY EXISTING PLATFORM ECONOMY

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The Actually Existing Platform Economy: Practices of Platform Labor in Nijmegen and Berlin

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Master Thesis Urban and Cultural Geography
Nijmegen School of Management
Radboud University, Nijmegen
June 2019

S1001108
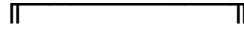Supervisor: Dr. Rianne van Melik
Word count: 29,500

Radboud Universiteit

Abstract

In the years following the 2008 financial crisis, on-demand delivery platforms have become an increasingly common feature of urban economies across the globe. Noted for their use of hyper-outsourced, "lean" business models and reliance on independent contractors, these companies evade traditional employer obligations while still controlling workers at a distance through complex algorithmic management techniques. Using the food delivery platform Deliveroo as a case study, this thesis project investigates the diverse array of practices on-demand workers carry out in order to enact this new platform labor arrangement in context. Conducted using autoethnographic methods, this research was carried out over the course of nine months during which I worked as a Deliveroo Rider in Nijmegen and Berlin and interviewed fellow platform workers in both cities. The findings reveal the motley, contingent, and conditional ways in which on-demand labor comes together on the ground, what I term the "actually existing" platform economy. I conclude with a discussion of the uneven distribution of these practices across locations and social groups and the sometimes contradictory impacts they have on the structure of platform labor.

Contents

I. Introduction

Since the 1970s, post-industrial societies have experienced drastic cultural, economic, and technological changes which have undermined the expected and accepted structure of work and employment (Boltanski and Chiapello, 2005; Anderson, 2006). These changes manifested with particular intensity in the aftermath of the 2008 financial crisis; recessionary layoffs and social austerity measures increased the pool of available labor while a more precarious working class allowed for the entrenchment of just-in-time employment practices (Van Doorn, 2017; Peck and Theodore, 2012). On top of this, macroeconomic policies aimed at lowering interest rates encouraged investors to push vast amounts of capital towards riskier ventures, including unproven and well-hyped tech companies. These economic conditions, along with the widespread adoption of digital communication technologies, set the stage for the emergence of the platform economy (Srnicek, 2017).

As a concept "platform" can be exceptionally slippery and it has been approached alternatively as a managerial discourse (Steinberg, 2019), an organizational form (Gawer, 2014); or a set of hardware and software infrastructures (Casilli and Posada, 2018). Bratton gives an expansive definition of platforms, beginning with "platforms are what platforms do" (2016, p. 41), going on to note that they, "distribute some forms of autonomy to the edges of its networks while also standardizing conditions of communications between them," thus "setting the stage for action" (p. 47). Within all these conceptions, the platform economy includes a wide variety of actors, ranging from multifaceted behemoths such as Alphabet and Facebook to a plethora of smaller, more specialized business often grouped under the rubric of the gig economy, sharing economy, or on-demand economy.

For a large portion of the platform economy, enterprises are modeled as internet-based marketplaces which mediate connections between customers and services rendered by independent agents (Schiek and Gideon, 2018; De Stefano, 2016). According to researchers, "literally thousands" of different companies have sprung up as part of this sector with a commensurate degree of variation (Schmidt, 2017, p. 3). Some, such as Airbnb, allow users to monetise their existing housing, while others, such as Uber and Handy, connect workers to a task to be done at a specific location and time. These companies can be described as "lean platforms," for their strategy of outsourcing as many aspects of the operation as possible, from the fixed capital costs of equipment to labor, as most workers are classified as "independent contractors" (Srnicek, 2017).

This thesis paper focuses on a specific type of lean platform that has proliferated since the early 2010s: on-demand delivery companies. These services rely on the widespread availability of 4G-enabled smartphones and global navigation satellite system (GNSS) location-tracking technology, to match fleets of couriers with customers requesting short-haul deliveries (Dablanc et al., 2017). Such businesses are regarded as a principal-

ly urban phenomenon in that they "fundamentally rely for their value proposition on distinctly urban conditions" (Davidson and Infranca, 2016, p. 218). In their current form, on-demand delivery services thrive where population size and density are large enough to provide a critical mass of customers within a compact area. Additionally, these companies leverage other typical urban qualities such as reliable internet communication technology (ICT) networks and large, heterogeneous service economies as part of their business model.

This sector has expanded into a billion dollar industry with some variant of the model present in nearly every major city (Davidson and Infranca, 2016). Currently, dozens of players are competing for market share across the globe. Examples include services like Caviar and Postmates in North America; Deliveroo, Lieferando, and Thuisbezorgd in Europe; and Eleme, Meituan, and Etobee in Asia; with some degree of overlap and crossover as companies enter and leave markets. Some estimates suggest that nearly 10% of European workers participate in the platform economy to some degree (Huws et al., 2017), with on-demand delivery services accounting for a large portion of this activity in many European cities (Dablanc et al., 2017).

The success of these companies has garnered academic scrutiny examining the structural factors which enable their growth (Srnicek, 2017), as well as the real and potential downsides of their "super-exploiter" labor arrangements (Goldkind and McNutt, 2018). Common critiques extend from the extensive use of independent contractors to handle deliveries (De Stefano, 2015) and the tight and opaque algorithmic controls used to monitor their work (Ivanova et al., 2018). These are widely understood to be exploitative labor practices, providing workers with substantially less material support while subjecting them to increased precarity (Huws et al., 2017; Zwick, 2018).

While there has been commendable research addressing noteworthy worker responses to these conditions, such studies have generally focused on dramatic direct actions (Briziarelli, 2018; Tassinari and Maccarrone, 2017), with fewer giving attention to the prosaic labor of delivery work (Shapiro, 2018). As such, there is a considerable body of literature on the labor arrangements of platform companies, the regulatory questions they raise, and the *general* effects of their labor practices. Nevertheless, there have been fewer studies on the diverse, contingent, and often messy ways in which on-demand labor comes together on the ground. This project aims to add nuance to existing research by uncovering—to borrow a phrase from Brenner and Theodore (2002)—the "actually existing" on-demand economy. To put it another way: If "platforms are what platforms do," what are platforms actually doing? Here the guiding research question is: *What practices do on-demand delivery workers carry to enact platform labor in context, and how do these practices contribute to the overall structure of the platform economy?*

In order to answer this question, this thesis research focuses on the experiences of on-demand delivery workers contracted with Deliveroo, one of the more prominent platforms in the on-demand delivery sector. My research took place over a 10-month period while I worked as a Deliveroo delivery worker—known in company parlance as a Rider—in two locations, Nijmegen, a small city in the Netherlands, and Berlin, Germany. The fieldwork was conducted using a mixed-methods approach (Yin, 2006) bringing together semi-structured interviews with auto-ethnography (Anderson, 2006) to construct "qualitatively rich, contextually specific," accounts of on-demand labor (Jones and Murphy, 2010, p. 378).

These accounts are analysed using a practice-oriented perspective that draws on frameworks provided by Reckwitz (2002) and Jones and Murphy (2010). Such an approach is useful for several reasons. First, it helps us distinguish and demarcate a non-exhaustive set of practices which workers carry out in the course of performing platform labor. Second, it helps us identify patterns and discontinuities in who is carrying such practices and where they are carried out. Finally, it helps assess how variations in practices result in different impacts and outcomes, both for workers and on-demand platforms themselves. In performing this analysis, this research demonstrates how on-demand labor is highly contingent, varying based on where it is taking place and who is participating.

The rest of this paper is structured as follows: In the next section, I outline the details of this case study. First, I describe the history and business model of Deliveroo, then provide a few notes on the selected research sites, Nijmegen and Berlin. Next, I review literature that is pertinent to this research, including work on the structure and functioning of platforms, recent research on platform labor, and how platforms relate to urban issues. Following this, I lay out the theoretical framework underpinning this study as well as the autoethnographic methods being used to investigate the topic. The most extensive section is given over to my findings, which consists of a selection of practices carried out by Deliveroo Riders. I group these practices into rough categories, then, describe each practice while providing commentary on how it impacts on-demand labor. The penultimate section presents a discussion on the impacts and outcomes these practices produced, with particular attention to how they vary across our two research sites and the different individuals involved. Finally, I close with the limitations of this specific project and suggestions for future research.

Social and Scientific Significance

Social Significance

This thesis research is socially significant because it directly addresses a contemporary and ongoing issue: the extent to which platforms are transforming how labor is organized and accomplished, a fundamental aspect

of daily life. According to Greenfield, truly understanding the effects of new technologies like platforms requires critically examining their real-world consequences. In other words, rather than getting "swept up in the self-reinforcing momentum and seductive logic of some new technology," it is crucial to be aware of "what else it might be doing, how else it might be working, and who ultimately benefits most from its appearance" (Greenfield, 2017, p. 309). Researchers like van Doorn (2017) have pointed out that, in the case of platforms, an element that is often overlooked are the experiences of "the gig workers whose lives and livelihoods are directly affected by changes underway" (p. 908). By applying autoethnographic methods to investigating the practices of platform workers, this study helps to fill this gap, contributing much-needed nuance to discussions of platform labor.

The study presented here is especially relevant as more industries restructure to fit the platform economy model and "become more reliant on workers hired on short-term contracts in place of traditional employees" (Zwick, 2018, p. 679). Research suggests that this process is underway (Huws et al., 2017). This trend will only continue as platform logic spreads, finding "ways to 'move upstream' into markets and occupations that were previously off-limits," such as the legal, medical, and accounting fields (Healy, 2017, p. 9). As such, an increasing number of workers face the challenges platform labor poses, including material deprivation in the form of lower wages, no pensions, and lack of legal protections; and unstable conditions which engender lack of stability, anxiety, and lower quality of life (De Stefano, 2016).

Compiling a detailed account of the practices which undergird platform companies like Deliveroo helps elucidate how workers navigate this new labor landscape. The findings of this research can work as a corrective to dominant narratives which may be overly sanguine in "promot[ing] a technocratic ideal of flexible labor market optimization organized and managed by platforms" (van Doorn, 2017, p. 908). Amending such narratives with a more accurate picture of how platform labor is enacted is valuable for many reasons, two of which I would like to highlight here. For one, it rightfully acknowledges the agency and creativity of workers, and furthers our understanding of how these workers can shape the conditions they encounter (Schiek and Gideon, 2018). And two, by demonstrating how these practices are context-dependent and contingent, this research underscores that alternative arrangements are possible. Grasping the reality of these two concepts is necessary for the success of any attempts to reform or reshape platform labor in the future (Harris and Nowicki, 2018).

Scientific Significance

Healy contends that "the ways in which platform companies transact with workers, in particular, has created a burgeoning public interest, but has yet to give rise to a corresponding academic literature" (Healy, 2017, p. 1). However, recent research has begun to more thoroughly explore the relationship between platforms and

workers—examples include Rosenblat and Stark (2016) on Uber drivers, van Doorn (2017) on Helpling cleaners, and Shapiro (2018) on Caviar delivery couriers. This thesis is scientifically significant as it contributes to this growing body of research on platform labor while filling a distinct gap that has not yet been addressed. Specifically, by shifting the focus from the machinations of platforms themselves to the practices of workers on the ground this study begins to uncover the diverse and contingent ways platform work actually gets accomplished in context.

While recent research has done an excellent job describing the structure and operations of platform companies (Srnicek, 2017), as well as the legal and regulatory issues they raise (De Stefano, 2016; Schiek and Gideon, 2018), these analyses refrain from delving into more granular detail about how labor is carried out. A study concentrating on the practices of workers is worthwhile as allows us to perceive how the larger-scale issues identified by previous research do, or do not, manifest in the world. By connecting these two scales of analysis it is possible to develop a more refined and flexible understanding of platform labor—one with recognizes the ways the practices of platform labor may diverge from how it is understood.

Finally, this thesis makes a contribution to the developing field of digital geography. In particular, it answers a call made by Ash et al. (2018) for a geographical analysis of "the reconfiguration of labour in the gig economy, the rise of digital labour, and the uneven global geographies of microwork" (p. 36). By being attentive to the role of place in how platform labor is enacted, this study helps flesh out the geographic component of the platform economy, which has yet to be extensively theorized.

Case Selection: Deliveroo, Nijmegen, and Berlin

Deliveroo

For this research, I chose Deliveroo as a representative case study of an on-demand delivery platform. While numerous companies offer on-demand delivery services, Deliveroo is one of the most prominent and well-known in the sector, at least in western Europe (Lepanjuuri et al., 2018; Vandaele et al., 2019). Additionally, this case selection can also be described as "opportunistic" (Anderson, 2006), as I began working as a Deliveroo Rider before conceiving of on-demand delivery platforms as a research topic. Therefore, the fact that Deliveroo was recruiting workers in Nijmegen during the run-up to this project factored into its selection over other comparable services.

Deliveroo was founded in London in 2013 by two Americans, investment banker Will Shu and software engineer Greg Orlowski, who wanted to create a service that could deliver food from upscale restaurants to their offices in Canary Wharf (Moules, 2017). Like many app-based services where market share is a driver

of valuation, Deliveroo has leveraged a steady stream of venture capital to continually increase its market penetration (Banis, 2018). After successive rounds of growth and funding from venture capital firms such as Accel Partners and Index Ventures, the company reached an estimated valuation near four billion pounds (Garrahan and Ram, 2018). However, note that these metrics are controversial, as juicing valuation is one way platforms compete for more investment, leading some commentators to warn of a coming bubble (Kenney and Zysman, 2017). Even so, Deliveroo has achieved broad reach with operations in more than 200 cities across Europe, the Middle East, and Southeast Asia (Ghosh, 2018).

Like its competitors, Deliveroo's core business model fits into a subtype of platform capitalism described as "work-on-demand via apps" or "instant delivery" (De Stefano, 2016; Dablanc et al., 2017). In this capacity, it operates as a third-party intermediary, facilitating the ordering and delivery of goods—most often food. Once a restaurant contracts with Deliveroo, the company handles the processing of orders for a commission fee, "siphon[ing] off a rent from every transaction (Srnicek, 2017, p. 257). Customers place orders via Deliveroo's smartphone app or website, and deliveries are carried out by delivery workers receiving directions and payments through a separate Deliveroo Rider app (Olson, 2016).

As mentioned, Deliveroo is a "lean platform." That is, it keeps its valuation and profit margins high by adopting a "hyper-outsourced model, whereby workers are outsourced, fixed capital is outsourced, maintenance costs are outsourced, and training is outsourced" (Srnicek, 2017, p. 76). Using this model, the company does not directly employ the workers who carry out deliveries, nor does it make substantial investments in training, equipment, other personnel. This distinction is one of the defining features of many similar organizations in the platform economy (Zwick, 2018; Huws et al., 2017).

Adhering to "leanness" as an organizing principle has wide-reaching ramifications. Most prominently, delivery workers are not Deliveroo employees but are often legally classified as independent contractors. This model has varied over time and location, and there are some exceptions. For instance, groups of Riders hired in the company's early years were classified as employees and have retained that status even after the practice was discontinued (Ivanova, 2017). Additionally, from May 2016 to October 2017, Riders in Belgium had the option of formalising their employment through *Société Mutuelle pour artistes* (SMart), a third-party intermediary. Outside of such arrangements, Riders are formally self-employed and are responsible for many aspects of the job, from obtaining and maintaining a delivery vehicle, to buying or renting a Deliveroo delivery bag and jacket, to filing taxes and arranging insurance.

In strictly economic terms, the company has settled on an arrangement that disaggregates what would have previously been a cohesive firm—a tactic pioneered by companies working with global supply chains, which Deliveroo has adapted for the urban scale (Shapiro, 2017). The result is a bifurcated structure where Deliv-

eroo's core organization only claims around 2,000 employees, while the vast majority of the labor carried out on behalf of the company is done by the independently contracted Riders (Dillet, 2018). Due to turnover, the number of Riders varies; however, as of May 2019, this workforce is estimated to include more than 35,000 people globally (Iqbal, 2019).

Deliveroo and its analogues assert that this employment scheme gives its contractors freedom and flexibility (Pasquale, 2016; De Stefano, 2016). However, critics argue that it merely allows these companies to skirt traditional employer obligations such as providing job security, health care, pensions, or even equipment (Healy, 2017; Srnicek, 2017). For instance, in most jurisdictions, the employment status for Riders means they are exempt from minimum wage requirements and instead paid by the delivery. Under this arrangement, Deliveroo's workers are "compensated on a "pay-as-you-go" basis; in practice, they are only paid during the moments they actually work for a client" (De Stefano, 2016, p. 7). Crucially, the amount of each payment is calculated by an opaque algorithm, which makes it difficult for Riders to predict their income (Shapiro, 2018).

Nijmegen and Berlin

This study focuses on Deliveroo Riders in two locations in western Europe, Nijmegen, in the Netherlands and Berlin, Germany. The decision to investigate two sites where Deliveroo operates stems from the project's goal of illuminating how the specifics of platform work varies based on contingent factors such as location. As discussed earlier, the choice of Nijmegen as the first site was rooted in opportunistic factors, as Nijmegen was the city I was living and working in before beginning formal research. The second site of Berlin was also influenced by opportunistic factors, as I conducted the second half of this project as part of a research internship with the Platform Labor Project, a European Research Council-funded research program which was already investigating the platform economy in Berlin.

Fortuitously, a number of factors validate the choice of these two locations as appropriate research sites for this comparative work. First, platform businesses often exhibit variation in their structure and organization based on where they are operating (Mair and Reischauer, 2017). Choosing sites in two different countries allows for a comparison of how differences in organizational structures and legal frameworks effect work on the ground. Second, each city has a different temporal relationship with Deliveroo; Berlin was an early market with operations beginning in January 2015, while the company only arrived in Nijmegen in the summer of 2018. Additionally, there are a host of morphological, infrastructural, and demographic differences between the two cities: Berlin is a national capital of 4 million and one of the most diverse cities in Europe, Nijmegen is a provincial city of 170,000, 96% of which are Dutch (World Population Review, 2019). Berlin is a sprawling, multipolar metropolis with uneven bike infrastructure, Nijmegen is relatively centralised and

has won multiple awards for its being cycle-friendly. Finally, there have been differing amounts of platform labor organizing in each city; while there have been multiple actions and protests in Berlin, there is very little organizing in Nijmegen (Cant, 2018; Transnational Strike, 2018). This rich array of differences will be referred to and expanded on throughout the analysis.

II. Platforms: Concepts and Critiques

This chapter provides a critical overview of literature relevant to understanding the project at hand. As this work brings together many different strands of thought, it is difficult to cover all relevant research in detail. However, some broad themes do emerge which are bundled into the following subchapters: The first covers the concept of platforms, elucidating how they are conceptualized and some general tendencies they share; the second discusses two ways platforms are categorized which are helpful for defining Deliveroo; the third covers writings on platforms and labor with special attention autonomy, control, and precarity; and the final subchapter covers research on platforms and the urban.

Platform Qualities

In the press and its own materials, Deliveroo is described as a delivery platform. The term platform has become somewhat ubiquitous, referring to everything from the Android operating system, to the Spotify music streaming service, to the ride-hailing service Uber. As media researcher Marc Steinberg points out, "almost anything can become a platform, if one merely calls it such" (Steinberg, 2019, p. 1). However, what the designation "platform" entails is a topic of much debate. In their digital platform research agenda, de Reuver et al. (2017) concede that while platforms are transforming nearly every industry, they are nonetheless an exceedingly difficult object of research due to the degree of variation they exhibit and the complex relationships they sustain with markets, institutions and technologies. It is true that a thorough explication of the history and workings of platforms is beyond the scope of this project, it is still useful to cover some key insights from recent platform research. This section will detail a few recurring characteristics of platforms that emerge in literature and show how they apply to Deliveroo. Additionally, it will position Deliveroo within the various typologies of platforms that have been developed.

Bratton (2015) provides the following definition of a platform: "a standards-based technical-economic system that simultaneously distributes interfaces through their remote coordination and centralizes their integrated control through that same coordination" (p. 42). Although this definition seems rather broad, it nonetheless captures a distinctive quality shared by all platforms: an overall structure that balances centralized control with a peripheral autonomy (Baldwin and Woodard, 2009). Put another way, through organiz-

ing a hierarchy with differing degrees of standardization, platforms "set the stage for actions" (p. 47). This holds true for Deliveroo, which remotely coordinates a distributed network of Riders through their centralised software.

Further refining this definition, Gawer (2014) identifies two ways of thinking about platforms: either as technological architectures or as multi-sided markets. Through the former lens, platforms can be understood as modular systems, that is, a standardized architecture that allows different components to interact. This view stresses the innovation potential of platforms, as users can independently generate different modules to interface through the platform. For instance, the Android operating system is a platform that provides developers a space to create independent applications. Alternatively, through the multi-sided market framework, platforms provide an interface for two or more parties to conduct a transaction. For instance, eBay is a platform that allows independent sellers to find buyers for whatever junk may be in their garage. This framework stresses the "network effect" aspect of platforms, as the more users they enroll, the more valuable they become other users.

Gawer goes on to suggest that these two views may be described as sustaining supply, "innovation," and demand, "network effects" (p. 1244). And indeed, these two aspects are present in Deliveroo. An example of modular innovation is the development of "cloud kitchens," a new type of online-only restaurant designed to operate solely through the infrastructure of on-demand delivery platforms (Grant, 2019). Network effects driving demand is also present: the more restaurants that sign up with Deliveroo, the more useful it becomes to customers, and vice-versa. In both cases, a degree of peripheral autonomy—developing a compatible business, choosing a restaurant, managing the specifics of the delivery—are trafficked through Deliveroo's centralising control.

There is a general consensus that this centralised control is one of the key ways platforms generate value for themselves and their investors (Andersson-Schwarz, 2016). Whether platforms are viewed as architecture or a marketplace, they often position themselves as neutral, simply empty vessels for hosting interactions which would otherwise be taking place (Gillespie, 2017). However, the opposite is true, as platforms don't necessarily meet an existing need but instead actively induce the exchanges the mediate, set the terms of the transactions, and monitor the activity to extract further value (Langley and Leyshon, 2016; Casilli and Posada, 2018). This has been described as "platform control," in which a platform maintains "exclusive control over the surface on which the exchange takes place" (Andersson-Schwarz, 2016, p. 13). In practice this means that platforms like Deliveroo can set the terms for their use; for instance, setting the terms for restaurants using the service or determining the fee Riders are paid for their services. By maintaining control of these transaction costs, Deliveroo is able to shape the marketplace and generate revenue. This model incentivises

a monopoly tendency, where platforms must aggressively compete to control a market in order to set its terms and reap the benefits of network effects (Casilli and Posada, 2018).

Additionally, by hosting an ever-increasing number of transactions through their networks, platforms are able to open up another source of value: data. As Srnicek argues in *Platform Capitalism*, as capitalism adapts to the information age, data becomes an increasingly valuable raw material. Collecting, refining, and selling data harvested from the use of platform services has become one of the central ways such platforms create value (Langley and Leyshawn, 2016). This process has been described as surveillance capitalism, a new mode of accumulation where big data is instrumentalised "to predict and modify human behavior as a means to produce revenue and market control" (Zuboff, 2015, p. 75). This incentivises platforms to not only maintain oversight of every transaction taking place also but to engage in "a rhizomatic form of integration," where they are constantly new frontiers to enroll in data collection (Srnicek, 2017, p. 256). For Deliveroo that means collecting real-time data on restaurants, customers, and Riders to constantly refine its own operations (Pudwell, 2017).

Platform Taxonomies

These tendencies—to aggressively expand in both market capture and data collection—are present in all platforms. Though, not all platforms are the same and several typologies exist describing the range of variation. In the case of Deliveroo, two typologies are particularly useful; one locates Deliveroo within a broad, comprehensive classification system of platforms, and the other describes specifically the type of platform Deliveroo is within this classification. Both classifications highlight important aspects of about the labor conditions Deliveroo Riders face.

The first taxonomy comes from Srnicek, who presents five types of platforms: advertising platforms such as Google and Facebook; cloud platforms such as Amazon Web Services and Salesforce; industrial platforms like General Electric and Siemens; product platforms such as Spotify and Zipcar; and finally "lean platforms." Lean platforms are distinctive for adhering to a "hyper-outsourced model," whereby the company owns its software and data analytics, but attempts to outsource all other aspects associated with the service it provides (Srnicek, 2016, p. 76). This final category best describes Deliveroo, which owns its software but relies on the assets and labor of independent contractors to carry out its actual delivery services (Healy et al., 2017). These companies stay afloat by staying as lean as possible, continually cutting labor costs and other responsibilities.

Another typology comes from a working paper produced by Schmidt (2017) for the Friedrich-Ebert-Stiftung (FES) foundation, a social democratic think tank based in Germany. The paper notes the considerable confusion around platform categorization and attempts to organize a taxonomy around potential regula-

tory frameworks, creating three categories: cloud work, crowd work, and gig work. While all these categories contain lean platforms, the key distinction here is where the work is carried out. For cloud work and crowd work, tasks are carried out remotely via the internet; on the other hand, with gig work, tasks are still coordinated online (via apps) but performed in specific locations (Schmidt, 2017). This latter category includes on-demand delivery platforms like Deliveroo, as well as other location-based concerns such as Uber and TaskRabbit.

Understanding Deliveroo as location-based gig work is important as this designation informs its operations in several ways. For one, as the FES working paper points out, location-based platforms are more susceptible to regulation as they "clearly fall under the local legal framework" (Schmidt, 2017, p. 8). As the work of delivering is unambiguously carried out within certain jurisdictions, platforms such as Deliveroo must, ostensibly, adhere to local laws such as employment classifications. This limits the amount of control it can exert over workers while still remaining "lean." Additionally, while cloud platforms can leverage the broader range of regulation and labor costs of the "planetary labor market," location-based work needs to stay competitive in each location it operates (Graham and Anwar, 2019). And finally, being location-based means there is a greater potential for workers to obstruct the platform's operations if they choose, a "disruptive capacity" that can be realised by occupying space (Vandaele, 2018, p. 15).

Platforms and Labor

Over the past decade, there has been a growing corpus of work on the topic of platforms and labor issues. It can roughly be divided into three categories: work covering how platforms operate in a general sense, the precarious conditions which have become concomitant with platform work, and more specialized research on the dynamics of specific platforms. While there is overlap, this section will address each category in turn.

Popular books outlining the contours of platform work have become something of a cottage industry, with titles like *Humans as a Service: The Promise and Perils of Work in the Gig Economy* (Prassl, 2017), *Gigged: The end of the job and the future of work* (Kessler, 2018), and *Hustle and Gig: Struggling and Surviving in the Sharing Economy* (Ravenelle, 2017) all being published in the past few years. Using a variety of examples, these works give a broad overview of how the lean organization adopted by most gig work platforms allows them to evade traditional employer obligations such as providing a minimum wage or stable scheduling, while workers scramble to stay afloat (Schor, 2016). Using journalistic approaches, these effectively demonstrate the workings of "apploitation," where workers labor under increasingly worse conditions for the benefit of platform owners (Calloway, 2016; Schiek and Gideon, 2018). Such works contribute to an established narrative that the "[platform] economy is a form of oppression in disguise" (Goldkind and McNutt, 2019, p. 1).

Complementing this narrative are studies which analyse these dynamics from a structural standpoint, often positioning platform work as a form of "neoliberalism on steroids" (Martin, 2016, p. 149). To demonstrate this, Zwick uses the case of Uber to show how neoliberal market pressures incentivise platforms to undermine traditional employment structures by misclassifying workers, strategically avoiding regulations, and preying on the most economically vulnerable (2018). Other work elaborates on this macroeconomic context, pointing out how platforms exploit structural inequality by relying on both massive accumulations of venture capital (Srnicek, 2017) and large pools of underemployed workers to operate (Healy, 2017). Wood et al. (2019) go on to show how platforms can exacerbate these structural inequalities by disembedding labor from the regulative institutions which would temper their profits. These inequalities result in what Malin and Chandler (2016) term "splintering precarity," where the risks and rewards of the platform economy are unevenly distributed, with the workers employed as contractors shouldering much of the risks with little proportional compensation.

Other authors have analysed these dynamics from a legal standpoint, with the animating issue being whether and how platform work should be regulated. Many authors argue that while gig work is often singled out as being particular, it often shares many qualities of regular employment, with the employer simply using "sham" or "bogus" self-employment to circumvent obligations (De Stefano, 2015; Muntaner, 2018; Prassl, 2018). This is backed by research asserting that while many gig workers don't have employment contracts, they are still subject to many of the same constraints employment, either through sprawling terms of service or algorithmic management techniques (discussed more below), (Schmidt, 2017; Schiek and Gideon, 2018; Lee et al., 2015). This arrangement has been described as platform labor, "relationship in which platforms both simultaneously generate dependence and determine the rules that shape, afford and limit worker agency" (Wood and Lehdonvirta, 2019). The conditions of platform labor are such that even while workers are often classed as independent contractors, they still maintain a structural antagonism with the platform as if they were a traditional employer (Wood and Lehdonvirta, 2019).

Unsurprising then, there have been examples of gig workers trying to organize both inside and outside traditional trade unions (Vandaele, 2018). In the case of Deliveroo and other delivery platforms, examples of such organising include union-affiliated guilds such as the Collectif des coursieres/Koeriers Kollectiefin in Belgium, the Plataforma Riders X Derechos BCN in Spain, and the Union Freie Arbeiterinnen- und Arbeiter-Union (FAU) in Berlin. As explained by a working paper commissioned by the European Trade Union Institute, these organising efforts show how "the platform economy is shaped by the social and political framework in place," but is also open the possibility of "generat[ing] organisational experimentation and 'new' forms of collective representation" (Vandaele, 2018, p. 26). While some researchers suggest the fluid, distributed nature of gig work presents challenges to these efforts (Tsianos and Papadopoulos, 2006), others

argue that recent actions in Italy, among others, show that union-like organization is still possible (Tassinari and Maccarrone, 2017).

Platforms: Control and Autonomy

Finally, it is useful to highlight a number of studies that spotlight how platform workers themselves experience the systems with which they work. Much of this research explores the means of control exercised by platforms as well as workers' response to these conditions.

A common theme of this work is the central role of algorithmic management platform labor. Lee et al. (2015) describe the suite of techniques developed by organizations to dictate, coordinate, and optimise a workforce automatically and from a distance. The paper illustrates this concept with the case of ride-hailing platforms Uber and Lyft. These companies use variable pricing to induce worker participation at certain times and places as well as customer rating systems to evaluate worker performance. Researchers have found similar app-based management techniques at play in the on-demand delivery sphere, with Ivanova et al. (2018) describing five techniques used by Foodora and Deliveroo. These include the surveillance of worker movement and efficiency, the use of this data to automate the distribution of work, and the employing "digital choice architecture" to guide worker decisions toward the company's needs. These techniques are strengthened by what Rosenblat and Stark have termed "information asymmetries" built into gig work platforms, where the company withholds certain types of information from workers in order to exercise "soft control" (2016, p. 3761). This includes information such as the actual amount of demand at a given time or the exact way fees are calculated.

All these techniques put considerable pressure on workers to perform in certain ways, however, research has also shown workers retain a degree of agency within these conditions. Both Rosenblat and Stark (2016) and Lee et al. (2015) point out how Uber and Lyft drivers use online forums to share information in a type of "fragmented social sensemaking" in order to better understand how algorithmic management operates. This allows workers to develop strategies to succeed with these constraints, from knowing when to ignore nudges and surge pricing to strategies for obtaining higher customer evaluations. While many worker strategies are based on the logical imperative to maximize their income, Shapiro (2017) shows how decision-making on the job also includes a degree of intuition and affective sense-making. This so-called "qualculation" suggests "contradictions between the ways that companies model worker decision-making and how workers themselves weigh non-monetary information in their quotidian choices," which can undermine even the most sophisticated algorithmic control (Shapiro, 2017, p. 2966). Additionally, other studies of on-demand delivery workers in China has found that many workers have developed strategies with the explicit goal of "gaming"

their platforms. These workarounds, dubbed "labor algorithms," included tricking a platform's location tracking or collaborating hand-offs with other workers in order to get better statistics (Sun, 2019).

Platforms and Precarity

A recurring theme in discussions of platform labor is the concept of precarity—a social-economic condition usually contrasted against the post-war Fordist employment model. The rise of platform work is often seen as the result of the breakdown of this model, the outcome of a long-term restructuring of work and employment that began with the de-industrialisation of western economies in the 1970s (Srnicek, 2017). This trend is epitomized by companies increasingly adopting less stable labor arrangements in a bid to maintain profit margins, avoid legal obligations, and deter collective action (Peck and Theodore, 2012). This has meant hiring fewer full-time employees, and instead relying more on workers employed in part-time, subcontracted, or temp jobs (Zwick, 2017). Such arrangements have risen through the 90s and early millennium, but the practice saw its most dramatic rise in the wake of the 2008 financial crisis (Huws, 2017).

Certain boosters—such as neoliberal economists and Silicon Valley moguls—have framed these developments as positive, an example of innovation and competition creating new opportunities. However, there is also a strong counter-narrative arguing that the "gig-ificaiton" or "uberization" of work actually stokes inequalities and induces precarity (Pasquale, 2016). The growing number of workers involved in this type of work has led some to speak of a new social class, the "precariat" (Standing, 2014). However, as Waite points out, precarity itself is an elastic term; it can be discussed as a general societal condition where "life worlds are inflected with uncertainty and instability," or a specific type of labor market experience where employment lacks legal protections, predictable income, or long-term security (2009, p. 416).

In either case, precarity is not all-encompassing or objective, and it is experienced differently across different social and spatial contexts. Some have seen the shared precarity of short-term, flexible contracts as a means to build political solidarity across groups, with mixed results (Neilson and Rossiter, 2008). Still, others simply identify such arrangements with freedom or even an acceptable norm (Waite, 2009). There is evidence that while gig work feeds into feelings of disempowerment, anxiety, and insecurity for many, some youth feel it preserves their own agency more than other precarious employment forms (MacDonald and Giazitzoglu, 2019). A recent study of Deliveroo workers in Australia highlights the difficulty of pinning down a singular experience of gig work—instead, a complex mix of economic, sociological, and psychological factors are involved in each worker's evaluation of the job. As a result, deciding whether on-demand work feels precarious and exploitative or is a good "fit" depends a great deal on individual circumstances (Goods et al., 2019). Given this dialogue, this project will be attentive to how notions of precarity may be differentially experienced by different Deliveroo Riders in different contexts.

Platforms and the Urban

The importance of geography and location to platforms like Deliveroo connects to another important strand of research: work concerning the relationship between platforms and the urban. Some commentators have pointed out that major works on the subject, such as Srnicek's *Platform Capitalism*, neglect to engage with the urban (Krivy, 2018). Even so, there is some informative work specifically dealing with the "emergent, irreducible, co-generative dynamics between platforms and the urban" (Rodgers and Moore, 2018, n.p.).

One strand of thought comes from Davidson and Infranca (2016, 2018), who, in a pair of papers discussing the role local governments have in regulating platforms, make a convincing argument that on-demand platforms are intrinsically linked to the urban. They argue, "much of the value created by sharing firms reflects their ability to effectively address urban challenges and leverage features of urban life" (2018, p. 2). In their current form, on-demand delivery services thrive where population size and density are high, as these conditions can support a large, heterogeneous service economy complete with a critical mass of customers and businesses within a compact area. Additionally, these platforms are designed to cater to the more frantic speed of urban life, "sav[ing] time-strapped urban workers from long hours at crowded grocery stores and the gloomy prospect of cooking in cramped kitchens" (p. 4).

Rossi takes this idea a bit farther with his notion of "platform metropolis." This concept is meant to spotlight how platform capitalist companies are not only "particularly rooted within urban environments," but also "radically transforming their social fabric" (Rossi, 2019, p. 3). Using the on-demand delivery platforms of Turin as an example, Rossi argues that platforms extract value from the very social relations, affectivities, and knowledges that make cities vibrant. In other words, companies like Deliveroo succeed "through the continuous valorisation of human labour in both its physical and affective engagements with the social environment of the metropolis" (p. 11). He concludes that such accumulative logic further entrenches neoliberal ideologies, where everyone is seen as an entrepreneur, ready to monetize every aspect of daily life.

Additional insights on the connection between platforms and the urban have been contained within work on smart cities. Drawing on the work of Rob Kitchin, a smart city can be understood as a city which incorporates networked digital infrastructures and big data analytics to produce any variety of outcomes (2015). The sociotechnical assemblages that make up a smart city can be government operations, such as real-time traffic management systems, or private enterprises, such as platform companies managing a workforce through apps. Viewed in this manner, platforms like Deliveroo are one of the many "digital data-driven or data-aided sociotechnical systems… involved in the performance of the spatial, material, and temporal dimensions of the urban" (Coletta et al., 2017, p. 8).

A key theme from literature on smart cities is that even while many digital systems nested in the urban fabric are presented as neutral, non-ideological, or rooted in pragmatism and efficiency, in practice they can reinforce hierarchies and serve specific interests over others (Kitchin, 2015; Sadowski and Pasquale, 2015). Shapiro connects this critique directly to platform work, showing how smart city initiatives like the LinkNYC public wi-fi system and platform companies like Uber both use selective control of data and infrastructure to produce value for private companies (2017). Rossi's work is relevant here too, as he argues that both smart city boosters and platform capitalists epitomise the concept of an "urban-technological fix" in which "the marriage between the urban and the technological is believed to provide intelligent solutions to our societies, and in so doing, to fulfill expectations of well-being and economic prosperity over the long term" (2019, p. 2).

Such parallels between the workings of smart cities and platform companies are compelling, especially in light of the notion of "actually existing smart cities." Put forth by Shelton, Zook and Wiig (2015), this critique highlights the fact that, in practice, smart cities are rarely as coherent or rational as they appear on paper—instead, they are "assembled piecemeal, integrated awkwardly into existing configurations of urban governance and the built environment" (p. 15). As the next section will demonstrate, extending this concept and critique to investigations of platforms like Deliveroo can be valuable, as doing so can help clarify the inevitable situatedness and contingency of these socio-technical systems.

III. Theoretical Framework

Actually Existing Platforms

The goal of this project is to develop an understanding of platform labor that is more attentive to how it is actually carried out in context, that is, to create an account of "actually existing" platform labor. To do this, this study draws on the concept of "actually existing" as discussed by Brenner and Theodore (2002) which emphasises the importance of examining the "contextual embeddedness" of a given large-scale economic process. In order to describe how platform labor is contextually embedded, this study will use a practice-oriented framework referencing the work of Reckwitz (2002) and Jones and Murphy (2012). According to Jones and Murphy, this approach rests on the idea "that in order to understand higher-order […] economic and social outcomes […] it is necessary to first closely observe and understand the micro-social activities (ie, practices) carried out and performed by people living, laboring, and creating in the everyday economy" (p. 376). By distilling individual accounts of on-demand delivery workers into a set of practices, and examining the contextually specific factors which inform those practices, as well as the different outcomes they produce, we will be able to understand how platform labor "actually exists" in the world.

Appending variations of the phrase "actually existing" to broad concepts has been a recurring motif since at least the early 80s. It gained currency as a way to framing discussions about the state of the Eastern Bloc, specifically as a way to contrast the ideals of 'genuine' socialism with the economic realities of Soviet states (Bahro and Fernbach, 1978). Since then, the phrase has become a useful heuristic for researchers wishing to highlight how any number of empirical findings may diverge from stated ideals or established discourses. One can find this framing used to distinguish such concepts as actually existing Maoism (Walder, 1987) and Marxism (Jameson, 1996) to cosmopolitanism (Robbins, 1998) and democracy (Fraser, 1990)—there is even an insightful examination of actually existing tomatoes (Aistara, 2014).

This project draws direct inspiration from a specific approach to the "actually existing," outlined by Brenner and Theodore (2002). Their paper strives to generate a critical examination of neoliberalism, specifically one that accounts for geographic and social variation. They argue that while neoliberal ideology alleges that market-oriented restructuring has the same positive results no matter where it is put into practice, the reality is quite different. Instead, it is always contextually embedded, that is, it is shaped by contingent forces at every scale, and is "defined by the legacies of inherited institutional frameworks, policy regimes, regulatory practices, and political struggles," at each site it is enacted (p. 351). Therefore, while there may be an overarching neoliberal ideology, its reality is actually motley. For example, the destruction of old socioeconomic arrangements and the creation of new ones takes place differently in different cities. Brenner and Theodore recommend examining how pre-existing uses of space, institutional powers, and social relations can influence this process.

Applying a similar analysis to the workings of platform companies can provide a fruitful model for understanding how and why variation occurs across contexts. Indeed, there is already work documenting this process. For instance, Mair and Reischauer argue the importance of addressing how platform companies become embedded in varying cultural contexts, suggesting that different local cultures will produce different institutional logics (2017). In a more specific study, researchers analysed how Uber integrated into ten different North American cities, finding that the company alternatively adopted a confrontational or cooperative approach in order to best disrupt local regulatory regimes in their favor (Spicer et al., 2018). Both these studies show that the core organizations of platforms can be responsive to contingencies at different scales, however, neither address how this can translate into the actual labor is carried out on a more granular level.

Practices of Platforms

As this project seeks to understand how platform labor, specifically on-demand delivery work, is enacted in context, a complementary framework is needed to achieve a greater degree of precision. This is where a

practice-oriented approach is useful. Applying such a theoretical lens to the experiences of workers will allow for a smaller-scale analysis of platform work. Additionally, a practice approach will be more inclusive to the diverse array of elements that make up platform labor, allowing for an analysis that incorporates more than just regulatory institutions but also objects, infrastructures, and ways of understanding.

Practice-oriented thinking has become an increasing popular way to approach a varied selection of phenomena within the field of geography. Jones and Murphy (2012) identity four distinct strands of research, described as approaches focused on (1) institutional practices, (2) governmentality, (3) diverse economies and livelihoods, and (4) relational economic geography. Each of these has their own general disposition, however, they are not mutually exclusive, and share and unifying conviction that socio-economic phenomena can be grasped and understood by giving analytic attention to ordinary and routine activities.

All these approaches build on the work of Reckwitz, particularly his paper "Toward a Theory of Social Practices" (2002). This article gives an overview of the basic outlines of praxeological thinking, emphasizing that practice theories locate the social not in mental structures (as with Durkheim) or discourses (as with Foucault) or interaction (as with Habermas) but in practices. Here practices are defined as routinized behaviors consisting of, "forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge" (p. 249). Thus, a practice is an action which enrolls a number of heterogeneous elements into the creation of a social phenomenon. It is "a 'type' of behaving and understanding that appears at different locales and at different points of time and is carried out by different body/minds" (p. 250). In this conception, a single person can "carry" a multitude or practices, and each practice can contain many discrete actions. Reckwitz argues that by focusing on practices as the "smallest unit" of the social, it is possible to gain better insight into a given field of inquiry.

According to Jones and Murphy, those working within the diverse economies and livelihoods approach adapt this thinking to understand the diverse, messy and quotidian actions of people sustaining themselves within an economic system (2012, p. 374). These insights are then used to create a nuanced understanding of a higher-order phenomena such as a market or inequality. In this way, practices are viewed as the "complex and conjunctural relational forms that enable economies to exist, persist, and/or change over time and space" (p. 374). As the goal of this project is to uncover the "actually existing" platform economy—how it exists across different contexts and spaces—it is fitting to follow a similar approach and apply a practice-oriented lens to on-demand delivery work.

To carry out this task, Jones and Murphy provide a loose, adaptable framework that comes in three parts meant to create a continuous dialogue between theoretical conceptions and empirical observations. First, it

is necessary to identify the higher-order phenomenon being investigated, in this case the on-demand plat-form economy. Next, the researcher must identify a set of practices that "constitute, influence, or manifest" this phenomenon. Finally, the research should "quasi-close" the loop by discussing how those practices help constitute or drive the phenomenon in question (p. 381).
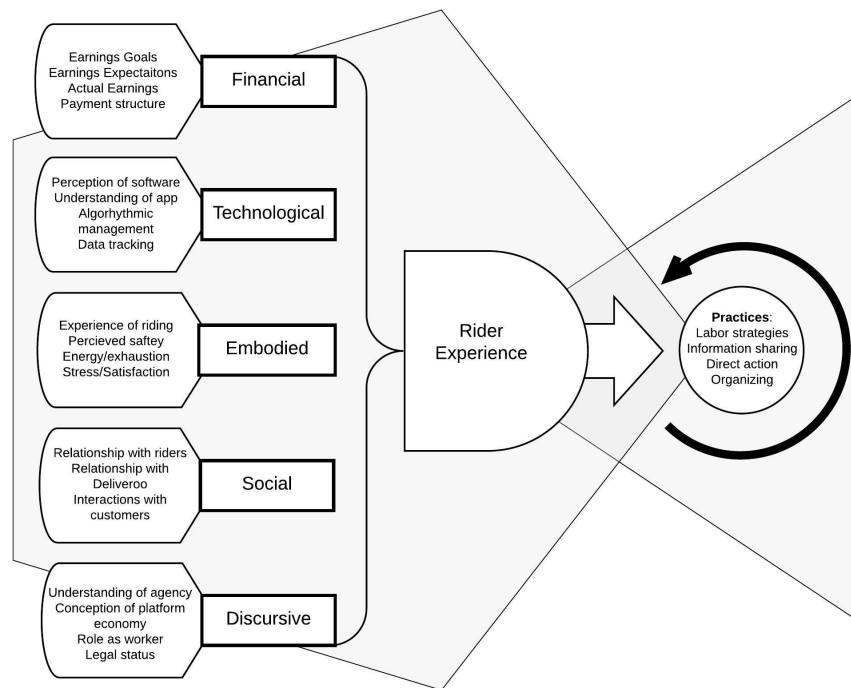

Figure 1. *The original conceptual model for this research. The Rider experience is shaped and informed by various factors, which goes on to influence the practices Riders carry.*

This second step requires some additional explanation, as the exact boundaries of what constitutes a practice can be quite blurry. A degree is elasticity is actually desirable, as the goal is not to essentialize practices as static or concrete rituals, but instead only "temporarily stabilize" them for analysis. To demarcate a practice requires observing a behavior then, unpacking it to "understand the cognitive, material, performative, and structural factors that constitute it within a particular place and time" (p. 382). Like Reckwitz, Jones and Murphy recommend being attentive to a range of dimensions which constitute a practice, specifically direct-ing researchers to address four non-exhaustive categories: (1) Perceptions (conscious and unconscious inten-tionalities, desires, discourses, and symbols); (2) Performances (actions, social interactions, activity entwined with non-human materials and technology); Patterns (roles, norms, rules, and conventions); and (4) Power (repressive or dominating forces, identity positionalities such as class, gender, and race). They go on to em-phasize that all of these categories need to be additionally situated within time and space to fully limn "how a seemingly similar practice is constituted differently by particular communities, and what these differences mean for relevant socioeconomic outcomes" (p. 383).

With this in mind, this study began by creating a rough conceptual model in order to tease out the various elements of the Rider experience which would constitute different practices. There is no definitive way to disentangle all of these elements, but to begin, five general categories are presented: (1) financial realities, (2) technological enablings/constraints, (3) embodied perceptions, (4) social interactions and (5) discourses [see: figure 1].

It is important to stress that this model was merely a starting point and was updated and refined throughout the research process. As the analysis chapters will show, different elements became more or less prominent in the constitution of practices, and still more unforseen ones are also incorporated. This type of iterative process is to be expected and being open to the myriad of shifting contingencies that shape practices provide a more refined understanding of how they are produced and reproduced.

IV. Research Design

Analytic Autoethnography

In order to conduct its analysis, this project requires detailed information about how on-demand platform workers carry out and experience their job. In order to gather this data, this research relies on the tradition of analytic autoethnography as discussed by sociologist Leon Anderson (2006). This method was selected because it facilitates the collection of qualitative data through multiple avenues including observation, participation, and interviewing. Such methodological pluralism opens more avenues for engagement, giving a more well-rounded and complete understanding of the topic at hand (Lamont and Swidler, 2014; Yin, 1994). The following section will briefly review the history and tenets of analytic autoethnography, which are laid out most clearly in a 2006 paper by Anderson, before detailing the reasons such an approach is appropriate for the research at hand.

According to Anderson, this variant of ethnography has its roots in the latter period of the Chicago School, when sociologists began moving away from the detached, disinterested, and faux-objective disposition of colonial-era anthropology and gravitating toward studies of groups and settings in which they were more intimately involved. By way of example, Anderson points Davis's study of fleeting social interactions, which grew out of his work as a Chicago cab driver (1959). However, these earlier endeavours shied away from explicit reflexivity or narrative in their elaboration of social phenomena. In the 80s and 90s, a rejection of traditional realist frameworks opened the door for an autoethnography that more directly acknowledged personal experiences. However, this "evocative" strand of autoethnography also stressed emotional reso-

nance and pathos over analysis. Anderson presents analytic autoethnography as an alternative which retains elements of reflexivity and personal narrative but also aims to establish theoretical insights.

To achieve this, Anderson outlines five key features of successful autoethnography. The first is that the researcher must become a complete member researcher (CMR) of the social world which they are investigating. This crucial distinction sets autoethnography apart from other approaches, as it gives the researcher unmediated access to at least one person's experience as part of said group. In this case, the social world is quite easy to define; becoming a CMR meant becoming an on-demand delivery worker contracted with Deliveroo, as status achieved prior to the project's inception.

The next two features are closely associated with the CMR status discussed above. They involve (1) the researcher reflexivity engaging with their status as a group member and (2) the researcher becoming an active and visible part of the research process. The first requires that any autoethnographer engages in "self-conscious introspection guided by a desire to better understand both self and others through examining one's actions and perceptions" (2006, p. 382). This means assessing how the researcher may influence the phenomena under observation, but also assessing how the experience may transform the researcher's own feelings, actions, and understandings. Rather than observe "from the sidelines" the researcher should actively get involved in their social field, even if it means being potentially divisive. This process should then be conveyed and commented on in the text, augmenting traditional qualitative data with personal anecdotes in order to convey insights.

While personal experience is important, Anderson notes that "no ethnographic work—not even autoethnography—is a warrant to generalize from an "N of one" (p. 386). Fittingly, the fourth feature is sustaining dialogue with informants beyond the self. This allows for greater insight into the extensive range of experiences and behaviors which may be present inside a group. It also provides a valuable foil with which to contrast or compare with the researcher's own experiences, which may not be wholly representative. This is achieved in this study with the incorporation of semi-structured interviews with fellow Deliveroo Riders, as well as extensive informal conversations and interactions.

Finally, the last feature requires that results from this process be analysed to "contribute to a spiraling refinement, elaboration, extension, and revision of theoretical understanding" (p. 388). This is the "value-added quality" of analytic autoethnography, where the empirical data from all the participating, reflexive introspection, observing, and interviewing is processed into more generalizable insights. It is at this stage where the theoretical framework discussed in the preceding chapter comes into play. Using the practice-oriented framework we will be able to analyse the rich body of qualitative data accumulated through research. Doing

so will produce a set of practices and describe how they relate to the overall platform economy phenomena, thus completing the analytic imperative.

Why Analytic Autoethnography

While the "opportunistic" genesis of this research makes autoethnography somewhat of a default method, the analytic autoethnographic approach has several advantages which make it an excellent fit for this study. The first being that the use of autoethnographic methods has a long and successful history as an approach to sociological inquiry, especially when applied to various forms of labor. Researchers have used this method to study such diverse subjects as the work lives of industrial tuna fishermen (Orbach, 1977) to the strategies of negotiation and exchange used by Tampa Bay table dancers (Ronai and Ellis, 1989). More recent studies have applied the approach to vocations related to this project, with researchers taking on work as pizza delivery drivers (Kinkade and Katovich, 1997; Thompson, 2015), traditional bicycle messengers (Kidder, 2005; Fincham, 2007), and as an on-demand delivery worker for a US analog of Deliveroo, Caviar (Shapiro, 2018).

In these cases, the autoethnographic approach was selected for its ability to provide access to a wide variety of qualitative data, some of which can only be acquired from direct experience. This reasoning also applies to the selection of autoethnography for this project. As Anderson points out, becoming a CMR "confers the most compelling kind of "being there" on the ethnographer," giving the researcher direct involvement with the meanings, emotional states, and actions a particular job entails (p. 380). This type of direct experience is valuable, as this study seeks to gain a subtle understanding of the nuances of on-demand delivery work, some of which may not easily emerge from other forms of data collection such as interviewing.

This is particularly the case with some of the more visceral aspects of the job. Working as an on-demand delivery person—especially one using a bicycle for transportation—is necessarily very physical work. Writing their own experience conducting autoethnographies of cycling, Larson points out that this type of mobility "is an embodied, affective and emotional practice involving specific, societal body techniques," and that it, "relies upon a set of corporeal, cognitive, social and imaginative resources and skills," to accomplish (2014, p. 59). Therefore, embodied perceptions, routinized actions, and physical sensations play an important role in the experience of the work and how its practices are formed—hence their inclusion in our conceptual model. Autoethnography allows access to these subjective aspects of the delivery process through "an intense sensory immersion" (Jonas, 2012, p. 648). These experiences can then be reflected on later through field notes and analysis (Fincham, 2006).

Additionally, Jones and Murphy stress that economic practices are always, "situated with material and technical contexts that mean practice is entwined with a range on non-human constituent 'props' and /or tech-

nical devices" (2012, p. 383). This is especially true for the work of an on-demand delivery Rider, which relies on interactions with mundane materials—such as bicycles, roads, and doorbells—and digital technology—such as the smartphone and the Rider app. Becoming a CMR allows the researcher to become intimately familiar with how these human-material interactions function. A case in point is the Rider App, which occupies a central position within the labor process (Gandini, 2018; Ivanova et al., 2018). Researchers have begun to understand that such apps "affect the body on a variety of habitual, un-reflected upon and non-discursive registers," and can have powerful effects on a user's response and behavior (Ash et al., 2018, p. 167). Actually carrying out the duties of a Rider provides the type of habitual engagement needed to really understand this entwining of human and technology.

Clearly, becoming a CMR provides qualitative information inaccessible through other means, yet, it also facilitates other more traditional types of data collection, specifically informal conversations and semi-structured interviews. Working regularly as an on-demand delivery Rider will significantly increase the amount of interaction between the researcher and other workers. Additionally, as previous autoethnographic works have shown, achieving CMR status can also help remove some of the social barriers that make connecting to study subjects difficult. Fincham, in his study of bicycle messengers in London and Cardiff, found that working as a fellow messenger was valuable in four ways (2006). First, it smoothed the process of acquiring informants to interview, as messengers were more apt to talk to a fellow insider. Second, by being able to relate with informants over common experiences, the researcher gained much-needed "authenticity" and "credibility" (p. 193). And lastly, it generally increased feelings of trust between the informants and researcher. All these benefits will greatly facilitate both the fieldwork and interviewing components of this study.

Finally, following an autoethnographic method and fully taking on the role of an on-demand delivery worker carries an additional advantage over interviewing and observation alone: it forces the researcher to engage with all the institutional structures which scaffold the platform economy. This means going through the work of signing up with the company, registering as an independent contractor, and navigating the corresponding tax system. As these legal and financial structures weigh so heavily in the discussion of platform work, it would be remiss not to find a method which engaged with them directly.

For the reasons outlined above, an autoethnographic approach is appropriate. However, this method is not without its drawbacks and challenges. These limitations are best understood in relation to the findings and will be discussed toward the conclusion of the thesis.

Method

Following the methodology discussed above, this research project was carried out over the course of nine months during which I worked as a Rider for the on-demand delivery platform, Deliveroo. While I originally began doing delivery work in August 2018, this activity was not formally conceived of as part of a research project until October of that same year. From then on, the project consisted of two phases of fieldwork. The first took place in Nijmegen, NL from October 2018 through February 2019. The second phase took place in Berlin, DE over the course of March and April 2019. This second phase was in conjunction with a research internship with the Platform Labor Research Project, a multi-year University of Amsterdam project investigating platform work funded by the European Research Council.

During these months I worked doing on-demand deliveries via bicycle for an average of ten hours a week. After I established that this work would become the subject of a research project, I began to take field notes, recording my observations, thoughts, and experiences after each shift. These notes include my own reflections on the work as well as document any conversations or interactions I had with other workers. Maintaining this practice not only created a record of my experienced but also helped me reflexively engage with my status as a delivery worker, in line with Anderson's methodology.

In addition to collecting data about my own experiences, this project also includes data from thirteen semi-structured interviews. Seven of these interviews were conducted with Riders working in Nijmegen, and six were conducted with Riders in Berlin. As Nijmegen has only several dozen Riders this sample is fairly representative. As Berlin potentially has 100s or Riders, it's sample may be less so. Interview participants were recruited via three methods: (1) Soliciting interview participants via Rider group chats hosted on Whatsapp, (2) Direct recruitment of Riders I encountered on the streets, and (3) Through snowball sampling where interview participants referred me to friends and acquaintances. The resulting pool of participants included Riders reflecting a diverse range of social intersections (Valentine, 2007): participants included men and women; Dutch citizens, workers on student visas, and immigrants from within and outside the EU; and ages ranged from 17 to 36. A full list of participants, along with their aliases, ages, and other pertinent details in included in figure 2.

Interviews were conducted using a loose interview protocol developed to correspond to the project's original conceptual model—however, it was continually refined to be more useful as the project continued [see appendix] (Creswell, 2007, p. 133). The protocol's open-ended questions were designed to elicit specific information but leave room for the participant to elaborate. Some of the topics addressed include the subject's motivations of beginning and continuing delivery work; the routines and habits they follow to accomplish the job; the feelings and perceptions they experience on the job; and moments of rupture which stand out to participants (Knox, 2017).

In addition to carrying out delivery work, fully becoming a CMR for this project ended up including other activities which proved to be revelatory. For example, Riders in many cities form group chats on the popular messaging platform Whatsapp. Previous research has already indicated, such communications channels are an important component of on-demand delivery work (Vandaele, 2018). This proved to be accurate, and reading and participating in the group chat was a regular activity during the course of this fieldwork. For this reason, this project considers these chat logs an important additional source of qualitative data. On top of this, I actively sought other experiences which, while not explicit components of a Rider's professional duties, were important activities that nonetheless grew out of the job. This included attending optional social activities organized by Deliveroo, socializing "off the clock" with fellow Riders, attending Freie Arbeiterin-nen- und Arbeiter-Union meetings in Berlin, and being an informant for *Volkskrant* for an article about labor organizing (de Vries, 2019).

Number	Alias	City	Age	Details
01A	Maikel	Nijmegen	34	Dutch, Rider Liaison for Nijmegen, uses a scooter
02A	Daan	Nijmegen	26	Dutch, also delivers for an independent agency
03A	Dries	Nijmegen	17	Dutch, student, also works as a mystery shopper
04A	Ralph	Nijmegen	24	Dutch, student, works three nights a week
05A	Emiel	Nijmegen	31	Dutch, left social income to work with Deliveroo
06A	Liam	Nijmegen	Mid 20s	British, politically left, dissatisfied with Deliveroo
07A	Daryna	Nijmegen/Arnhem	20	Ukranian, student, works four days a week
01B	Wiktor	Berlin	29	Polish, serious cyclist, member of independent coop
02B	Agustin	Berlin	31	Chilean, work holiday visa, reading *Platform Capitalism*
03B	Samuel	Berlin	33	Swiss, just started, carpenter by trade
04B	Demir	Berlin	32	Turkish, two years experience, avoids other Riders
05B	Jon	Berlin	33	American, Spanish speaker, works with FAU, parent
06B	Dolores	Berlin	20	Chilean, work holiday visa, law degree

Figure 2. *Table displaying the thirteen Riders interviewed along with their location, age, and relevant information.*

The final stage of the research process involved synthesizing all the data gathered. To do this, I used the theoretical lens provided by Jones and Murphy to distill the large bank of qualitative information I gathered into a set of practices which constitute how I saw on-demand labor being enacted in Nijmegen and Berlin. To help achieve this, data gathered through my interviews were coded using Atlas.ti. The process will follow a modified version of the Moustakas method as outlined by Creswell (2007): First, the interview transcripts were scanned for significant statements and loosely coded using 365 unique codes. These statements were then gathered into groupings of "meaning units" which highlighted recurring topics. The goal is to uncover the key factors which helped structure the practices I saw to be taking place. Once these factors were uncov-

ered, I was able to present a thick description of each practice along with an analysis of how they contribute to, constitute, and manifest the on-demand platform economy.

V. Practices of the Actually Existing Platform Economy

In this section I present my research findings as a collection of twelve practices which contribute to the phenomenon of on-demand delivery work in the platform economy. As it is always possible to identify more practices, this list is not comprehensive—nor does each individual Rider carry all of these practices (Reckwitz, 2002). The twelve described here were selected based on their prevalence—they were commonly observed among Riders—and their relevance—they have substantial impacts on the contours of platform labor (Jones and Murphy, 2011).

For organizations sake, these findings are divided into four parts: The first covers the practices of joining the platform economy; the second covers practices related to socialising; the third includes practices carried by workers performing deliveries; and the fourth covers practices peripheral to the delivery process but nonetheless germane to the vocation of on-demand work. Each practice is described in turn with accompanying analysis as to its impacts on the phenomenon of platform labor.

Onboarding

Joining Deliveroo

I did not come to the Netherlands to work as an on-demand delivery courier; I came to study human geography. Still, in the summer of 2018, I typed "join deliveroo worker" into Google and began entering my personal information into the company's online portal. With a few keystrokes, I was on my way to becoming a worker in the platform economy.

And yet, it would be wrong to say this discrete action constitutes the practice of becoming a platform worker. Inputting your name, address, and phone number into Deliveroo's database is just one action in a system of doings, sayings, understandings, objects, and institutions that stretches far beyond my keyboard. Consider: What led me to search for this sign-up page in the first place? The most apparent factor for me at the time was my bank account, which, while not hitting record lows, was nonetheless looking slim going into a full year of school. Though, how I could respond to this financial pressure was shaped by other factors. There is my legal status; as a non-EU citizen on a student visa, I can only work ten hours a week. This, along

with my rudimentary Dutch skills, limits my employment options. On the other hand, aside from some my-opia, I'm more-or-less able-bodied. I can ride a bike. I can use a phone.

These constraints and abilities still do not provide the full picture. What did I know about Deliveroo? I had seen their delivery cyclists all over London earlier that spring and cyclists sporting the distinctive teal jackets and cubic backpacks had begun to appear on the streets of Nijmegen as well. I knew the company was like Uber, and that those people working for Deliveroo were probably not working *for* Deliveroo, but were independent contractors "being their own boss." From the headlines and Twitter threads in my media bubble, I knew this meant they were probably getting a raw deal. I knew the word "precariat." But I also knew I could probably choose when I got to work, which would leave me free to attend class or stay late at the library. Maybe it wouldn't be so bad.

Two weeks later, I took a train to the local Kamer van Koophandel to register as a business owner. I couldn't fully read the forms, but the administrator working there had encountered enough new Riders that month that she knew exactly what I needed. With her help, and several email exchanges with Deliveroo's onboarding team, I was able to start doing deliveries. From this perspective, my becoming an on-demand delivery Rider was not the result of a singular decision, or even a simple motivation to make money, but instead was "constituted through multiple, dynamic, contingent, and complex sets of associations that enrol a wide array of actants" (Jones and Murphy, 2012, p. 380).

Of course, these circumstances will be different for each person and result in variations on the practice of becoming an on-demand worker—with commensurate differences in socioeconomic outcomes. In talking to other Riders, it is possible to demarcate recurring patterns and practices associated with beginning to do on-demand delivery work. I want to draw attention to two such practices which have clear impacts on how the phenomena of on-demand work comes together; I call these practices bandwagoning and platform migration.

Bandwagoning

While I did not know any on-demand delivery workers when I signed up with Deliveroo, this seems to be an exception rather than the rule. The majority of other Riders I talked to both casually and in interviews knew someone working for Deliveroo when they began the process of signing up. In many cases, this social connection was a decisive factor in becoming a platform worker, as this connection either encouraged or actively facilitated the person in getting on the platform work bandwagon.

This influence is articulated clearly in statements from interviews. Jon, a Rider working in Berlin explains that his financial needs were pressing, but it was a social connection which shaped his eventual course of action:

> *Well, I needed a job. And I had thought about doing bike messenger work, but I wasn't really happy with the conditions that the other companies offered here. And a friend of mine was working for Deliveroo at the time, and actually, I was thinking about Foodora. But he was like, no come to Deliveroo*

This dynamic cropped up again and again in discussions with Riders, who often spoke of being encouraged by friends, relatives, and romantic partners to give platform work a try. This encouragement can go far beyond merely providing a favorable opinion of on-demand delivery work. Importantly, it often extends to providing direct assistance in navigating the on-boarding process or even assembling the materials needed to work. New Riders spoke of more experienced Riders helping them find the proper paperwork, learning how to use the Rider App, or finding an appropriate bicycle.

This bandwagoning practice is actively encouraged by Deliveroo, which provides Riders with referral codes and business cards in order to facilitate the recruitment of new Riders. In many cases, a Rider will receive a monetary bonus if a recruit using their referral code becomes a regular worker. Looking at comments made by Ralph, a Rider in Nijmegen, it is clear how this referral bonus also becomes a critical factor in bandwagoning, "because if you bring someone in, they get like a bonus. And so we did it to like, we would split the bonus. So that's why I chose that." Other less-collaborative approaches exist as well. For instance, one Rider in Nijmegen began making promotional YouTube videos touting their positive Deliveroo experience in order to get more people, even strangers, to use his referral code. The resulting bonuses became a sizable portion of his income.

The bandwagoning pattern demonstrates the network embeddedness of the on-demand delivery work. That is, just as Wood et al. (2019) found the local interpersonal networks shaped the contours of remote cloud work platforms, such is also the case with on-demand deliveries. The impacts of this embeddedness are mixed. Many Riders see direct personal benefits, such as the monetary bonuses or the opportunity to make the job more social and enjoyable. As Ralph explains, "[a friend] referred a lot of my friends and me, which was nice. And now that we are all working there. We can just join up whenever it's a slow day, we can just talk about fucking anything. We're already friends."

Leveraging one's network to continually enroll more Riders brings short-term benefits to workers receiving the recruitment bonus. However, at a larger scale, the true benefits of this practice redound to Deliveroo. To start, it increases the platform's network effect; as Deliveroo accumulates more Riders, it becomes more valuable to the other parties who use it as a marketplace. Specifically, the more Riders Deliveroo has, the more

valuable it becomes to restaurants and diners, as it is more likely to have one on hand to carry out any given order. As Srnicek points out, this network effect is crucial for platforms as they must continually grow to become dominant in their market (2017, p. 100). Finally, this bandwagoning also can reinforce the oversupply and fungibility of the on-demand workforce, both crucial to keeping lean platforms competitive (van Doorn, 2017). Many commentators have speculated that amassing a pool of labor in surplus of the demand puts platforms at an advantage, as makes it easier to lower payments while still keeping enough workers willing to take orders (Healy et al., 2017; Wentrup et al., 2019).

Platform Migration

In both Nijmegen and Berlin, the delivery work carried out on behalf of Deliveroo appears to be disproportionately accomplished by workers with an immigration background of some type. From my observations of Nijmegen, the workforce is primarily Dutch and international students, a composition that mirrors findings on the demographics of Deliveroo workers in Belgian cities (Vandaele et al., 2019, p. 14). However, in Berlin, encountering a native German was a rare occurrence—in my two months on the job I only came across two or three Riders who were not immigrants from either inside or outside the EU.

These demographics suggest that the practice of becoming a delivery worker is highly influenced by factors related to immigration status, including legal restrictions and cultural barriers which impact what kinds of work a person can find. I know this from my own case, discussed above, but other Riders also confirmed this for themselves in interviews. In Nijmegen, Daryna, a bachelors student from Ukraine, spoke of her predicament in these terms:

> *And it is kind of hard to get work here if you are not an EU student or not Dutch, because then [employers] need to apply for your work permit. And it's probably kinda difficult and long process and they don't want to do this. And for Deliveroo, it's like, way more easier.*

This was also the case with the Rider's boyfriend, who, after failing to get a more traditional restaurant job, also joined with Deliveroo. For Riders like these, platform work becomes an attractive option as it has fewer barriers to entry. For instance, the physical and digitally-mediated aspects of on-demand delivery work mean it can be carried out without a fluent command of the local language. As Liam, a Nijmegen Rider from the UK, put it, "living isn't free and my Dutch speaking skills are horrendous. So the kinds of jobs that I can get, you know, as an immigrant to this country are limited."

Yet, in both these cases the practice of joining an on-demand platform was secondary, that is, it is practiced after immigrating and in response to local conditions. This situation is distinct from a similar practice which I am calling platform migration, where joining the on-demand workforce is conceived of as part of, in con-

junction with, a migration process. I observed this practice most distinctly in Berlin, where I encountered many Riders on temporary work visas, specifically German Working Holiday and Youth Mobility Visas. These Riders generally come to Germany knowing on-demand platform work would make their stay financially viable. Dolores, a 20-year-old from Santiago, Chile sums up her personal involvement in platform migration this way:

> *Between Chile and Germany there is a special visa to allows you work one year. So I decided to come to Berlin because I have a lot of friends here. So that's the reason I'm here in Berlin. I thought maybe, because my friends did that… I was thinking it was the most easy job for me. Because I don't speak German.*

Other Riders I spoke to shared comparable experiences of planning their travels to Germany with platform work in mind, often citing the ease of signing up, the unimportance of language skills, and flexible scheduling as motivating factors. A common refrain was that platform labor allowed a guest worker a way to start earning money relatively quickly, which is important given the limited time provided by a temporary visa. Additionally, the ability to set one's own schedule, in theory, makes it easier to take time off for travel.

Platform migration is common enough that it sustains its own bandwagoning effect, with workers building on the experience of previous platform migrants or engaging in the practice with a group of friends, as demonstrated in the quotation above. Dolores spoke of meeting with another more experienced Rider upon arrival in Berlin, who, as a favor, provided a short crash course on how to do the job, including how to use the app and which neighborhoods were good for working in. While Deliveroo does offer instructional videos, many Riders instead opt to learn job skills from each other in an unofficial context such as this. She also joined a Whatsapp group chat populated by dozens of other South American platform workers. Titled "Chilearoo" this group chat was used to share tips, information, and support on topics related to Deliveroo and adjusting to life in Germany in general, a practice that has been documented occurring among other expatriate groups (Ahmed and Clemens, 2018).

Dolores's path shows how platform work can become embedded in a network of migrants who encounter it as a kind of "arrival infrastructure," or "platform of arrival and take-off." Described by Meeus, van Heur and Arnaut, arrival infrastructure includes "those parts of the urban fabric within which newcomers become entangled on arrival, and where their future local or translocal social mobilities are produced as much as negotiated, (2019, p. 1). The authors give examples of faith organizations or language centers which help sustain place-based solidarity networks—the South American Riders I spoke to approached platform labor in much the same way, using it as a means to make money, but also to connect to others to facilitate their stay. Riders spoke of working together, living together, and sharing material support such as equipment and bicycle repair.

The practice of platform migration does have a significant temporal dimension, with those using on-demand work understanding their position as temporary. None of the international Riders I spoke with considered their work with Deliveroo as something that will continue in the long-term. Dolores and Agustin, both in Germany working on 12-month visas, spoke of this temporary status as an important facet of their experience of the job—when the work felt uncomfortable or unfulfilling, they could remind themselves that they had other options in the future. Dolores recalls one particularly rough night, when she grew tired of waiting on the street in the cold: "It was a little disgusting. At the end I laugh about it but only [for this] reason; because it's one year. It is like an experience."

Agustin, also from South America, feels this temporary status keeps him from being too concerned about the long-term stability of the job. Afterall, acquiring a Holiday Work Visa requires an existing degree of financial security, as applicants must prove they have enough funds to purchase insurance, housing, and a flight home. However, he notes that other platform migrants, such as those seeking economic security or a permanent relocation, might have more at stake. Here he reflects on in influx of Venzuelan workers who make up a large portion of the platform economy in his home country:

> *For example, now, [on-demand delivery] is also in Chile, and Argentina. And in Argentina, it is like so much more precarious. And it's the same dynamics, but the people who do it in Argentina come from like, from Venezuela. So it works like in the same way. But me doing it here is like, doing it in a much more strong economy.*

Making the Roo Community

Distancing

After a few weeks of doing deliveries as a Rider, a friend asked me what it was like working for Deliveroo. The question gave me pause; was it necessary to explain that technically, I am not working *for* Deliveroo? My contract is explicit on this point, reading, "You are a supplier in business on your own account who wishes to arrange the provision of delivery services to Deliveroo." But then again, when I go to work, I wear a backpack and beanie with their logo and company colors. During my time on the job, it's the Deliveroo App telling me where to go. Still, the terms of my contract show I am not an employee; I am merely licensing their product. It's right there in black and white: "For the use of the App you shall pay Deliveroo a license fee in the amount of 0.25% of the respective net sum invoiced."

So what exactly is my relationship with Deliveroo? It is a question that every Rider engages with in some way. One common practice which comes in response to this condition is a practice I call distancing, in which Riders disavow, disassociate or otherwise downplay their relationship with Deliveroo as an organiza-

tion. Like other practices, this process cannot be reduced to "an (isolated) individualistic rational choice," but is constituted through cognitive, material, performative and structural elements (Jones and Murphy, 2012, p. 381).

For many Riders, a key element of distancing is emphasizing other facets of their identity which they deem as more important than being a Deliveroo Rider. In Nijmegen, many Riders I spoke to were currently in some form of formal education, as strongly associated with their status as students, making statements about being just students merely engaging in side-work. Others put more emphasis on other pursuits, some Riders I spoke with insisted a more accurate description of their identity was as a musician or artist. In Berlin, Wiktor, who spends an average of five days a week working with Deliveroo, nonetheless found this commitment trivial compared to his other work:

> *I still consider myself quite privileged. I also have other things that keep me alive like the whole music thing and so on. So I don't consider Deliveroo as the center of my attention. It's something that I do to earn money and something that takes a lot of my time but I don't identify with this job*

These subjective evaluations of one's distance from Deliveroo are often buttressed through actions that represent or perform a Rider's distance from the company. A common manifestation of this is the conscious refusal to "ride branded," that is, wear any clothing or equipment prominently displaying the company's logo. As Wiktor puts it, "I don't want to be recognizable as a Deliveroo Rider." The symbolism of "riding branded" was especially potent for Agustin, who describes feeling put off by Riders who are too enthusiastic about working with Deliveroo:

> *We have a saying in Spanish, which is* ponerse la camiseta *which is like "when you wear the shirt," like your team, you really stand for your team. And I think with these kinds of applications, even if you have to do your work properly… I don't identify myself with this application. You know, so that's what happened this one time with this guy, where I felt like he was like maybe overdoing it*

In this quotation, "overdoing it" refers to the Rider giving un-do fealty to Deliveroo, allowing it to dictate his working habits. For many Riders, distancing from Deliveroo entails taking full advantage of any "spheres of autonomy" to be found in the labor process (Ivanova et al., 2018). This means taking concrete actions like making Deliveroo work a lower priority than other activities, rejecting any orders which seem too difficult, or cancelling shifts without hesitation.

Hence, distancing is entwined with discourses which present on-demand platform work as full of freedom and flexibility. As other authors have pointed out, Deliveroo often stresses the "freedom" the job provides, usually highlighting the ability to schedule shifts and reject orders as examples of this (Ivanova et al., 2018;

Shapiro, 2018). Thus, distancing both draws on and reaffirms this discourse, helping Riders identify more closely with the ethos of platform labor in general, if not Deliveroo itself. As Jon explains, the entrepreneurial spirit and "be your own boss" discourse Deliveroo uses to justify not employing delivery workers gets reflected back by the freelancers, who may feel no attachment to Deliveroo at all:

> *I don't have loyalty to anybody. I don't even wear company logos, you know? They pay me and that's all I care... if the company goes under I'll find another job. I don't give a shit, you know. I feel myself a bit like this kind of pirate cowboy... just get as much money as I can as fast as I can and then when the ship sinks... I take my little rowboat to the next ship*

However, while this disaffiliation may feel freeing to an individual worker, it contributes to a fragmented workforce, an effect which could hamper long-term organizing efforts. A dynamic discussed more in the section on organizing.

Socialising

My very first order as a Deliveroo Rider sent me to a popular fried chicken franchise on Nijmegen's Plein 44. While waiting to collect the order, I was joined by another Rider with the distinctive teal backpack. The number of Riders working in the city was small enough that he immediately recognized that I was a newcomer to the scene, and after a short introduction, he added me to a Whatsapp group called Deliveroo Riders Nijmegen. The group had about 30 members at the time, and as the weeks went on I met nearly all of them. This was partially due to my imperative as a researcher, but partially because it was easy. Riders greeted each other in restaurants, chatted on Whatsapp, and conjugated in the street or inside restaurants known to be friendly to idling cyclists.

My experience in Berlin was much different. Where in the small and centralized Nijmegen it was easy to meet other Riders, in the much larger and multipolar Berlin it was more difficult. I knew there were many others working; I would see them in the streets. Yet they were always moving, and so was I. Given Berlin's larger population and higher density of restaurants, the pace of the job was faster and more consistent with less downtime between orders. When I did cross paths with other Riders, it would be brief, and it could be weeks or more before I saw the same person again. There was a greater feeling of anonymity and I did not stand out as a new Rider; no one went out of the way to make conversation or add me to group chats.

These contrasting receptions are emblematic of the different ways Riders in each city seem to practice socialising; while Riders in Nijmegen cohere as one social group, Riders in Berlin seem to silo off into different discrete cultural groups, if they socialise at all. While these practices are not exclusive to one location, it is still illuminating to examine how each city can foster one tendency over the other. Doing so demonstrates

the range of contingencies which contribute to divergent enactments of platform labor between locations. Of particular importance seems to the size and morphology of the city, the demographics of the Riders, and the influence of Deliveroo's Rider Liaison system.

Cohering

First, a few points about how the practice of cohering is enacted in Nijmegen. Like many Dutch towns, Nijmegen has distinct city center which contains the majority of the city's restaurants and retail establishments. This core-periphery model meant that carrying out deliveries mostly required picking up from restaurants in the city center, making drops to a residential neighborhood just outside, then coming back to the center to wait for the next order. This keeps everyone returning to the same locations throughout the night, usually on Plein 44 or outside a Burger King on Molenstraat. This, plus the generally fewer number of orders, means that Riders spend a portion of each shift waiting together in close proximity. As Daan explained, "But because [Deliveroo] also kept us waiting. They created this kind of thing where people do get together." He goes on to say these informal gatherings, an inadvertent effect of Deliveroo needing workers available, allowed Riders to complain and commiserate about the job, share ideas, and generally create a more convivial atmosphere.

Through these informal meetings, most Riders in Nijmegen are acquainted, a fact evidenced by how often they referred to each other in interviews, with the (correct) assumption I would know who they were talking about. Crucially, one name repeatedly came up: Maikel. This Rider serves as Nijmegen's Rider Liaison, a position created by Deliveroo, which means he is responsible for being the emissary between workers and Deliveroo. In this capacity he functions somewhat of a coordinating force for Nijmegen Riders, conveying information and updates from meetings with Deliveroo; fielding questions from new Riders, and fostering a social atmosphere by being very active on the Whatsapp group. In his own words, "Nijmegen delivery market is something I can... play is maybe not the right word, but in a bigger or smaller sense, you know, influence."

And his influence is pronounced. Many Riders credit his work as an important connecting tissue for Nijmegen's workforce. Daryna attributes the tight-knit feel of the city's Rider community to his effort, "he's keeping everything under control so that everything is going smoothly. And he helps all the time and keeps you up with some updates." From my own perspective, Maikel does greatly contribute to the practice of cohering. Though part of this practice is sustained through exclusion. There has been at least one instance of him removing a Rider from the group chat for being too negative, particularly for insisting that Deliveroo's business model was exploitative [see: figure 3]. In this way, maintaining a coherent Rider community involves policing the boundaries of acceptable discourse, in this case, keeping discussions amenable to Deliveroo.

Transgress beyond a certain degree, and you could find yourself outside of Nijmegen's unitary Rider community—which can have real consequences. Not only does this type of exclusion cut a Rider off from one of the job's primary social venues, it also means potentially missing out on useful information that would make the work easier, such as warnings about police or bad restaurants. Within a few months of being removed from the group, the added friction took its toll, and Liam gave up on riding with Deliveroo.

[2:44 PM, 1/15/2019]	45: We all knew beforehand that deliveroo is not the best employer
16: I'm wondering how the company will respond to this	62: That's the whole point, deliveroo isn't an employer
58: Is very much there	16: Yes they are
58: But anyways, ill practice what I preach and will not go into discussion 😁	41: It's a platform and that works great
59: Yea me 2! Hopefully deliveroo won't just pull out from the netherlands entirely	26: no for us. FACT
16: I remember these sort of ruling happen before with uber and they ignored it	45: Ooooo Nice to know 😊
16: Then cops raided their office	16: They are telling us when we can work, what to do when we work, how it is appropriate to work, what is correct to use for work, and deciding how and what we are paid. Sounds like employment to me
16: Maybe we should start looking for another work just in case	41: Yesterday I earned €40 in two hours. There's no employer that would pay that much.
58: Yea might be a good idea haha	16: that's an impressive run
16: if they have to issue employment contracts it's going to be brutal because they'll probably not keep a lot of people, only the best	65: when you hire a painter for your house, you tell him when to show up to paint, what room to paint, how it is appropriate to paint, what paint you want him to use, and what you want to pay him. Does that make you an employer?
58: Better train those legs	41: Nice 😁
16: maybe I'll go back to house painting or something	41: You are right
16: Or deliver for post nl	16: imo the court decision is correct but if it is implemented it's going to be a huge mess that will be done in the most harmful and unpleasant way possible. I will probably get fired by it
26: may be they will give 2 options to the riders to chose . be a employee or be a freelancer. riders call	16: The analogy is a bad one anyway. A painter comes for two hours and then work for someone else.I work for deliveroo every day, wearing their bag. doesn't matter if I deliver KFC, smokehouse, whatever, the job is from deliveroo
16: I don't think it can work that way	62: A painter can also be hired for a bigger company, and you don't have to wear Deliveroo clothes btw
21: Me too. Please update us in the group if there's any form of reaction.	
26: freedom of choice. I don't like the fact people moan about this issue. deliveroo didn't force anyone to do this job. They have introduced insurance though.	
16: Lol OK Jean Paul Sartre	
65: they've had this in the UK too	
65: for the foreseeable future, I think just a lot of politics	
16: I thought the UK ruling went the opposite way?	
62: Maybe, then there's coming a Nexit too 😊	

Figure 3. *An excerpt from the Nijmegen Rider group chat demonstrating the dynamics of the Nijmegen Rider community. In this selection, Rider 16 and 45 voice criticisms of Deliveroo's self-employment model following a Dutch court decision declaring that platform workers are entitled to an employment contract (Andersen, 2019). Other Riders disagree, and the argument continues until Rider 16 is removed from the group.*

Siloing

In contrast, in Berlin, it does not host one coherent Rider community, especially one so closely connected to Deliveroo. Instead, Riders operate much more independently or practice siloing, which involves dividing up and adhering to more fragmented social groups.

This is partially influenced by the city's size and layout. Berlin's massive scale and sprawling nature mean dining hotspots spread throughout the city (Huning and Novy, 2014). The outcome is delivery routes are more circuitous and varied with each drop leading to the next pickup without doubling back—accepting a string of orders can take you from Hermannplatz, to Görlitzer Park, to Checkpoint Charlie, to Schillerkiez. It is very possible to do the job without sharing time with other Riders at all. In interviews, some Riders emphasized that this ability to work in solitude was a main perk of the job, stating "I [am] the type of person that I don't want to work with people. So I don't like colleagues, or boss on me... so it is kinda the right choice for me." While a few Riders in Nijmegen also expressed a preference to work alone, such solitude could not be taken for granted. As Daryna professed, "I'm coming back [to city center] I'm actually just thinking: I hope there is no one so I can just focus on my things and I don't need to chat with anyone."

This is not to say Riders in Berlin do not socialise or form groups on the job. However, rather than forming one group, there are many. This siloing practice reflects the more complex demographic mix of Berlin's Rider community. While Nijmegen is dominated by young student workers, Berlin has a more varied roster of Riders, particularly in a superdiverse neighborhood like Neukolln (Vertovec, 2007). When asked if there is a "typical" Deliveroo worker, Demir responded:

> *There are many different types that do Deliveroo. There is some hipster they do, there is some hippies they do. There are some people that are doing it just for sport with professional clothes. Some people they'll be with the jeans, you know? I do it with the pajamas [laughs]. There's not really an exact type*

And these different "types" of Riders tend to socialise together. For example, platform migrants sharing a language or country of origin will have their own Whatsapp groups for sharing information and coordinating activities. One Rider from Chile talks of how she and a fellow platform migrant will arrange to work in the same neighborhood, "I have a real good friend, my best friend I think, she also works in Deliveroo. So we talk about; are you waiting? We are waiting, just meet up in this place. So where are you? What are you doing now?" This in line with my own observations: When staking out a restaurant in order to make contacts, I would often meet groups of friends from the same country all working the same area.

Though not all groupings are distinguished by traditional categories such as language or nationality—some are more akin to subcultures where style and attitude carry heavy significance. Here, I am referring to the subset of Riders who closely identify with pre-platform bicycle couriers, those risk-taking, rebellious, "deviants" chronicled by Fincham (2006) and Kidder (2005). These Riders differentiate themselves from other Riders in multiple ways, and think of themselves as "real messengers" as opposed to being "a phony,"—this according to Wiktor, who identifies as the former.

Such Riders tend to not "ride branded," and instead opt for a mix of high-performance gear and street clothes. Wiktor, a long-time Rider from Poland explained it as, "a little bit of punk, a little bit of the out of system kind of thing." Additionally, Riders within this group participate in their own social activities which reinforce their separate identities, including alley cats, a type of "minimally structured races held in open traffic" (Kidder, 2005, p. 356). As Jon explained, he sees the job as more of a lifestyle, which extends far beyond his engagement with Deliveroo:

> *A big part of my free time is spent thinking about the job. When I look on the internet, it's often bike related, or courier related. I follow a lot of couriers on social media. I watch a lot of videos and Instagram accounts of what other Riders are writing about. I definitely follow all the bike geek tech magazines about the newest wheels and like what's coming out in the Taiwan bike fair every year*

Yet, the most drastic example of siloing I observed concerned the divide between Riders who used bicycles and those who used cars. The use of cars for carrying out deliveries is nearly unheard of in Nijmegen, though in Berlin it is common. Official numbers are hard to come by, but when staking out busy restaurants in Neukolln, I observed car drivers and cyclists picking up orders in equal number. Though, even though these two types of workers are contracted with the same company, and service the same restaurants, there is very little contact between them.

This divide is sustained by material separation, as drivers, confined to their automobiles, can't socialise as easily as cyclists—an "estrangement between the users of different modes" that has been noted as a consequence of automobility (Nixon, 2014, p. 96). Though, even if Riders could overcome this hurdle, there is often a significant language barrier. Speaking to this divide, Wiktor observes, "The problem with car drivers is that they rarely speak English. They usually recruit from some other social group." Dolores concurs, noting that there are other differences which set drivers apart, "Most of them look like older than me. And that's the idea I have about them. But I don't have much information."

I made a special effort to meet and interview Riders who worked by car, but the social barriers proved just as stark as cyclist described. Drivers I encountered were older, many appeared to be in their 50s or 60s, and most only spoke enough English for basic conversation. Interestingly, while the cyclists I met came from a wide range of countries both inside and outside the EU, the Drivers I managed to talk to consistently hailed Turkey, Pakistan, or India.

This ethnic and cultural divide is compounded by a persistent feeling that car drivers do not fit the true ethos of on-demand delivery work. Writing in *Jacobin*, sociologist Lorenzo Zamponi explains that delivery platforms like Deliveroo project the "figure of the Rider as a young adult on a bicycle" to "reproduce an idea of smartness, coolness, and modernity, spiced with techno-enthusiasm and environmental sensitivi-

ty" (2018, n.p.). Through their age and their vehicle choice, drivers defy this discourse, much to the chagrin of Riders who believe in it. Some Riders derisively described drivers as "cheating" while for others, such as a dedicated cyclist like Wiktor, the presence of drivers provoked a more systemic critique of Deliveroo itself:

> *I used to think that part of the image of the company is the fact that is done with a bike. So it's like a sustainable, ecological or whatever… But I then I see more and more car drivers. And just like, I don't know, it just makes me see it more like a corporation and not a startup anymore. It's not as perfect*

Out on Delivery

Anticipating

One Friday night in Berlin, I am out making deliveries when a double order takes me to a gated condominium off Stralauer Allee, along the southern edge of Friedrichshain. It was overcast when I set out, but by the time I make the drop there is a steady downpour. The rain soaks through my not-quite-waterproof jacket and sprays of water collect on my glasses, obscuring my vision. I try to bike to my next pickup but, wet and frustrated, I drift off the curb and flatten my front tire. Without a spare tube, pump, or even a proper rain jacket, my work night comes to a premature end with a forty-minute walk home. The fees from the double order don't even cover the cost of repairs.

My unfortunate night is exactly the type of situation every Rider tries to avoid with a practice I call anticipating. This practice entails Riders recognizing that succeeding in their work rests on their ability to foresee and overcome for any exigencies that may occur. Faced with this imperative to be self-reliant, Riders accept that they must prepare for every aspect of the job and take responsibility for any outcomes, positive or negative. This type of responsibility can be described as "a form of reflexive prudence" where workers "must increasingly conduct moral evaluations of their actions in relation to their potential effects, calculating and designing their life course in ways that attempt to mitigate harm and risk, and maximise benefit to themselves and others" (Trnka and Trundle, 2014, p. 139).

A common aspect of this practice involves Riders assembling and maintaining an assortment of tools in order to facilitate their work and allay any issues that may inhibit their duties. This preparation goes beyond the everyday artefacts individuals assemble as part of "mundane mobility," and often includes specialised tools required for the unique problems Riders face (Binnie et al., 2007). When asking Riders how they prepare for a shift, a typical response included a list of materials. Jon provides an example:

> *I keep a kit with me at all times. So like this belt has like a patch kit in there. And then I have a bike light... I have to make sure the bike light is charged. I have a battery pack with me also... So I can be responsible enough to*

remember to charge my phone. And yeah, and then like I also have also a small tool kit my bike... a bike bag, a little pump and the co2 cartridges for like a flat.

These routinized habits, both the physical process of collecting objects and the mental routine of remembering them, are reinforced through explicit encouragement and tacit understandings of how platform labor works. First, explicit encouragement comes in the legal terms of the Rider Agreement—clause 3.1 reads, "you will provide the equipment necessary to provide the Services,"—but also from the Rider App, which gives Riders a checklist upon logging in, reminding Riders to make sure their lights are charged and tires are full. Yet more powerful seems to be the Riders' understanding of the world of platform labor, specifically, that in this labor arrangement the welfare or interests Riders is a low priority in the eyes of the platform. Dolores explains the understanding this way, "Yeah, that's the point: that they don't care about you. Because they are like, 'We don't know who you are. We don't care about you and your bike and your body.' That's the feeling maybe."

The inclusion of the body in this list of things that the platform does not care about, but Riders must take responsibility for in order to carry out platform labor, is significant. For many Riders, anticipating also mean preparing their body for the rigors of their physical job, in both the short and long term. Many Riders speak of reconceptualising eating as a routine in service of their work, making sure to eat well in order to be more productive, as evidenced by statements like "I try to maintain some sort of diet. And I am not eating any junk food and so on. I think Deliveroo kind of reinforced that in me." Other Riders, such as Jon, speak of "fueling up" before work, or performing stretches and other exercises. These are not symbolic actions, but are essential for keeping the body ready for the "skillful performance" that is biking for hours and an on-demand courier (Reckwitz, 2002, p. 251). For some the anticipatory management of the body even extends far beyond the scale of a single shift. Riders speak of minding their posture and other routine movements so that their knees and backs will be able to handle their work in the future.

Riders also take precautionary steps to avoid injuries which would impact their ability to work in the long term. This practice was more acute in Berlin, where cycling is perceived as much more dangerous than in Nijmegen. My own experience biking in both cities supports this—the separate cycle paths and courteous drivers of the Netherlands contribute to a much less stressful experience than the heavily trafficked and poorly maintained streets of Neukolln. Unsurprisingly, Riders in Berlin routinely wear helmets in case of a collision and orient their attention to be more mindful of dangerous drivers, as the possibility of catastrophic injury is always present (Jones, 2012, p. 651). As Wiktor explained, even with his years of experience as a courier, this anxiety never goes away, "It is this hidden fear somewhere deep inside, that in case something happens: I break a leg, I break a hand, whatever. I won't be able to earn money, and then I'm

really, really screwed." Jon, another experienced Rider, shares this concern, and makes accommodations to temper the liability, "I worry about that. But I mean, then again, it's like why I pay for the insurance."

Anticipating obstacles, from mundane scrapes to life-altering calamities, and making arrangements to be prepared for them, can be seen as an essential practice for platform workers. This is particularly true for those making on-demand deliveries. Not only do they receive little to no material support from the "lean" platforms they contract with, but the mobile nature of their work means forethought could be the difference between accomplishing their goals or having to abandon their duties. When a flat tire or twisted ankle becomes a decisive factor in one's income, it is imperative to be on guard.

While each individual worker benefits from this practice—in that they are able to carry out their job—it is Deliveroo who reaps the greatest reward. The platform creates conditions where the burdens and risks of delivery work are transferred to those on the street (Zwick, 2018). In order to make-do, workers then internalize the responsibility of anticipation and act accordingly. The routinization of this practice perpetuates the structure of "lean "platform companies, allowing them to keep operating with extremely low expenditures as workers cover the costs. Such a process transforms Riders into the "self-actualised and self-managing individuals" that are "central to such neoliberal visions," thus echoing the worst fears of some of platform labors critics (Trnka and Trundle, 2014 p. 139; Goldkind and McNutt, 2019).

Active Idling

A significant difference between Deliveroo and its competitors like Foodora and Thuisbezorgd is that Riders do not receive an hourly wage, and are instead paid per completed order (Ivanova, 2018). This payment model has been unfavorably compared to the piecework system of early industrial manufacturing and criticised for incentivizing workers to ride dangerously, "as the revenue made is strictly correlated to the number of delivery tasks accomplished" (Dablanc et al., 2017, p. 8). And it is true that fast-paced, physically-intensive bursts of activity are part of the job, yet, downtime can also make up a considerable part of the on-demand experience (Taylor, 2018). Therefore understanding how Riders handle these gaps between "gigs" is important to fully understand on-demand labor. Doing this means recognizing that this downtime is not an idle void where workers are merely unproductive. In fact, during these periods, Riders engage in a varied collection behaviors and routines which can be conceptualized as active idling.

Riders are acutely aware of the piecework dynamic of their job and consistently describe experiencing feelings of frustration and impatience when waiting on orders to come through. As Dries, a Nijmegen Rider, concisely explains, "it's pretty shit to wait a long time because you won't get any money. So I like the job, except for the waiting times." Prompted by this frustration, the first way Riders engage with downtime is by trying to drum up more orders, pairing the negative feeling with action. However, in an example of the in-

formation asymmetry discussed by Rosenblat and Stark (2016), the algorithm which assigns orders is kept secret by the platform, effectively blackboxing an important component of the process (Wood et al., 2017).

Given this constraint, many Riders rely on intuition and trial and error in developing strategies to "summon" orders. In Berlin, with its multiple clusters of restaurants, this often means moving to different areas of the city which may be busier. Wiktor explains, "I usually go just very, very slow from the last order towards some restaurant-rich area. And then something usually comes on the way." In Nijmegen, with its one central zone, this strategy feels less effective. Riders will still attempt it, positioning themselves closer to busier restaurants, but the lack of real options means few genuinely feel like they have influence over the outcome. Ralph describes his skepticism about any of his colleagues' ability to influence the platform, "[they think] like, 'oh, maybe it's better to stand over here, when it's a slow day, and you get all the orders. Maybe you got to do this…' I think it's a lot of, you know, superstition."

Still, being bereft of orders does not mean forsaking activity altogether. During slow periods, Riders will remain signed in on the app, but attempt to fill the downtime with other activities. In this way, Riders "take back" the time which is not being directly managed by the platform. The workers who are best able to do this are those who live inside a designated delivery. This is no small privilege, as Daan points out, "so I just went inside at home because I live in the city center and I can do that. But I think a lot of people can't do that, because they don't live here." Those who aren't as lucky actively idle in public, often meeting and talking with other Riders, exchanging stories, and complaining about the slow period—as discussed earlier, these routine periods of waiting together contribute to Nijmegen's Riders knowing one another. Other Riders will engage with other activities, usually on the phone, such as messaging friends on Whatsapp, checking their stats for the night, and adjusting their expectations. Daryna describes her constant grappling with the question: "how much I can earn in this time based on how busy it is?"

These two approaches to active idling are more oriented toward addressing immediate concerns, either through getting more orders or filling the time between orders. However, for some Riders, the recurring feelings of restlessness and impotence experienced while stuck waiting can prompt more systemic thinking. Daan puts it this way, when "you only had five orders, like one or two an hour, it's just a slow night. But then when it happens regularly, then you start to think about what's actually happening." This concern about "what's actually happening" is obviously aligned with my disposition as a researcher, though unsurprisingly, people who depend on platforms for their livelihood also investigate and think critically about their functioning—for example, at least two Riders I've talked to have read Srnicek's *Platform Capitalism* (2016).

Liam in particular shows how the frustrations of being kept idle can be channeled into insightful analysis of on-demand work. For this Rider, the act of waiting for the Deliveroo algorithm to assign an order, recalled the practice of being "on the lump," which he explains using an example:

> *It was the idea that if you are working class man, and you needed work, you went to the factory or the construction site or the docks… And you would all wait around by the front gates and at the opening time, the site foreman would come and look around the crowd of unemployed people, and go: you and you and you and you, come with me! The rest of you, fuck off. And that's it. That's how you would get work. So you sit there waiting, hoping to be chosen. So that's what working on Deliveroo is. You sit there waiting to be chosen for a delivery job*

Importantly, his analysis is not *sui generis*; instead, it is informed by elements of the Rider's personal history and political ideology. In discussing his contempt for being on the lump, it is clear that his thinking is structured by a particular "way of understanding the world" that historically and culturally specific (Reckwitz, 2002, p. 253). Liam is from Liverpool, a former industrial powerhouse with a long history of labor organizing and labor struggles (Taaffe and Mulhearn, 1988). According to his own account, his personal history coming from this area means he is accustomed to approaching problems through a Marxist lens, which gives his ambient dissatisfaction structure.

Given these findings, it is evident that making use of "idle" downtime is, in fact, a critical practice in the on-demand economy. Far from just passively waiting, Riders use the gaps between gigs to achieve their own aims, whether that is exploring the contours of algorithmic management or forging connections with other workers. Some of these activities, such as seeking out busier areas of the city, could be mutually beneficial, helping both the worker and the platform achieve their goals—in this case, more orders and faster response times, respectively. Interestingly, this example also shows the downsides of the information asymmetries on-demand platforms enforce on their workers. It is completely possible that the Riders' intuitions about which areas are busy are completely wrong, thus making their response time worse. This could be avoided if Deliveroo were more transparent about the nature of demand in a given area—though providing this information may encourage Riders log out if demand is low.

Managing Affective Capacity

A typical working night in Berlin begins when I accept an order from Risa Chicken, a popular spot located on Sonnenallee. This major thoroughfare is often cited as one of the worst cycling streets in the city and there's no bike lane. Making the pickup requires handling close proximity to automobiles, a task made extra tricky this Friday night as buses and Ubers keep obstructing the curb. I'm forced to continually check over my shoulder as I weave in and out of traffic, also keeping an eye for tipsy pedestrians at every intersection. Everywhere there noise and movement—the roar of engines, reggaeton leaking from crowded bars, the

flashing lights of police cruisers. Luckily, I know the location, so I don't need to divert my eyes to check my phone for directions, though this isn't always the case. I arrive, heart rate elevated from the stressful ride. It's cold outside and my glasses fog as I step into the humid, fluorescent interior. When I return to the street, my backpack is filled with what feels like 6 kgs of fried chicken, which will pull on my shoulders and radiate heat as I navigate Neukölln's bumpy, cobblestone side streets to the drop location.

In the documents and videos Deliveroo uses to "train" new Riders, the delivery process is presented as a simple sequence of events: accept an order, pick up an order, deliver an order. Yet, these descriptions do not, and can not, capture the spectrum of intensities and sensations a delivery cyclist encounters throughout every act of delivery (Larson, 2014). The ability to process these intensities is known as "affective capacity," and can be described as "the extent to which [a body] can have an impact on the world around it while absorbing what the world throws at it" (Jones, 2012, p. 648). As the above vignette begins to show, the job can throw a lot at an individual—even a short ride can tests the "affective limits" of an experienced Rider (Jones, 2012, p. 648). Thus managing one's affective capacity is an essential practice of on-demand delivery. Given that each individual has different affective capacities, and are sensitive and resistant to different stresses, Riders cultivate a number of unique approaches to this practice.

First, it may be useful to account for some of main stressors that push on the affective limits of delivery workers. A recent survey of on-demand delivery workers in France found that the number one concern Riders have about their job was "rain, cold, bad weather conditions," closely followed by "congestion, pollution and traffic" (Dablanc, 2017, p. 9). In my own experience, this holds true; my field notes are filled with complaints about the weather and I can recall many instances of being shaken by close encounters with careless drivers. Talking to other Riders also gives a palpable sense of how much meteorological and traffic conditions can strain one's affective capacities. For example, one Rider recounts the unpleasant, but common, experience of delivering in the rain: "[you"ve] got wind chill on your hands, so you can't control anything properly. You've got the cold burning your face. You've got stuff going in your eyes." Other Riders recount "pressure raising" run ins with errant drivers, some even resulting in injuries. Finally, there is also the physicality of the job itself—riding a bike requires coordinating attention, balance, and muscle power (Larson, 2014). This, combined with the heavy loads and on-the-fly navigation of completing deliveries, puts a great deal of strain on Riders' bodies and minds. Many report feeling physically exhausted after a shift, and as Demir adds, "after six to seven hours of riding a bike, you're also losing your reflexes and your attention."

Riders cope with these challenges to their affective limits in a variety of ways, though I will draw attention to three approaches which are particularly salient. The first is through direct attempts to raise one's affective capacity. This often manifests as strategic investment in new material goods. Riders talk of buying specialized waterproof and thermal clothing to increase their ability to endure adverse conditions. Others also in-

vest in ventilated helmets and specialized backpacks to better distribute the weight of large orders. I know from my own experience that dropping a few Euros on a quality balaclava was the only reason I could take shifts on several extra cold winter nights. Riders also invest in better transportation, as owning a lighter bike or electric scooter can mean more deliveries with less muscle fatigue. However, there is always an important aspect of balancing benefits and costs. Daryna speaks of having her earning potential held back by her older bike, "I'm even kind of frustrated with myself that I cannot ride the bike faster but I feel like it's because of the bike itself. But I'm not really willing to get a more expensive bike."

Another way Riders try to increase their affective limits is through concentrating on the monetary reward for their efforts. This can be informed by the belief that individuals who can tolerate poor conditions will earn extra money either from fee boosts, extra tips, or a simple increase in orders as others logout early. Agustin demonstrates this understanding when explaining his logic for continuing to work in a storm, "My feet were soaking. But bad weather is often a good time to be out because there's people who are going to be quitting, so you rather stick to staying and you'll be able to have more options." Daan found that by pushing himself physically in pursuit of revenue, he would slowly increase his limits, "It's only my responsibility to see how fast I could go. Depending on how far I could push myself, I could earn more in an hour [...] I like that aspect; that I could, through working, become faster."

This way of thinking is encouraged by the the Rider App, which is carefully designed to buoy a Rider's effort and enthusiasm for the job. The app's interface has a bright and engaging tone [see: figure 4]—smooth sliders, bright colors, and subtle animations make accepting orders so effortless as to discourage overthinking the process (Ash et al., 2018). Additionally, the interface displays select statistics including a running tally of a user's earnings in a big, bold font. These design features are meant to foster certain worker behaviors, in this case challenging them to always outdo themselves. This type of algorithmic management is sometimes referred to as gamification (Schmidt, 2017). And it is effective, with Riders finding real satisfaction in seeing their numbers go up in response to their effort, which helps them push through poor conditions. Commenting on this dynamic, Maikel talks of how it helps him get through cold, rainy night, "I was miserable. But, at the end of the day, I looked at the app: 92 Euros. It's like, yeah, that's not that bad. I'll take it out of the ATM and warm myself up with all the money!"

Finally, Riders also push the limits of their affective capacity by finding pure enjoyment in the sensation of having these limits tested. As many researchers have found, some individuals are motivated, not discouraged, by the sensual thrills of urban cycling—this is true of both everyday commuters (Jones, 2006) and working professionals (Kidder, 2005). This appears to be consistently true of on-demand couriers; nearly every Rider spoke with talked of enjoying the act of cycling around the city itself. I know I fall into this category, and the Riders who participate in "alley cat" street races definitely do. Many cite their enjoyment of the

activity as a motivating reason they chose Deliveroo over other platform options, such as Helpling. One such Rider spoke explained how this pleasure translated into her work, "Sometimes when I am with energy, I like to go fast! More than for the money, but for the feeling. I'll ride really fast." Others talk of finding "a certain satisfaction of feeling on the limit," or describe seeking "a rush" by flying through the streets to
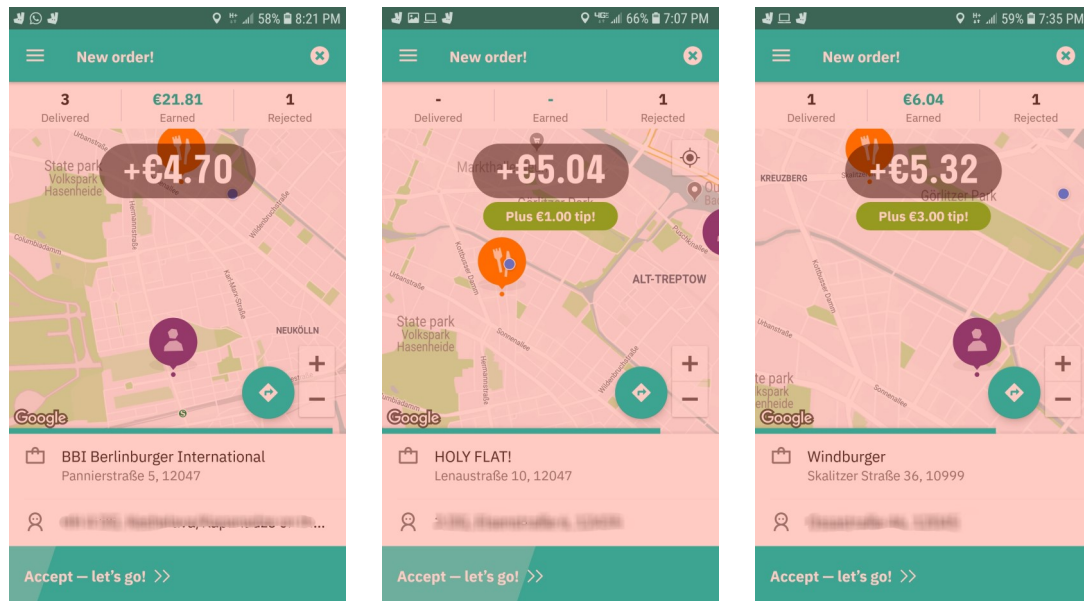

Figure 4. *Screenshots from the Rider App. The bright tone and smooth interface encourage engagement—the prominent fee, highlighted tip, and easily accessible "let's go!" slider invites Riders to reflexively accept orders. Stats along the top keep a running tally of earnings, for further encouragement. The pink tinting is the result of a screen-dimming app designed to save battery life.*

make a drop.

It is important to note that while everyone has an affective capacity, no one's capacity is the same, and it is often regulated by various contingent factors whether they be material, social, or physical (Larson, 2014). For instance, not all Riders have access to the same financial resources to invest in their work—while some can afford to increase their speed with a slick electric scooter, others have to make do with a rusty cruiser borrowed from a friend. Similarly, not all Riders can afford to find pleasure in the thrill of urban cycling— those with childcare duties or other social responsibilities may not feel comfortable taking risks in the wanton pursuit of adventure (Jones, 2012, p. 649).

There is also the matter of each individual body having different abilities. I know my own poor eyesight occasionally affects my capacity to work, as finding the right address often requires slowing down, squinting, or pulling over completely to inspect a house number or street sign. Every Rider has their own individual issues—while one speaks of being limited by their weaker legs, another attributes their ability to endure long shifts to the "hyper-focus" of ADHD. In these ways, the challenges of on-demand delivery are not evenly

distributed. However, as Sawchuk makes clear in here writings on "differential mobility," these differences are relational, not ontological, and are partially created through environmental conditions (2014). Different infrastructures could redistribute these challenges to capacity. I experienced this firsthand in regards to my vision: House numbers in Nijmegen are small, and often hidden, meaning I could spend ten minutes seeking the correct address on a block. In contrast, in Berlin, house numbers are displayed on large, lit box lights, an infrastructural touch that greatly cut down on wasted delivery time. It's not hard to imagine other such tweaks to the built environment greatly influencing who is able to succeed on the road.

Shaping the Platform

Innovating in the Gaps

As previously discussed, platforms are not simply multi-sided marketplaces which allow two or more parties to connect and transact—they are also architectures which strategically leave openings in their structure on which other parties may build and innovate (Gawer, 2014). To illustrate how this works for Deliveroo, one can take the example of companies like Verloning and Tellow. As a "lean" platform, Deliveroo does not perform certain administrative services for its delivery workers, as they are not employees. Riders are responsible for managing their own taxes, invoicing, and other financial matters. This can be viewed as an opening into which another party can insert themselves, which is exactly what Verlonging and Tellow have done. For a subscription fee, these two companies offer software and services to facilitate the tasks Riders are required to perform on their own as freelancers. They fill a void left open by Deliveroo's employment model, both helping Deliveroo cut costs and making money for themselves. The company encourages this, Deliveroo itself has sent me promotional materials on Tellow's behalf.

These two companies are far from the only examples of outside agents developing ways to interface with the Deliveroo platform. Though, they are prominent ones, and it is common for Riders to make us of their services. Yet, third parties are not the only ones creating new modules which fit into the periphery of the Deliveroo platform; Riders themselves creatively fill these openings as well with a practice that can be called innovating.

Some of the innovation practices Riders engage in are analogous to that of Verlonging and Tellow, described above. That is, they essentially build infrastructures which parallel the services Deliveroo would provide if it were structured like a more traditional firm. Two clear instances of this come from Riders addressing the issue of taxes. In Nijmegen, Maikel offers to help other Riders keep track of their expenses, file their quarterly VAT taxes, and compile paperwork for deductions, all for a monthly fee. He cultivates customers

by providing free advice session and advertising through the Nijmegen Riders Whatsapp group. Riders in Berlin have come up with a similar fix in the form of a user-friendly Excel sheet which will be distributed for free to other Riders, "You can just put in like your invoices your deductible spending and it just in crunches out numbers and how much you should pay in taxes."

In both these cases, workers drew upon skills from previous work to develop their intervention, though in each location workers reached different conclusions about charging for their service. One possible explanation is that each person has a different identity; the Rider in Berlin describes himself as a courier, "We're couriers, this is what we do for a living." In contrast, Maikel, in line with Deliveroo's discourse about that status of its self-employed Riders, strongly identifies himself as an entrepreneur. Therefore, his tax services are not just an extra skill, but part of his business, or as he says "personal brand."

Another gap that Maikel fills is less complementary to Deliveroo, but almost serves as competition. By making contacts with local restaurants, this Rider has identified ones that are not contracted with Deliveroo, but nonetheless occasionally need extra laborers to make deliveries. He is then able to pick up these deliveries as extra work on the side, or farm them out to other Riders. However, despite moderate success with this strategy, Maikel does not feel like he will be able to operate it at a larger scale, or independently of Deliveroo, stating "I have looked into trying to set up my own delivery business. I don't even know how Deliveroo makes this work." Still, even if it is difficult to run an entire business, it's not unheard of for Riders to pick up small delivery tasks to supplement their income. One Rider in Berlin even admitted that his frequent contact with customers gave him ample opportunity to sell drugs on the side—an obvious bit of cross-market synergy, especially for late-night customers.

Clause nine in the Deliveroo Rider agreement reads, "You have the right, without the need to obtain Deliveroo's prior approval, to arrange for another person to provide the Services (in whole or in part) on your behalf." This stems from the fact that Riders are technically not employees, and are instead self-employed contractors providing delivery services to Deliveroo. Thus, their contract leaves open how exactly those services are carried out. Riders usually do the work themselves—however, there are a few who take advantage of this "sphere of autonomy," (Ivanova et al., 2017) seeing it as another gap that can be creatively filled through innovation. One innovation that has been developed to fit in this space is the practice of selling, renting, or lending Deliveroo accounts.

This practice has received attention in the popular press, mostly in the form of sensationalist articles stoking fears about illegal immigration (McManus, 2019; Bryan, 2019). In my own encounters with Riders sharing accounts, it has more to do with preserving attendance statistics or providing assistance to someone in a jam. As Emiel explains, he originally started with Deliveroo by being a substitute for another Rider,

"Because he had an accident, and he couldn't. So he asked me to do the sessions [...] for his certain statistics, so they didn't go down. So substitute for him for that week." Jon, a Rider based in Berlin, talks of wanting to rent an account while on holiday, in order to do a bit of short-term platform migration without the hassle of registering as a contractor in a new location, "I'm going to Barcelona next week. And I was trying to work under someone's app in Barcelona... I could just bike around the town and hang out and then make some money while I'm doing it, you know?"

In both these cases, swapping accounts seemed more provisional and friendly that something akin to the pattern of cloud workers subcontracting out work to other cloud workers, which has been identified by Wood et al. (2019). Though, there are indications that the practice is more widespread and can be done for the purpose of accruing profit to the renter—one Rider did indicate they knew someone who "rented accounts as a business." Additionally, the popular Rider Reddit forum r/deliveroos had to ban the practice of advertising accounts for rent as "to protect the subreddit from being a marketplace" (2019).

Finally, some of the innovations built on the Deliveroo platform interact directly with the company's software itself. Like many platforms, Deliveroo makes it possible for third parties to integrate new modules into the company's system through what are known as application programming interfaces (APIs). In other words, by making APIs available, an organization like Deliveroo "can transfer design capability to users, generating complementary assets in the form of applications [...] enabling API providers to reap significant benefits from an emerging ecosystem of platforms" (Huhtamäki et al., 2017, p. 5305). A common example of this is restaurants using APIs to integrate Deliveroo ordering directly into their point of service software, facilitating operations between the two parties.

Yet, such integration can also be turned toward other purposes, as demonstrated by some Riders working with the Freie ArbeiterInnen-Union (FAU), an organization in Berlin working toward unionizing on-demand delivery workers. In an attempt to better understand how the fees Riders earn have changed over time, FAU members have created a specialised software that collects data as it is transferred from the Rider App to the central Deliveroo system. With this tool, the Riders are able to get a more accurate picture of something many workers suspect: small adjustments in Deliveroo's distance-based payment algorithm have slowly lowered fees over time. Jon adds, "it seems like when you balance the general costs, and the general fee, it seems to be different per zone and per month. So it's fluctuating."

This direct application of programming skills, combined with the technical capacities of the smartphone and the applications they operate, has allowed Riders to start rebalancing the information asymmetries built into on-demand labor. This form of innovation is interesting for how it differs from the others described above—while providing tax services or creating markets for swapping Rider accounts are beneficial to neu-

tral for Deliveroo's goals, this intervention is threatening. Such is always the danger of the platform model, as Gawer writes, "by replicating or reverse engineering the platform side of these interfaces, rivals may be able to "clone" the platform itself and compete with it directly" (2009, p. 26). While the FAU organizers are not trying to "clone" a competing service, they are trying to reverse engineer aspects of the platform to demonstrate how they are tilted in the company's favor. With this accomplished it is easier to advocate for a more equitable system.

Collaborating

A common complaint from Riders is that the GPS feature in the app is regularly inaccurate: "There's many times for example, you go somewhere and the pin [is] just wrong. And the address is a completely different address." One night out on delivery, I found myself in such a situation, circling a block, vainly searching for an address which didn't seem to exist. Luckily, I was able to flag down a passing Thuisbezorgd cyclist, who, being more familiar with the area, was able to show me the elusive side street I was looking for. In this instance where technology failed, seeking the aid of another worker helped get the job done. This is just a small example of how collaboration can be an essential practice in the world of on-demand delivery. This practice is carried out in one-off personal interactions, in group settings with communications technologies like Whatsapp, and can even be scaled up into larger collective actions.

This practice relies on a "collective, shared knowledge" that while each Rider does work independently, they share common struggles (Reckwitz, 2002, p. 253). Agustin puts this sentiment into words when he describes his thoughts on crossing paths with other delivery workers, stating "whenever you meet, you feel this thing, even like, with people who work for other companies, you see, like, in a way, they're like yourself, going around on a bike." This belief is accompanied by numerous actions which delivery workers carry out to help each other succeed. Riders will help each other find addresses, give each other advice about which restaurants to avoid, or help each other decipher the sometimes cryptic delivery instructions provided by customers. Samuel, who has only been working for two weeks, talks of fellow Riders teaching him some of the Rider App's less visible features, like how to split up a double order, "and so he told me, well, you can just like cancel this one. Just take the other one. So I realized I can do that."

Communications technology plays an instrumental role in enabling collaboration. As carrying a smartphone is a necessary part of the job, its constant presence and connectivity capabilities has the undeniable role "moulding" the social practices between Riders (p. 253). Most prominently, using Whatsapp, Riders habitually check in with each other through group chats. Even the relatively small chat for Nijmegen accumulates hundreds of messages a day, becoming a forum for everything from updates about Deliveroo's policies to real-time warnings about traffic to the type of "fragmented social sensemaking" observed in other platform

worker forums (Lee et al., 2015). As Dries notes, "when the police are looking for people without lights they will say it in the Whatsapp group. So it's an easy tool." Thus, when one Rider describes the tool as "the best line of communication that I had with other Riders in the city," he is not exaggerating [Figure 5]. And while the chat can occasionally be "just a lot of stupid jokes," it's availability nonetheless makes sharing information so simple as to be second nature, making collaboration a persistent possibility.

[9:05 AM, 1/5/2019]

082: I just canceled 5 hours on Monday to give to a friend and they didn't become available me on their phone... Any ideas why that would happen? Or did someone take them that fast? 😂
565: It could be someone was right on the button, but it could also be that Deliveroo adjusted their expectations, and are expecting fewer orders on Monday so they're not replacing the slots that opened up
113: I also cancelled some hours and they went offline instantly
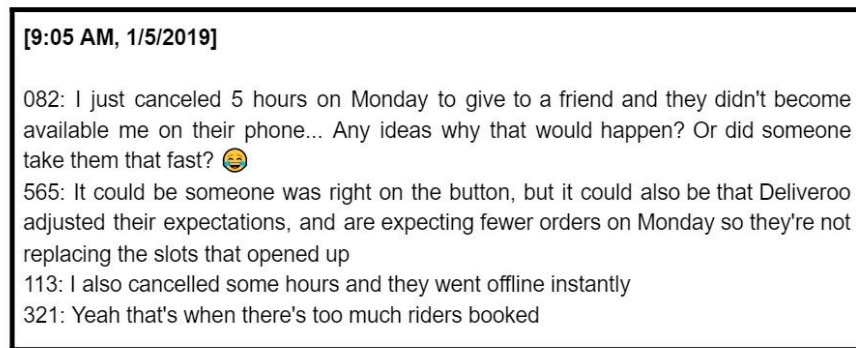321: Yeah that's when there's too much riders booked

Figure 5. *An excerpt from the Nijmegen Rider group chat showing a typical question and the "fragmented social sensemaking" that occurs as Riders attempt to create an answer.*

Occasionally, through repetition, routine information sharing congeals into more extended collaborations. An example of this process comes from Nijmegen. Here, Riders complained so consistently about the wait times at a specific restaurant, Ribs Factory, that individuals began to reject their orders en masse. As more Riders took to the chat to brag about rejecting orders, it developed into an unofficial boycott—a typical message on the subject reads "you still pick up orders from Ribs Factory? I've decided to reject every order from them … been going on for 2 months now, terrible timing there." Eventually, faced with this coordinated snubbing from delivery workers, the restaurant had to adjust their process. Maikel, Deliveroo's Rider liaison, recalls the result, "You know, with Ribs Factory at some point: they were really slow, and there were complaints, lots of rejections. Deliveroo looked into it and we kind of fixed it. Ribs Factory tried doing better."

Still, in Nijmegen, the most common forms of collaboration are small acts which help individual Riders become more efficient at carrying out their labor on behalf of Deliveroo. But examples like this show that given the right conditions, this practice can begin to have a measurable influence on the overall conditions of on-demand work. This gels with the assertion from Tassinari and Maccarrone that "collective action is possible even with a fragmented workforce that is physically dispersed and employed on individualised contracts, falling outside the remit of collective bargaining, (2017, p. 356).

Expanding on this are collaboration practices that foreshadow substantial changes to Deliveroo's business in the city. For example, Riders in Berlin have also spun off innovations from Deliveroo, the most notable may

be the Crow Cycle Courier Collective (CCCC), a worker-owned delivery collective founded by current and former Riders. Described as "100% self-governing" this decentralised network of couriers operate their business without the mediation of a larger platform. Wiktor is member of CCCC, and explains that their localized, co-ownership model gives workers more control, similar to the platform cooperativism championed by advocated like Scholz (2016). Here he explains part of the appeal :

> *With the cooperative, there are different things that we carry. The distances are longer you can actually focus more on riding itself and you can also go faster on the big roads. You don't have to turn immediately. Also, with this cooperative, we are focusing on cargo deliveries and we are working with cargo bikes [...] I really enjoy riding with cargo bike. Yeah, we are like delivering wine or whatever, sometimes up to 80 kilos, That's just that's just something different*

With this practice, Riders who do not identify strongly with Deliveroo as an employer but nonetheless feel a strong connection with delivery cycling as a vocation have found a way to turn their shared affinity into a long-term collaboration. This was possible for two reasons: Riders were able to identify a gap in Deliveroo's operation—servicing those needing bulk deliveries—and were able to meet a critical mass of fellow Riders interested in attempting a new venture. While it is doubtful that this cooperative itself will outgrow and replace Deliveroo, it does demonstrate how innovation practices can compound into different ways of structuring the business of on-demand delivery. It is not certain that such a development could occur in Nijmegen given its smaller pool of Riders and less dynamic economic landscape.

Organizing

On a Monday night in Berlin, I arrive at the campus of an independently-run primary school near Mariannenplatz in Kreuzberg. I'm not here to make a delivery, but to attend a meeting of the FAU, the anarchosyndicalist union working to organize on-demand delivery workers in the city. Founded in 1977, this staunchly anti-capitalist organization consists of small syndicates which organize workers at a local level, usually making their demands known through strikes, disruptions, and direct actions. Present this evening are about fifteen other current and former delivery people, all of whom are dissatisfied with the labor arrangement in this sector of the platform economy. On the agenda tonight is a recap of a recent Deliveroo strike in Bristol, an update about an ongoing recruitment project, and a discussion about setting up an emergency insurance fund for injured cyclists. This meeting is all about organizing, that is, working together to push for substantial change to the conditions of platform labor.

While Riders routinely collaborate to solve short-term problems, becoming involved in organizing requires a different set of understandings and doings. For instance, attending meetings like this one often requires a specific conception of the relationship between platforms and workers. According to Wood and Lehdonvirta, this relationship is characterized by structured antagonism, that is, an ongoing "conflict over the distribu-

tion of the surplus created by the work but also over the organisation of work which enables the creation of a surplus" (2019, p. 30). Speaking to Riders who have attended FAU meetings, this seems to be a common way of seeing their labor arrangement. As Wiktor explains, wanting a better deal from the platform motivated his attendance:

> *When the FAU started to emerge as the organization that wants to organize Deliveroo workers, I went for the first meeting. I was pretty interested in it. I was very dissatisfied that I have to pay for my own insurance and all that. I was pretty much into the whole idea of Deliveroo covering the cost of insurance of maybe bike repairs*

Attending meetings and talking through issues is one way these Riders translate these feelings into action. One Rider, who has been consistently working with the FAU since signing up with Deliveroo, tells me about a protest he was involved in a year earlier. The demonstration, partially arranged through Rider Whatsapp groups and consistent with FAU's penchant for direct action, consisted of FAU-affiliated Riders attempting to slow down productivity through a mass log-out. Essentially, dissatisfied Riders all signed up for shifts in one neighborhood, then refused to take any orders.

> *And then we would just log out to kind of block the flow of traffic. A bit like a strike, a passive strike. Because in this sense, a kind of a traditional strike doesn't work. There's no factory you can close, you know? But like, you can close the shifts, you know, and then like, there's nothing happening.*

These types of actions demonstrate that organizing involves more than just a desire for change. It also involves linking that desire with knowledge about how to progress toward your goals. This means having both an ideological framework for change, such as FAU's commitment to the tenets of direct action, and the practical knowledge to put that framework into practice. In this case, that means enough technical knowledge about the Deliveroo system to know how to create friction within it. This type of knowledge is often socially generated, with Riders drawing on previous experiences with political organizing and sharing ideas with other each other across distances. For instance, in this meeting, the lead organizer spoke about recent protests in Bristol, how they were carried out, and what lessons Berlin Riders could take from them. There was also discussion of making stronger contacts with Riders in Spain and Poland.

However, these organizing practices are not evenly distributed across space or social groups. This type of formal organizing and collective action is not so present in Nijmegen. In fact, when *de Volkskrant* interviewed four local Riders about their thoughts on legal challenges to our self-employed status, I was the only Rider to speak in favor of unionization (de Vries, 2019). Riders I talked with who were interested in organizing were confronted with a general lack of interest. Daan, who became a Deliveroo worker, "with the mindset to create a kind of union within the Deliveroo community here," describes how social friction sidetracked any talk of organizing:

People start arguing against each other. So it's not even the company versus its employees, it's the employees versus the other employees who have different worldviews and I think that's really problematic

This particular Rider, along with Liam, another who also wanted some degree of union protection, both ended up leaving Deliveroo, discouraged by their fellow Riders. Had they been working in Berlin, it is possible the outcome would have been much different, as they would find a more receptive community.

Conclusion: Putting the Platform Economy into Practice

This study sought to uncover and describe the practices which underlie on-demand platform labor, the factors which shape them, and how they contribute to the "actually existing" platform economy. Using a mix of autoethnographic methods and semi-structured interviews with Riders in two cities, this research found the twelve practices outlined above. These findings represent just a selection of the many practices carried by on-demand platform workers. It is important to recognize that such a list is not exhaustive, nor does every individual carry all practices. Instead, every Rider is a "unique crossing point," bringing together an assortment of practices, discretely or in coordinated patterns, at specific times and places (Reckwitz, 2002, p. 256). They do this not as unthinking automatons, nor as purely rational, unencumbered agents; they are self-aware and reflexive, but also enabled and constrained by contingent factors that make up the world in which they work. While this form of labor is inextricably linked to digital technology, it does not exist in a "virtual" realm, "a separate, perhaps disembodied, dimension of spatial experience" (Kinsley, 2014, p. 376). Rather, it is enacted in thousands of small ways across and within a city.

In this way, on-demand platform work should be considered inherently situated, circumscribed within the context in which it takes place. As the above findings reveal, the practices which underlie platform work are entangled with a diverse array of elements—including objects, infrastructure, institutions, and discourses, as well as the minds and bodies of those who carry the practices themselves. Therefore when workers put platform labor into practice it is always a conditional process responsive to the surrounding environment and conditions. The elasticity and adaptability of these practices *in situ* gives empirical credence to Bratton's contention that platforms function by distributing some forms of autonomy to the peripheries (2016, p. 47).

As a result of this flexible disposition, any given Rider may routinely engage in an evolving constellation of practices depending on the situation. Drawing on discourses about what constitutes a "real job," she may regularly distance herself from work with Deliveroo when talking to professional-class friends. If she gets a flat tire on the street, she may enroll the tools, skills, and shared comradery between on-demand workers to collaborate on making the repairs. Facing a harsh winter, she may anticipate a possible dip in income and

plan her finances accordingly—alternatively, she may make a strategic investment in quality gloves and jackets to increase her affective capacity, allowing her to work more to cover the gap. Additionally, each practice can build on another—an illustrative case being Riders engaging in platform migration to finance travel while also siloing into independent social groups in the arrival location.

In each of these cases, all the interconnected and routine ways of behaving, understanding, desiring, moving, and using compound and accrete, and through time and repetition, they shape the actually existing platform economy (Reckwitz, 2002). Careful examination of this process reveals how these practices produce outcomes that either reinforce or shift the arrangements that platform labor currently relies on (Jones and Murphy, 2011, p. 382). While Deliveroo Riders carry the practices described here, these practices likely have analogs in other on-demand companies and other "lean" platform organizations. Therefore, it is possible to extend this analysis to gain insights about how these practices relate to platform labor in general.

Many of the practices outlined above reinforce the current arrangement of platform labor. For instance, bandwagoning and platform migration—two practices connected to joining a company like Deliveroo—both serve to keep platform companies flush with available workers, an essential aspect of their business model (Healy, 2017). Likewise, practices like anticipating and managing affective capacity allow workers in their role as independent contractors to adopt more and more responsibilities that have traditionally been shouldered by firms (Peck and Theodore, 2012). When carried out individually, these practices are beneficial to necessary for workers in the short term—after all, who would not appreciate a recruitment bonus or being prepared to handle a problem—however, in aggregate they perpetuate the "lean" platform structure and its associated issues (Srnicek, 2017).

Other practices discussed here have the capacity to have the opposite effect, instead pushing platform labor toward new formulations. The most obvious instance of this is organizing, which has the explicit goal of changing the conditions under which this form of labor is performed (Gandini, 2018). Additional practices hold this potential as well—though their outcomes are more ambiguous and contradictory, and can depend on how they are carried out. This is the case with innovating, collaborating, and even socialising, which vary based on context, with differing outcomes produced.

For the practice of innovating, there are instances where the new modules built to interface with a platform merely enable or actively sustain the current configuration—such as the tax assistance offered by Maikel, the Rider Liaison. However, others, such as the data-scraping app developed by FAU members, are cultivated with different understandings and skills and can challenge existing arrangements. Collaboration, too, holds this dual nature. Day-to-day teamwork in the street is oriented toward efficiently carrying out a platform's function, but it can also lay the foundations for more lasting partnerships like the Crow Cycle Courier Col-

lective. Finally, the two main variants of socialising—cohering and siloing—are both are shaped by different environments, as discussed, though the impact of these tendencies is not a given. For example, while Berlin's sprawling and multipolar Rider community helps sustain the workforce fungibility and superfluity that platforms require (van Doorn, 2017), it also leaves open the possibility of change—with dissatisfied Riders more likely to meet others who want to organize through groups like the FAU.

With this in mind, the key takeaway from these findings is that the actually existing platform economy is not a unitary or homogeneous phenomenon, and is instead made up of a multitude of practices carried out by platform workers. These practices are not fixed, and are in fact malleable based on the context and conditions in which they are enacted. Thus, while many of the practices described in this thesis contribute to the current structure of platform labor, others press at its seams, revealing its motley and contingent nature. By exposing the way the platform economy actually exists, this insight allows us to consider the ways it can be constituted differently.

VI. Discussion: The Uneven Composition of the Platform Economy

As discussed in the previous section, the collection of practices carried as part of on-demand labor are not static or uniform, but vary based on context. By being attentive to discontinuities in when, where, and by who, such practices are carried out, it is possible to develop a more nuanced understanding of the ways these impacts may produce different outcomes in different settings. These outcomes can include variations in "identities, roles, knowledge, innovations, performance, inequalities, access, or empowerment" (Jones and Murphy, 2011, p. 385). In this way, the analysis of practices can deliver a granular picture of how an umbrella concept, like the "platform economy," actually exists in the world.

The following section will discuss the different impacts and outcomes produced by these practices. First, it will consider how they differ across the two locations of this study, Nijmegen and Berlin. Then, it will discuss discontinuities observed across social groups. Finally, will touch on what these variations mean for the structure of the platform economy, that is, how do different sets of practices come together to enact different versions of the platform labor.

Nijmegen and Berlin

Observing the patterns of practices carried out by Deliveroo Riders in Nijmegen and Berlin reveals real differences in how the platform economy exists in each city. Some of these differences have been touched on in previous sections, but are worth reiterating here.

First, while Riders in both cities socialise and interact, the nature of these interactions are different, producing a very different social experience. In Nijmegen, a strong tendency toward cohering means that the on-demand workforce is much less fractured than in Berlin. This tendency has several significant impacts. For one, it is possible for nearly all Riders to participate in a singular group chat. This centralisation makes it easier for Deliveroo's Rider liaison to disseminate information, manage expectations about the company's policies, and steer the overall tone of the Rider community. It also means Riders can more easily share information, making city-wide collaborations—such as the unofficial boycott of difficult restaurants—more possible. Alternatively, it also means Riders who sharply diverge the community's consensus, such as Liam, may find themselves isolated. As Riders repeat this process, small cities can foster a specific on-demand culture. As one Daryna suggests, this has already taken place, noting that Nijmegen's Rider community has a different atmosphere than the neighboring city of Arnhem.

In contrast, the siloing tendency exhibited by Riders in Berlin produces a different set of impacts. Most importantly, it creates a Rider community made of up multiple, sometimes completely separate, social groupings. Rather than one unified collection of Riders, there are numerous divisions: divisions between cyclists and drivers; divisions between platform migrants from different regions; divisions between new and senior Riders; divisions between Riders in different delivery zones. Such fragmentation makes it harder to disseminate information and coordinate large-scale collaborations. This obstacle is a problem for those interested in organizing—though groups the FAU try to surmount this problem by making sure to translate their materials into multiple languages and reach out to different types of Riders. However, this tendency also means Riders can find a social grouping that meets their own needs, whether that be a group of Riders who face the same challenges of adapting to a new country, have the same political beliefs, or share the same hobbies.

Another key difference is each city makes different demands on Riders' affective capacities. The world-class cycling infrastructure and calm streets of Nijmegen mean Riders are rarely pushed to their affective limits (except in some instances by the equally world-class Dutch weather). In comparison, the patchwork cycling network and hectic traffic of Berlin can make navigating the streets a strenuous sensory experience. As a result, the ability to manage one's affective capacity becomes much more relevant for Riders in Berlin. This discrepancy impacts who can carry out on-demand deliveries as well as how those Riders carry out their work. While a casual or inexperienced cyclist may be able to excel in Nijmegen, they may have trouble making deliveries in Berlin. In response, such a Rider would have to quit or could make a concerted investment in raising their affective capacity—for instance, making deliveries by car or adopting the "maverick" daredevil attitude or old school bicycle couriers (Kidder, 2006). As both these types of on-demand workers are more common in Berlin, this could be precisely what is taking place.

As previously discussed, the downtime between orders also is an meaningful aspect of on-demand labor—and here, too, there are differences between our two research sites. Nijmegen, a smaller city with fewer restaurants and customers, presents Riders with considerable downtime. Additionally, the city's centralized morphology and compact size mean it only has one delivery zone—attempting to travel to a different zone in search of more orders would require riding to Arnhem, 20km away. Thus, Riders tend to gather in select public squares in the city center, often interacting with the same fellow couriers multiple nights a week. This style of active idling feeds into the coherent feel of the Rider community. On top of this, couriers are more likely to take any order they are offered, as Ralph put it, "the initial getting the order is just like Pavlov, like a Pavlovian reaction, I'm like, Yes, I can work! And usually, it's not about like, Yes, I can finally make money. It's more about like, finally, something to do."

Whereas Berlin, a much larger and bustling city, Riders can usually expect to be busy for the majority of their shift. Thus there are fewer spare moments for socialising, though it is not entirely absent. More likely though, Riders facing a lull in orders will cruise the streets seeking busier areas or attempting to anticipate where their next order may come from. On top of this, Riders feel they have more flexibility in accepting orders and will often reject orders which don't meet their standards. During this "the more-than-calculative" "qualculation" process, Riders will weigh the payment, distance, neighborhood, and general "feel" of an order when deciding to accept or not (Shapiro, 2018, p. 2965). As a result, Riders can cultivate more individualized delivery strategies. For instance, Dolores will only select orders in her immediate neighborhood, "a small area… maybe three kilometres maximum form restaurant to the customer." For comparison, another Rider I spoke to only accepted orders with tips higher than two Euros—a technique only possible when Deliveroo displays tips from online payments, which is only available in some zones. In this way, the practice of active idling in Berlin can build a more diverse array of Rider experiences, allowing for greater feelings of autonomy and empowerment.

Finally, the practice of formal organizing stands out as a major difference between Berlin and Nijmegen. In the former location, the FAU makes its presence known—over the course a shift it is common to see the union's distinctive sticker and #deliverunion tag posted outside restaurants, often right beside the Deliveroo signs in the window. The organization also holds bi-monthly meetings and has successfully pulled off several high-profile demonstrations. Meanwhile, in Nijmegen, there is very little union organizing—many (but not all) of the Riders I've spoken with to have had an ambivalent to a negative opinion about this type of organizing. This state of affairs is only exacerbated by the Federatie Nederlandse Vakbeweging (FNV), the union leading efforts to organize Riders in the Netherlands, which has no presence in the city whatsoever. Therefore, even those inclined to participate have nowhere to channel their energy.

The impact of such a discrepancy will probably become more apparent over time. It is possible that the concerted organizing efforts of the FAU may slowly build pressure for Deliveroo to make concessions to Riders within Germany. Alternatively, aggrieved Riders attending union meetings may find new ways to collaborate, either creating patchwork solutions like group insurance funds, or creating completely separate ways of working like the delivery collective discussed above. As it stands, these outcomes are less likely in Nijmegen, where the FNV does much less outreach to Riders. However, encouraging Riders to pick up the practice or organizing is possible. A recent study of Deliveroo Riders in Belgium found that overall support for unionization is not substantially different from other worker populations, but a lack of outreach and information are the main barriers to building support (Vandaele, 2019).

These discrepancies between Nijmegen and Berlin demonstrate that the texture of the actually existing platform economy can be very dependent on context. Different cities with their particular infrastructures, social compositions, and economic landscapes foster different styles and frequency of practices. Through routinization and repetition, these practices then compound into a contingent, place-specific version of this phenomenon. Over time, these differences could widen, leading to a profoundly fractured set of experienced for on-demand workers in different locations. However, as the next section will discuss, the on-demand economy already exhibits different patterns of practices and outcomes based on who is performing the labor.

On-demand Workers

De Stefano discusses how on-demand workers are often treated as merely instrumental extensions of their platforms, an undifferentiated mass that, "could be expected to run as flawlessly and smoothly as a software or technological tool" (2016, p. 8). Additionally, as Casilli and Posada (2018) argue, in order to fulfill their coordinating role, platforms require workers to provide a degree of standardized labor. However, the findings of this research show that there is significant variation in the practices carried by on-demand workers. Just as with spatial context, examining such discontinuities between individuals can shed light on how practices produce different impacts and outcomes (Jones and Murphy, 2011, p. 382). In order to accomplish this, this section uses an intersectional approach to address how the relationship between myriad social positions impact on-demand labor (Valentine, 2007; van Doorn, 2017).

A foundational practice of the on-demand economy is deciding to take part in the first place, which necessarily has cascading impacts as those who carry this practice go on to make up the workforce and shape ensuring practices. As shown, there are identifiable patterns to who decided to take part in on-demand labor, such as platform migration and bandwagoning. Both of these practices help sustain the surplus population of fungible workers platform companies like Deliveroo rely on (Healy et al., 2017; van Doorn, 2017). Hav-

ing access to a seemingly bottomless pool of potential workers allows on-demand companies to be less concerned about turnover, reinforcing a structural inequality where the company is not pressured to improve conditions. Additionally, many workers, such as platform migrants and students, usually consider their tenure as on-demand delivery couriers as temporary. Thus, they have less time or incentive to push for structural changes.

Once part of the platform labor workforce, individuals can have vastly different experiences with the job based on their "multiple, shifting, and sometimes simultaneous identities," such as age, race, gender and legal status (Valentine, 2007, p. 15). To illustrate this, consider the practices of managing affective capacity and anticipating challenges; in carrying out these practices, each Rider is presented with a unique set of demands, some more manageable than others. That is to say, Riders have different physical abilities, social responsibilities, and financial resources with which to contend when executing their duties. For instance, while younger or more fit Riders may be better suited to endure the stress of routinely pushing their body to the limits, older, more established Riders might have more financial resources to invest in tools and equipment. While single or otherwise independent Riders may find excitement in the sometimes dangerous work environment, Riders with family or childcare duties may have to invest more of their affective capacity in anticipating and avoiding collisions. While male Riders may carry out deliveries without disturbance, female Riders may have to adjust their routines in the face of potential harassment. As Dolores notes, "It's not normal. It's not so common. But it happens, more than two or three times."

Of particular note are issues of class, which unambiguously impact individual practices of on-demand labor, especially distancing and organizing. First on the practice of distancing: In an editorial about my Deliveroo colleagues in Nijmegen, Sheila Sitalsing correctly assets that many of these Riders are, "young, healthy men with excellent future prospects (most of them are studying something with a long English-sounding title and will soon get off that bike)" (2019). And it is true that Riders I spoke to explicitly distanced themselves from Deliveroo on these grounds, contending that their real vocation was business management, engineering, or law. In this way, many Riders in this study consider working with Deliveroo a temporary gig that will inevitably be left behind for employment more attuned to their aspirations of education level.

This formulation of distancing can impact who gets involved in the practice of organizing. Those who feel they will soon move on are not likely to invest time and effort into long-term changes to the platform—in fact, they may feel organizing efforts threaten the flexible conditions that brought them to the job in the first place. In contrast, those who don't anticipate drastic career changes are, understandably, more invested in making on-demand labor sustainable and secure.

Such a dynamic is another example of how discontinuities in practices are constituted across different identity categories. The impact of these differences is a divided workforce where competing needs and desires often pit on-demand laborers against each other. Again, Liam offers insight into the larger effects, "The way they've got everything set up very strongly discourage any kind of solidarity between workers because fucking over your fellow man in the system gets you far further." The outcome of such a formulation is that despite the existence of structured antagonism, on-demand businesses may be slow to concede more to workers. Platforms can continue to arbitrage among different groups, taking advantage of the "availability of workers whose individual circumstances make these jobs acceptable … downgrading job quality across the economy and limiting the number of, and restricting access to, high-quality jobs" (Goods et al., 2019, p. 21).

As these examples illustrate, the actually existing platform economy does not evenly distribute its risks and rewards. While some Riders can find ways to make this type of job suit their needs, others cannot. This situation calls to mind Malin and Chandler's concept of "splintering precarity," where only a privileged set of workers stand to benefit from the flexibility and uncertainty of platform labor, while others are left to shoulder the downsides. Over time, this dynamic contributes to a workforce that consists of either individuals who find the job a good "fit" (Goods et al., 2019) or those who have no other option but to contend with the vagaries of on-demand labor. As one Rider put it, "it's just very hard [...] to survive. So in the end, I think jobs like Deliveroo are just there because there are people who can't find employment in the field that they want."

VII. Limitations and Future Research

Limitations

The research presented above provides many valuable insights into the practices which constitute a specific form of platform labor. However, as with all research, this study also suffers a few limitations and drawbacks.

The methodological approach I used for this research, analytic autoethnography buttressed by semi-structured interviews, is vulnerable to the positivist critiques that hound other qualitative methods. That is, although such methods collect contextually rich data, "immersion within and analysis of a single group in a given temporal and cultural context […] does not necessarily represent anyone or anything else [and] limits us to learning or making claims only about our particular informants or the localized group or setting studied" (Vryan, 2006, p, 406). This observation is especially relevant for autoethnography, as foregrounding my experience as principal researcher can decidedly narrow the scope of this study. Given this critique, there are

a few deficiencies that I would like to highlight, especially in light of Anderson's suggestions to acknowledge and reflexively evaluate the ways my particularities as a researcher can impact the generalizability of the work (2006).

First, while I made a conscious effort to include a variety of Riders as participants in this study, I was unable to obtain an entirely representative sample—though, even knowing what constitutes a representative sample is difficult as Deliveroo does not release thorough information about Rider demographics (De Stefano, 2016). Even so, there are two conspicuous oversights worth addressing. For one, I could only interview Riders with proficient English language skills. In Nijmegen, this was not much of an issue, as I never encountered a Rider who was not at least conversant in English. In Berlin, language was more of a barrier, and I regularly interacted with Riders who either did not speak English, or were not interested in conversing in English with me, specifically. This constraint limits my data—categorically excluding individuals with different backgrounds—which may overlook strategies developed by communities where English is not commonly spoken.

Second, despite my intentions, I was not able to formally interview any Deliveroo courier who worked with an automobile. This gap is important to note, as my informal tallies taken outside busy restaurants suggest that on some nights up to half of all orders are carried out by drivers. Regrettably, this results in a common manner of on-demand labor being left out—one that, as my brief conversations with drivers suggest, features a wholly different set of challenges and concerns. As such, I would like to emphasize that the findings presented by the project is a non-exhaustive list of practices. Specifically, they are only practices developed by couriers who travel by bicycle and moped. Future research should direct resources and efforts to uncover the driver practices that this study could not examine.

A third limitation built into this study from the start is its narrow geographic reach. Platform labor is a truly genuinely phenomenon; on-demand delivery platforms operate in dozens of countries across the globe, and Deliveroo itself is present in more than 20 (Healy et al., 2017; Ash et al., 2018). Thus, by using two cities in western Europe as research sites, this project contributes to a very Eurocentric viewpoint of on-demand platform labor. As Surie and Koduganti (2016) show with their work on Uber and Ola drivers in India, when operating outside the bounds of the welfare states and formal economies of Western Europe, platform labor can result in entirely different outcomes. To create a truly comprehensive picture of how on-demand jobs are performed, future research will have to broaden its purview to include non-Western cities.

Lastly, this research was limited by the relatively short period in which it was carried out. Due to administrative requirements and financial constraints, the entire project—from conception to fieldwork to writing the results—had to be completed within ten months. Platform labor has two tendencies which make the short

duration of this study slightly problematic: For one, on-demand platforms are always updating and adjusting their systems and interfaces (Shapiro, 2018). And two, a high turnover rate for workers, also called "platform churn," means the constitution of the work force is always in flux (van Doorn, 2017). Therefore, the short time frame examined here may not fully capture the fluid, protean nature of platform work. Instead, the findings of this study are more of a "snapshot" of how on-demand labor is carried out at this particular time. Following the recommendation de Reuver et al. that "the dynamics of digital platforms and ecosystems can only be observed within a sufficiently long time horizon, "(de Reuver, 2018, np), it is worthwhile to consider how further research could expand on this project. Future studies could take a longitudinal approach, examining both how platforms change and grow over time and how the practices of workers impact and are impacted by these changes.

Looking Forward

Setting aside these specific limitations, I would like to suggest two additional avenues of inquiry that may be fruitful to explore. Both depart from the labor issues explored in this study and pursue the connections platforms have with other geographic topics.

First, I believe the entanglement of platforms and migration practices is a topic which deserves further scrutiny as a form of migration industry (Cranston et al., 2018). This study briefly describes platform migration as an emerging practice but was not equipped to investigate its contours and implications thoroughly. Questions remain about the prevalence of this practice, how access to platform labor shapes migration trajectories over time, and the extent to which platform companies themselves consciously court migrants as a labor pool.

There is also the question of how platform migration looks in different contexts. In Berlin, I met many Riders from Chile and Argentina who, practicing platform migration, had voluntarily traveled to Germany on Work Holiday Visas. Two of these Riders mentioned that platform work in their home countries was increasingly reliant on Venezuelan migrants from the Bolivarian diaspora, an ongoing process that will displace more than 5 million people by the end of 2019 (Margesson and Seelke, 2019). As Cranston et al. (2018) argue, there is a great need to investigate how non-governmental agencies and labor market intermediaries relate to the paths and experiences of migrant lives. Given these observations from Riders in Berlin, I believe future migration research should consider how platforms fit into this situation. To what extent is the growth of platforms tied to this type of diaspora? Do the circumstances of migration effect how platform work is practiced? How do these dynamics relate to the tendency of platform labor to obfuscate existing hierarchies, as pointed out by van Doorn (2017)?

This research maintains a fairly tight focus on the relationship between platform labor and the practices workers. However, it also indicates that the growth of the platform economy and its attendant labor practices have repercussions that extend far beyond what I presented here. Building on this, another topic that deserves future investigation is the influence that on-demand platforms have on the city itself, both on its form and the lifestyles it hosts. For instance, how does the availability of on-demand delivery reshape the spaces where city dwellers live and socialise? Already, the development of so-called "cloud kitchens" signals that established institutions, such as restaurants, may adapt to fit platform logic. As on-demand delivery becomes a larger market, will traditional dining establishments wane in the same way "brick and mortar" shops have suffered a "retail apocalypse" (Helm et al., 2018)?

We should also consider residential space. Davidson and Infranca mention companies like Deliveroo can save urbanites from the "gloomy prospect of cooking in cramped kitchens" (2016, p. 4). However, it is known that digital technologies don't only respond to pre-existing needs, but often, technology companies create and shape the market for their benefit (Sadowski and Pasquale, 2015). A compelling case to consider is how on-demand delivery platforms interact with commercial co-living companies. These start-up affiliated, venture-backed operations are known for offering minimal residential units that feature tiny, cramped kitchens, if they have them at all. Commentators point out these units are seemingly designed to encourage on-demand delivery use (Block, 2019). And it is true that through partnerships and discounts, these companies incentivise residents to make use of platforms like Zipcar, Ruuby, and on-demand delivery services.

As platform services continue to make "rhizomatic connections" with more industries in search of data and profit (Srnicek, 2016), and landlords increasing employ digital platforms to mediate and extract wealth from residents (Fields, 2019, p. 3), these overlaps between on-demand platforms and real estate deserve more scrutiny. Future studies could investigate this interaction from several angles: research could focus on the nature of these business relationships, how expectations about platform use impact urban design, and how the availability of platforms influences the behaviors and habits of those living in cities, what Richardson calls "platform urbanism" (2018). Ω

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Appendix A: Rider Interview Guide

Background: discursive, economic

Can you tell me about how you got started with Deliveroo?

- What were your main motivations?
    - What appealed to you about this type of work?
    - What had you heard about the company? Did you speak to any current Riders?
    - Have you worked for a similar company before?
    - What were you expecting this job to be like?
- How would you describe your financial situation?
    - How much money did you need to make? How many hours do you want to work?
    - How much money did you need/expect to make?
        - Do you have other sources of income?
- What was the process like signing up and getting registered?
    - Did you complete all the paperwork, taxes, business licence?

Scheduling: social, technological

What is your schedule like as a Deliveroo Rider?

- How do you decide when and where to work?
    - How do push notifications and bonus pricing effect which shifts you take?
    - What do you consider the best times to work, why?
    - When do you decide to cancel shifts or quit early?
- What are you obligations like outside of Deliveroo? Work, school, family?
    - How has being a Rider impacted these other obligations?
    - How do you balance Riding time with other time? Do you consider your statistics?

On the job: embodied, social, technological

Can you tell me about a typical shift for you as a Deliveroo Rider?
 	
● How do you prepare for your shift?
    ○ What type of material preparations do you make, in terms of clothes, phone, bike, etc.?
● How do you spend time between orders?
    ○ Where do you hang out? Who do you interact with? What do you talk about?
 	
You get an order: can you walk me through the steps of the process?
 	
[accept→travel→restaurant→travel→customer→drop-off (but also the transitions!)]
 	
● How do you assess the order, what information stands out to you?
    ○ How do you decide to accept or reject?
● How do you feel as you complete each step?
    ○ Which particular moments that seem important?
    ○ How do you feel physically throughout the process?
● What are you thinking about at each step of the process?
    ○ What are you paying attention to?
    ○ What are you anticipating? Worrying about? Hoping for?
● Which points in the process are things most likely to go wrong?

Rupture and friction: embodied, discursive

Can you tell me any stories that are particularly memorable or important?
 	
● Have there been any deliveries or shifts where things have gone very badly/well?
    ○ What happened? What did you do?
    ○ How have you changed how you approach the job because of this?
● When have you been the most frustrated/happy with this job?
    ○ Where/when are things mostly likely to go wrong or become difficult?
    ○ When have you thought about quitting?
● What are the biggest barriers to completing an order?
 	
When have you really wished something about being a Rider was different?
 	
● What made you feel this way?
● Have you taken any action, no matter how small, in relation to this feeling?

Rider community: social, technological

Can you tell me about your relationship with the other Riders?

- ○ What do you consider them? Co-workers, friends, competition?

- ○ How often do you talk? In person, through Whatsapp?

- ○ Do you meet with other Riders socially? Certain types of Riders?

- What type of information do you usually get from other Riders?

    - ○ What do you talk about with other Riders? Are their disagreements?

    - ○ Has talking to other Riders changed your opinion about anything?

- Do you participate in any Rider message boards? Facebook groups?

    - ○ In what way? What are they like?

Is there a typical Deliveroo Rider? Or, different "types" of Riders?

- Could you describe them? Demographics? Motivations? Desires?

The Algorithm: technological

What are your thoughts on the Deliveroo app?

- How well does it work for you?

    - ○ What does it do well, what do you wish were different?

- Do you feel like you understand how it works?

    - ○ What remains confusing to you? What do you wish you knew more about?

How do you interact with the app?

- Do you feel the app tries to "trick" you? Do you try to "trick" the app?

    - ○ How did you develop these strategies? Did you hear about them from other Riders?

- Do you trust the app?

- What do you think happens when you reject orders?

How do you feel about Deliveroo handling your data?

- How often do you think about the fact your work produces data?

- What are you thoughts on Deliveroo tracking your location and timing?

    - ○ Do you ever do anything to influence the use of this data?

    - ○ What do you think this data is used for?

- What information do you wish you had?

- Have you ever done any research on how Deliveroo calculates pay or pricing?

Politics: political, social

What do you know about the current legal and political controversies about Deliveroo?

- How would you describe the situation?

  - Where do you get most of you news on the topic?

- How do you feel about being classified as an independent contractor?

  - Would you like this change? Do you feel like an employee?

How do you interact with Deliveroo?

- Do you feel part of the company? Do you read their emails?

  - To what extent do you feel like you and Deliveroo are "on the same side?"

- How would you like to see your job/Deliveroo develop going forward?

  - Do you want anything to change? How so?

  - What would you like to stay the same?

  - How long to you anticipate doing Deliveroo?

How familiar are you with Deliveroo protests or strikes?

- How do you feel about them? Would you participate in something similar here?

  - What would it take to make a protest or a strike seem like an option?

  - Do you think these techniques are effective?

- Have you ever participated in a protest or labor action before?

Final provocations:

What do you with Deliveroo understood about being a Rider?

- Do you think they understand what it is like being a Rider?

What do you wish outsiders understood about being a Rider?

- Do you think the image Deliveroo portrays to customers in accurate?

Is there anything I haven't asked about that you think is important?

- What do you want me to know?