University of California Irvine

Platform-Living: Theorizing life, work, and ethical living after the gig economy

DISSERTATION

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DOCTOR OF PHILOSOPHY

In Informatics

by

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Acknowledgments

I still remember the day that I began my doctoral journey, I was worried that the kind folks at the Informatics department had accidentally admitted a Cinema and Media Studies student not knowing that she could not code. Being able to do interdisciplinary research with complete freedom to decide what I wanted to study, how and where, could not have happened without the support of the Informatics department at UC Irvine and I am immensely grateful for that. The department not only provided me a stable environment and the administrative infrastructure to facilitate my global research journeys but also provided me a home where I never felt that any question or line of research was out of scope for me to pursue.

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Peer-reviewed publications

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Abstract

Platform-Living: Theorizing life, work, and ethical living after the gig economy

By

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Professor Paul Dourish, Chair

Gig Economy platforms such as Uber, Ola, Zomato among others have proliferated across urban centres of the world and transformed the ways in which people access mobility, food, care, and other services necessary for daily life. These platforms have primarily been studied from a (digital) labour perspective to understand how the rise of "gig work" or app-based piecework has transformed labour participation and the conditions of daily work for thousands across the globe. Gig work and broadly platform work have been hailed as the 'Future of Work' as well. This dissertation draws on four years of ethnographic research on platform participation across India, the UK, and the US to offer the first theorization of 'platform-living' beyond the conception of platform *work*. Responding to the predominantly economistic focus on platforms as markets, the dissertation expands what constitutes as 'matters of concern' to the questions of social practice, urban infrastructural politics as well as the investigation of moral enactments within the platform society. The dissertation's conceptual direction derives from the understanding that an exclusive focus on platforms qua markets misses out the ways in which social networks, built environment, urban ecologies as well as local political constellations shape the materialization of platforms in local contexts. In that sense, there are multiple platform *economies* and they are constantly being *worlded* by the contexts that they unfold in. To that end, as the dissertation shows, it is imperative to understand platforms as social, material and ethical objects, not exclusively in terms of how they shape the daily work of ridehailing drivers and food delivery workers but rather by

looking at the ways in which they get inserted in the larger landscape of everyday life. The dissertation argues that the emplaced notion of ‘platform-living’ inspires a generative and tactical approach to platform politics and regulation going forward.

Introduction

In 2014, when I first moved to Irvine, California to begin my doctoral programme, I remember relying on app-based ridehailing services like Uber and Lyft to explore my surroundings in a foreign country. While I had used Uber in New Delhi before moving to the US, I had heard that the service operated quite differently in the US. Instead of professional drivers and commercial vehicles, *Ubering* in North America involved getting into a "regular car" that was owned and driven by "someone just like you". Uber's rival even marketed to customers in this manner, urging them to use the app either to work or get rides from others who could be your neighbours or friends – someone just like you! Grappling with the reality of spending many upcoming years in a suburban town with threadbare and expensive public transportation, I began to rely heavily on Uber and Lyft, at least to get to the train station or the main bus depot. These explorations were accompanied by a sense of excitement at the possibility of meeting new people, interacting with and embedding myself into the public sphere of Southern California.

Even as I began to wrap my head around entering what felt like intimate and private spaces of strangers, how safe or sustainable this arrangement would be in the long and short run, Uber had begun to make national and international headlines as a gig economy pioneer, especially for the ways in which it was disrupting the taxi industry. Across the globe wherever Uber was operational, it would regularly feature in the news for all the new kinds of possibilities and challenges it was producing to public life. In the early phase of Ubering, both for customers and drivers, it was not quite clear whether the things that Uber was doing (connecting passengers and drivers through an algorithmic smartphone application) was appropriate or legal. In the most common sensical way, it seemed like nothing illegal, dangerous, or deceptive was happening, but it remained a mystery as to how and from where Uber and Lyft were recruiting their drivers and who these drivers were. Importantly, how were ridehailing rides so heavily discounted and if they were indeed this cheap, what was incentivizing people to work for these platforms? That these

heavily discounted, just-in-time rides with door-to-door pickup and no expectations of tips were undercutting traditional taxi, auto rickshaw, yellow cab and other transport businesses was an emerging reality. Even so, there was something palpably different about app-based service interactions. Customers were not expected to interact with the driver or provide them with extra information about their destination.

Drivers on the other hand, especially in the early phase of Ubering, were these magical, almost "too nice" beings who just drove up to pick passengers in a fresh-smelling, clean car often equipped with water bottles, mints, candy and gum, sometimes even perfume bottles, goodie bags, essential oils, small tv screens and on one occasion, even a disco ball! Most drivers would strive to make conversation, ask you about your day, what music you would like to play and more often than not, end with a polite request for 5-star ratings. Repeating these exchanges: enter car, smile, make small talk, to be asked about the music, temperature in the car, to be offered gum and water, ask driver about this novel form of work, their daily experiences and the crazy exceptional ones, reflect together on life, work and sometimes the notion of 'good service', arrive at destination only to be requested a 5-star rating; these became predictable loops in my early Ubering journeys, reassembling what would become my new normal experience of navigating public life in suburban California but also producing an unsettling affect. This was different than what I, what we had collectively known as the experience of taking a cab ride. And a substantial part of this new normal was what happened within the taxi space. Motivated by these loops of extremely pleasant social communicative exchanges within people's private cars, juxtaposed against the baffling economic reality of the extremely cheap, almost too cheap app-based rides, I set out to study the daily experiences of ridehailing drivers in the hope of understanding the value economy of app-based services. Who was absorbing the monetary costs? What kinds of incentives were driving the growth of this seemingly unsustainable economy and finally, how long would this last? These were some of the questions I wanted to answer.

The emergence and rapid proliferation of Uber, Lyft and Airbnb in the United States inaugurated the "gig economy" moment globally. Since then these companies have expanded globally but also rival companies such as Didi Chuxing in China, Olacabs in India, Grab and GoJek in South East Asia and Careem in the Middle-East, have respectively dominated domestic markets and have together transformed the ways in which people go about their daily lives in the urban centres of the world. Beyond these gig economy companies, the logics of *appification* have pervaded logistics and service sector businesses from on-demand trucking to waitressing to chef-work to care-giving for children and the elderly and so on. As a 2019 article in the New York Times reported on the rise of *Pared* and *InstaWork*[1], two rival platforms that offer commercial cooking gigs to trained chefs, the gig work model quickly gained popularity in an industry that has been chronically understaffed and where individual skill (and willingness to work hard) is more valued than certification or formal education. In some sense given the way the food industry is already structured, app-based cooking shifts only made it easier for chefs and cooks willing to work more, to get more work and earn more. As the article suggests, app-based gig work also allowed these workers to enter new kitchens, collaborate with new people and thus fulfil their creative drive. On the other hand, the logics of app-based gig work have also transformed historically precarious and manually laborious occupations such as trucking in India where companies such as Rivigo, Blackbuck, Delhivery and others have introduced shift-based, highly monitored freight delivery work. As stated in a marketing document on Rivigo's website, trucking (as work) is often called the "37th caste"[2], implying that truckers get enrolled in an occupational lifestyle whereby they have to stay away from family for months and also end up engaging in a nomadic social life and fall prey to alcoholism, drug use and risky sexual activity. As evidenced in the testimonies on these companies' websites as well as independent reporting, the introduction of on-demand, shift-based work has opened up the possibility of a drastically different life,

[1] Elizabeth D. Herman. Cooking Eggs in the Morning and Shucking Oysters at Night. The New York Times. September 2019. https://www.nytimes.com/2019/09/01/business/restaurant-jobs-apps.html

[2] An interview with the founder of Rivigo who, during a roadside chat with a truck driver, learned how trucking is considered the "37th caste" and then set out to change that through his startup. https://economictimes.indiatimes.com/small-biz/startups/features/a-roadside-chat-set-me-on-my-way-for-rivigo-moment-deepak-garg-ceo-rivigo/articleshow/62143469.cms

perhaps even encouraging “casual trucking” or the entry of workers with no prior linkages to trucking communities.

This is not to say that the *Uberization* of logistics and services is predominantly a good or bad thing, but it cannot be denied that the social, economic, and cultural consequences of platformization are already far reaching, beyond the most visible gig workers and their largely urban consumers. Resonating with what we imagine as the infrastructural functions and roles that platforms should and do perform, gig work platforms, especially as they straddle digital and physical environments, have become serious media to think with. This dissertation, through a multi-sited ethnographic study of “gig economy” platforms, offers an everyday view of how platforms are made functional within urban spaces. Speaking to popular claims attributed to platforms about work conditions, regulation, the distribution of time and vital capacities as well as the transformation of urban infrastructure, the dissertation diverges by offering empirical insights on platformization in the Global South. Simultaneously, by entering the question of platform-living as a challenge for the *commons* and for the enactment of ethics in our everyday life, the dissertation challenges a predominantly economistic and techno-capitalo-centric view of platforms by attending to the social, political, cultural, and global contexts of platform-mediation.

Platform Work: Scope and Issues

There are varying estimates about the size of the platform economy. It is estimated that digital labour platforms earn at least USD 50bn per year (Heeks, 2019). These include ride hailing, food delivery, personal services, and digital content creation platforms. There are approximately 40 million platform workers in the global South alone: some 1.5% of the *total* global workforce (Heeks, 2017). The other two important trends that shapes the story of platforms, especially of platform *work* are as follows. In different ways, un- and under-employment is a global problem (Heeks, Eskelund, Gomez-Morantes, Malik, & Nicholson, 2020). While in industrialized countries, economic productivity has risen without a

proportionate increase in wages, in some developing countries, there has been "jobless growth" (growth in GDP without the creation of as many job opportunities) (Beyer, 2018). Simultaneously, there is an ongoing change in the global workforce demographics where broadly, most high income countries and China are witnessing ageing populations and thus a shrinking workforce, many middle and low-income countries are witnessing a 'population explosion' with millions of young people entering the workforce every year. India is estimated to add about 350 million *new* people to its workforce by 2022(Saini, 2015). Given that countries in South and South East Asia also form the world's migrant labour hubs, such a shift in workforce demographics has massive implications for domestic, regional, and international labour markets. Economically, it is also estimated that the ageing populations in high income countries will increasingly depend on state welfare and the earning population. Conversely, in the rest of the world where new young workers are joining the workforce, the lack of appropriate job opportunities is projected to lead to "wasted human resources" as well as possible political unrest. The International Labour Organisation (Calvão & Thara, 2019) estimates suggest that between 2014 and 2019, 213 million new people joined the labour market.

The second important trend points to increased connectivity that has made something like technologically mediated real-time matching of demand and supply possible globally. As the International Telecommunication Union (ITU) reports, within a decade, overall internet connectivity in all forms has gone up from 15 percent to over 40 percent of the world's population[3]. In India, the emergence of platforms also coincided with the 'Jio explosion'. Reliance Jio, the telecom network launched by its parent company Reliance in 2015 with an initial investment of about 42 billion USD and its services were distributed through a network of more than 150,000 small electronic retailers (Mukherjee, 2019). Reliance successfully managed to disrupt the entire established telecom market in India by pouring in huge sums of money to offer calling, texting but importantly unlimited high-speed LTE data at heavily subsidized rates.

[3] 'Measuring Digital Development: Facts and Figures 2019' ITU Annual Report https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2019.pdf

Initially, a 3-month unlimited mobile plan with Jio cost as little as 4USD. Unsurprisingly, by 2019, Jio became the largest telecom provider in India with a user base of approximately 357 million users (ibid.), many of them first-time Internet users. In that sense, not Facebook or Google but Jio became and remains the infrastructural platform that powers the "Next Billion Users"[4] that many have been writing about. Such unprecedented bursts of connectivity across the developing world through partnerships between major tech corporations has also directly contributed to the growth of platforms that sit atop these telecom networks, including the service and logistics platforms that this dissertation talks about.

As gig economy platforms became popular and widely used, the most common claim made by companies themselves was that such platforms are "disrupting" traditional ways of doing business. In the spirit of the renegade Silicon Valley innovation culture, platform companies used "disruption"(Dan & Chieh, 2008; Geiger, 2020) as a positive and exciting term to imply that they were innovating and literally materially transforming daily ways of working and living (Botsman & Rogers, 2010; Sundararajan, 2016). Marketing themselves as *good* for the society and economy, companies like Uber and Airbnb claimed that they were creating jobs and helping people utilize their time and idle resources (car, home) to earn more money. Across the board, platform companies have attempted to push the notion that we are moving towards a future of work (and life) where millennials want to pursue multiple creative and entrepreneurial activities and are turning away from boring, lifelong careers in one domain. Arguing that such footloose creatives do not associate their identity and worth with the jobs they undertake to pay the bills, platform companies offer them the option to take up "gigs" at their convenience[5]. Critics of platforms have

[4] I refer to the term 'Next Billion Users' occasionally throughout the dissertation. Originally coined at Google Inc. to describe the company's innovation efforts in the developing world, especially in India (hence a billion people), the term is now widely used among tech practitioners as well as researchers. Payal Arora's eponymous book (2019) uses the term to describe various forms of digital participation in India.

[5] As Abraham and colleagues (2017) note, the original usage of the word "gig" originated in the music industry where musicians had little control or certainty about their next recording location or the next band they would be playing with. That is why Abraham et al justify calling app-based piecework the "gig economy". However, as Dourish remarks (and I agree), musicians or other creative professionals, despite the unstructured nature of their work, often have a solid sense of identity based on their work. More writing needs to explore the tensions between these different notions of a "gig".

highlighted how such a discourse of disruption as well as the larger cultural discourse around freelance workers actually enables platforms to normalize unfair and unjust work practices such as low pay, wage theft, extraneous working hours, granular surveillance of workers even outside of work etc. (Wood, Graham, Lehdonvirta, & Hjorth, 2019). It is difficult to judge the social and economic impact of platforms as such both because they are constantly changing as technical and capitalist intermediaries but also because they operate differently across the globe. As some have noted and I argue in the dissertation as well, overall, greater scholarly attention needs to be devoted to the geo-economies of platforms, in order to understand them as *worldly objects.*

The 'Future of Work' Discourse

Although I started out by simply wanting to look at a new form of technologized mobility, it soon became apparent that the Uber phenomenon was a part of an ongoing transformation of work as well. Crowd work studies looking at platforms such as Amazon's MTurk constitute an earlier overlapping wave of scholarly interest in platforms and work, preceding the study of gig work platforms. As I vividly remember in 2015, during my first internship at an industry research lab in India, the notion that now farms of remote workers/respondents/people were available for hire at a much cheaper rate than any other arrangement in the past, had caused immense excitement among various research groups. From the programming languages group to Machine Learning (ML) and Natural Language Processing (NLP) to the HCI group, experimental studies began farming out piece-work tasks to huge crowds of remote workers on MTurk, CrowdFlower etc. HCI researchers led the charge on studying the work dynamics of such workers, their motivations, needs, challenges, perceptions of the work and so on. From there, multiple researchers started highlighting the abysmal prices at which workers were hired to perform tasks (Graber & Graber, 2013), how arbitrary ratings and feedback impacted crowd workers' reputation and their future work (Irani & Silberman, 2013; Kittur et al., 2013). Some teams of researchers even designed alternate and responsive tools such as 'Dynamo'(Salehi et al., 2015) and 'Turkopticon' (Irani & Silberman, 2013) that offered workers a platform to counter-surveil platforms and 'task requesters' or vendors who had a

history of paying badly or treating workers unfairly. Understanding the dynamics of collaborative and competitive behaviour among crowds (rather than communities or groups) emerged as a central theme of crowd work research.

Given the chronology in which gig work platforms emerged (2013 onward), research interest picked up around 2015 and has continued to grow since. When we published our paper on the emotional, affective and risk labour performed by Uber and Lyft drivers in the US (Raval & Dourish, 2016), a small but growing body of work across disciplines was interested in understanding the role of algorithmic management within established categories of work. Algorithmic management here refers to scheduling work shifts, assigning work, monitoring workers, and measuring productivity. It is my understanding that along with platforms, the fact that algorithms were now widely proliferating within our society and decision making systems led to a simultaneous interest in 'critical algorithm studies' as a sub-field of interest within critical information studies, human geography, media and communication studies among other fields. Both, the largescale deployment of various kinds of sensors within urban environments as well as personal devices accompanied by the rise of "sharing" and service platforms have contributed to the growing scholarly interest around algorithmic governance and forms of personification after 'Smart Cities'. However, these writings were more interested in figuring out the ongoing transformation of work, life, city spaces and citizenship after the proliferation and entrenchment of programmable media and automated processes. What has since become a buzzword and has engulfed a lot of this research into its fold: 'Future of Work', emerged from a slightly different context.

Although I am not particularly interested in tracing the emergence of 'Future of Work' as a buzzword, it gained traction suddenly in 2017 and materialized as a legitimate research motivation in all my knowledge circuits. Buzzwords of course are not just about the "hype" or a PR campaign or some kind of a false discourse to make something *a thing*. The realm of language is key to the materialization of ideas, visions and desires that eventually drive *real* physical, social and economic activity. In that sense, it is

important to trace the rise of 'Future of Work' as a trendy buzzword that permeated academic research, design thinking, technology-building, policy reports and government consultations across the world. At the time of my writing, I am not aware of a single paper or article that specifically offers a genealogy of 'Future of Work' as a term *folded over* – something that paradoxically holds and offers legitimacy to technology and work research that in some ways precisely counters and criticizes the recommendations and visions advanced by McKinsey (Manyika et al., 2017; Manyika & Sneader, 2018) reports on the "management of workforce populations" in order to attain financially optimized and profitable futures of work. Much like the "Sharing Economy", 'Future of Work' has stabilized as an emic category that holds multiple contesting meanings, motivations, and efforts to understand and act upon technology-led transformations of work. Although this is by no means a comprehensive genealogy, as I wove in and out of graduate school to do internships in the industry, I myself experienced the increasing interest in all research addressing futures of work, especially 2017 onward.

Through some educated guesswork and posing the same question to all my peers researching the future of work, I am inclined to concur that the term 'future of work' and within it, the implied anxiety of a machine-takeover of human jobs decisively gained traction after the publication of a paper titled *'The Future of Employment: How Susceptible are Jobs to Computerisation?'* published in 2017 by Oxford-based economists/economic historians Carl Benedikt Frey and Michael Osborne (2017). Although Frey and Osborne had been publishing on Technology and Work before that and other such as Ford (2015) had written about "the rise of robots and mass unemployment" earlier, this one particular paper reinvigorated computerization and work debates with an eye to the rise of automation and the imminent obsolescence of human workers. Although the claim that "47 % of US jobs might be susceptible to automation" was one among the many insights offered by the Frey and Osborne paper, this claim along with their other observations were widely reported along with similar empirical work (Acemoglu & Restrepo, 2017; Brynjolfsson & McAfee, 2014; Ford, 2015) to sound the alarms on the "robot takeover". Interestingly, Frey, apparently irked by the misquoting and extrapolation of their claims (they never said 'susceptible',

they said 'high risk'), wrote a book titled "The Technology Trap" (2019) with an aim to offering a popular corrective to the gloom and doom pronouncements around automation. As they explained in an interview, both their paper and the new book never meant to herald the demise of (human) work but rather, on the contrary, their argument remains that, "technologies take time to produce productivity and wage gains…automation will leave many people worse off in the short term, leading to unrest and opposition, which could in turn slow the pace of automation and productivity growth…Everyone would then be worse off in the long run[6]"

As the interview concludes, "Whereas many people assume he worries about a world with too many robots, Mr Frey is in reality more concerned about a future with too few. (ibid.)" A few things must be noted. Whether intentionally or otherwise, the Frey and Osborne paper, joining the ranks of others, successfully catapulted the anxieties around a new wave of AI-led automation and its impact on human work into the global mainstream. This anxiety, splintered in multiple ways, manifest in academic, electoral, speculative financial and policy questions led to the mushrooming of a whole industry of knowledge production on the topic of 'Future of Work'. As Carl Frey has quite clearly stated, their analysis (as economic historians) sought to establish historical continuities in thinking about technological revolutions and their impact on industrial work. They sought to compare the latest wave of imminent automation to past moments of industrialization and computerization that were also expected to bring about the demise of human work (and workers). Again, despite these clarifications and the fact that there already exists a whole field of 'Sociology of Work', the urgency and dystopic notions attached to 'Future of Work' thinking have stayed since Osborne and Frey's publication.

I was one of those accidental beneficiaries who got caught in and rode the wave of the 'Future of Work' research. As witnessed in the opportunities for funding support announced by funding institutions such as

[6] Excerpts from an interview with Carl Benedikt Frey in The Economist, titled 'Will a robot really take your job?' June 27th, 2019. https://www.economist.com/business/2019/06/27/will-a-robot-really-take-your-job

the Ford Foundation, the OECD Future of Work fellowship scheme, the US-based National Science Foundation (NSF)'s thematic "Future of Work at the Human-Technology Frontier"[7], the UN Global Commission on the Future of Work[8] among others as well as the opening up of multiple dedicated 'Future of Work' internship opportunities at places like Microsoft Research (that I was selected and not selected for), along with the dozens of panels, workshops, presentations across industry, policy organizations and academia, there was now a well-funded and legitimized field of knowledge and innovation called 'Future of Work'. This appropriately agnostic emergent discourse operated and *still continues to operate* as a foil to ideate on (un/under) employment, automation, surveillance, (re)skilling and education, productivity, organizational design, gendered development and more. It contains proponents of gloom and doom, critics of automation, advocates of post-work futures, fin-tech entrepreneurs, ILO and World Bank researchers, Marxist-technologists and "expert consultants" among those considered as experts on the topic.

Frey and Osborne also emphasize that their analysis responds to the trajectories of industrialization, technologization and Work in Fordist and post-Fordist economies, especially in the UK and Europe that also experienced an era of Keynesian economics, the welfarist State and consequently the establishment of permanent, full-time employment (a "job for life" (2017)) as a norm of *good life*. This short genealogy of the 'Future of Work' discourse might help contextualize why and how gig work platforms continue to be studied primarily from a labour perspective, especially with the aim to figure out if platform-based work is good or bad work in the long and short term. As a traveling discourse, platforms as one of the futures of work have found purchase in interesting ways. Gillespie has comprehensively studied the meanings, uses and functions performed through the invocation of the term 'platform' (2010, 2018). Specifically, for the purposes of discussing gig-work platforms, a few parallel movements are relevant. When talking about early gaming or software development platforms, the key shift emphasized was that

[7] https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505620&org=NSF
[8] https://www.ilo.org/global/topics/future-of-work/WCMS_569528/lang--en/index.htm

of decentralization of production – opening up and allowing for independent producers, savvy users, and other programmers to be able to contribute to the production, maintenance, and amelioration of a platform. Such an approach marked a shift from a more traditional top-down corporate model where companies would build products and ship them out. However the shift to a platform-model has not only changed the mode of production for companies seeking to build faster, through leaner organizations, it has also in-turn marked a shift in the imagination of corporations at large, beginning with technology or "innovation-heavy" corporations (Fenwick, McCahery, & Vermeulen, 2019). The "gig economy" or the "Shared Economy" turn further demonstrated the possibility of even more 'asset-light' innovation and enterprise since the pioneers in this space (Uber, Airbnb…) barely own any of the material assets that their services depend on (cars, homes, food, employees). Indeed, the larger shift towards platformization then not only signals decentralization but also promotes an 'asset-light, intermediary' (Sundararajan, 2014) role for technology corporations of the future, thus also promising reduced risk and the ability to pivot or enter different markets as time passes. The larger platform discourse extends the same promises to its users as well, offering them freedom from investment, ownership, maintenance costs and damage and liability. Culturally, the shift to a platform lifestyle is also sometimes called the millennial lifestyle where the emphasis is on immediate gratification and expanded horizons of consumption since personal ownership is now considered a thing of the past.

Within digital labour scholarship, platforms and platformization have been placed along the continuum of post-Fordist reorganizations of labour practices. Platform labour has been studied for its impact on the otherwise declining or stagnant national wages, for the long hours and physically laborious and mentally taxing "menial" work (Aloisi, 2019; De Groen, Kilhoffer, Lenaerts, & Mandl, 2018). Many critics of platform work have emphasized the lack of minimum wage enforcement (Collier, Dubal, & Carter, 2017; Jarrahi, Sutherland, Nelson, & Sawyer, 2020). As they argue, platforms have resorted to deliberate misclassification of platform workers as *not* employees in order to avoid giving employment benefits or a minimum wage. These features of platform work contribute to the ongoing erosion of social and

economic security within employment that afforded increased stability to people in these countries for a period of time in the past. Outside of the proverbial West, in the "rest of the world", especially in developing countries, the proliferation of platform work coincided with exponential workforce population growth, situating it within concerns of utilizing surplus human resources, providing youth employment, managing the possible political repercussions of youth unemployment and addressing "jobless growth" in these economies. Responding to these anxieties, as technological enterprise and employment avenues, platforms emerged as potential solutions to the endemic problems of the developing world. These developments capture the differing macro level responses to the rise of platforms against the perceived rise of robots and impending largescale unemployment that automated futures of work are supposed to bring in the near future.

As I witnessed in my fieldwork, these meta discourses operated as space-making mechanisms that allowed certain questions to be asked in certain contexts. The rise of platforms in India coincided not only with the "youth population explosion" but also with a political moment where the prime minister of India, Narendra Modi, in a bid to deliver on his election campaign promises, initiated the *Make in India* program: an attempt to promote domestic manufacturing and reduce the country's reliance on Chinese manufacturing[9]. Apart from easing license restrictions and tariffs to support manufacturing infrastructure, the Modi government recognized the need to reform the national vocational training program (which they called *Skill India*) in order to supply the critical skilled labour required in various manufacturing sectors. Forms of remote work as well as jobs with "low skill thresholds" such as driving, hardware repair, waitressing, wellness work etc. were denoted as scalable easy work (Surie & Koduganti, 2016). In 2017, my research experience with platform work enabled me to intern at a big technology company in India that was looking to leverage the national and global interest in work and education technologies. I had the

[9]Rohit Saboo. 'Make in India's success lies in Skill India'. The Economic Times. November 2015 https://auto.economictimes.indiatimes.com/autologue/make-in-india-initiative-s-success-lies-in-skilling-india/1041

opportunity to weave in and out of actual skill training centres where young people from rural areas would come and stay for a residential program, learn a skill, pass a vocational training exam and be deployed as apprentices in companies that were partly sponsoring these programs. Given that the possibilities of unemployment and dispossession had manifested as personal, communal, and national hauntings, it seemed uncontroversial for corporate executive and state governments alike to pronounce app-based work and web-based crowd work as empowering and emancipatory work futures. During the same period, through my circuitous journeys in and out of academic, corporate and government settings, I was able to understand just how much power corporate consultancies such as McKinsey had in terms of influencing government policies as knowledge brokers. The dissertation does not feature a comprehensive critique of the 'Future of Work' discourse but knowing *how* the term is not just about any and all futures of work is important to understanding the arguments I make in the chapters that follow. Importantly, once assembled, this discourse travelled globally as a common universal concern and made space for all kinds of solutionism, including by those who are viewed by some as the harbingers of labour precarity (such as the platform companies).

Platforms as Emergent Media

Platforms are on the rise as sociotechnical and political objects of relevance globally. Many things that we consider or name as 'platform' today were not born as platforms but rather morphed and grew out of their original singular uses and grew into ways that we can talk about platforms more generally. The self-evident nature of things now called 'platforms' needs a fair bit of wrangling to uncover both, how certain things came to be called platforms (and by whom and why) and later, how platform-*ness* went from being a discursive sleight of hand to perhaps the most adequate way to understand and talk (in academic and journalistic parlance) about all kinds of public-facing new media ecosystems. Gillespie (2010) put his finger on the first move – of various social and digital media companies self-identifying as 'platforms' for all kinds of tactical business and legal motivations. But as has been noted, the quotation marks slip away fairly quickly, without much resistance or contestation over the import of the term 'platform' to now

continue studying digital and social media services as platforms, for the most part an accommodative and expansive move rather than a reframing or a critical semantic investigation of 'platform'. Of course, in some manner, those who theorize the platform-ness of existing systems or the thingness of platforms (infrastructural function, materiality) are indeed critically examining the utility of the term 'platform' but such forays have not led to a crisis or abandoning of the nomenclature whose discursive terms were very much set by technology corporations to begin with.

While there are commonalities to different kinds of digital platforms that do allow us to talk about them in general, there are different kinds of platforms (social media platforms, gig work platforms, content platforms…). Platform studies also inherit many of the debates that inform new media scholarship at large. Media scholars Ian Bogost and Nick Montfort inaugurated the field of 'platform studies' as a "family of approaches to digital media" (2009) where "close consideration is given to the detailed technical workings of computing systems". Focusing mostly on gaming platforms, they argued that examining the relationships between hardware and software design of standardized computing systems i.e. 'platforms could help us better understand how computation shapes culture. The word platform has since travelled far and wide and been taken up in scholarship across disciplines that study new media technologies in conjunction with human activity. In 2016, the Association of Internet Researchers (AoIR) even convened its annual conference on the theme of platform studies. In the media and communication studies contexts, the bulk of research on platforms has focused on the role of popular digital and social media platforms such as YouTube, Facebook, twitter, Reddit, Instagram, Twitch and so on, examining the myriad social, political, cultural and economic implications that these platforms produce as mediators. It would not be remiss to say that with the rise of the "gig economy", a whole new set of software services gained prominence as platforms, thus expanding, and altering what was until then understood about platforms. This dissertation does not directly deal with social media platforms (such as Facebook, Twitter, Instagram) or user generated content platforms (YouTube, Twitch) or Open Development platforms (Android, iOS) but the focus here, is on 'gig economy' or the erstwhile 'sharing economy' platforms such

as Uber, Airbnb, Ola, Swiggy, Zomato that allow the digital space and visibility for individuals to match with each other and provide and consume a service. Other kinds of platforms include payment platforms (GPay, PayTM, AliPay), retail marketplaces for peer-to-peer buying/selling (eBay, Amazon, Etsy) etc. A few points are worth clarifying so that readers are better able to follow along the arguments made in the dissertation.

For platforms as such but especially in the case of gig economy platforms, there has been a lot of debate on issues of nomenclature and classification. Classifying a platform as a social media platform as against a marketplace or a digital content provider has implications for regulating the said platform (Lynskey, 2017). Within the gig economy story, a lot of initial debates centred around appropriate naming and defining this new genre of digital businesses (Katz, 2015). Early advocates of gig work platforms called them the "Sharing Economy", a name that has since been fiercely criticized since urban gig work platforms do not facilitate altruistic sharing of time or resources. People *pay* for services and other people provide them. Thus, identifying something like Uber as well as Couchsurfing (the free community-oriented predecessor to Airbnb) both as "Sharing Economy" platforms would collapse the crucial difference between paid and unpaid exchanges. Some suggested calling it the "rental economy" but later, as the gig economy largely grew to facilitate the hiring of people's services rather than goods and resources, the name 'gig economy' prevailed. Additionally, calling it the "gig economy" supports the primarily labour-oriented approach to the study of these platforms since the emphasis is on the "gig" nature of work provided by these platforms. Nicholas John, in his book titled 'The Age of Sharing' (John, 2017) offers a generative move out of the semantic tug-of-war around the word 'sharing'. Instead of trying to contest the use of the word 'sharing' to describe the gig economy, John urges us to consider the different and often divergent meanings and actions that are held together under the term and if so, what emic utility the descriptor of 'sharing' might offer. Of course, I do not use 'spirit' or 'sharing' uncritically but instead, across chapters, flag the production and morphosis of social and economic value (valuation, moral values, and compensation) of work as it is produced through different kinds of arrangements.

A methodological concern that the dissertation grapples with is how to think through 'emergent media'. The newness of new media or rather, what is new and what is old – is an integral part of discussions on any emergent media form. The same extends to platforms as media and software objects. Within discussions of infrastructure, labour, time and temporality staged in different chapters, I have striven to ask and offer some insights on the new functions, possibilities and constraints that algorithmic platforms as 'emergent media' offer in our writings about urban space, resistance, power and chrono-geographies. Simultaneously, although not explicitly explored in the dissertation, the instrumentalization of algorithmic management as well as technological design to achieve the goals of profit maximization, is also of relevance when thinking through the materialities and politics of new media. The kind of platforms that I discuss in the dissertation are not made by a group of open source software volunteers or funded through tax revenue. They are answerable not to citizens or local civic bodies but primarily to their venture capitalist investors, shareholders and then to their consumers to some extent. Especially when studying platforms through a global South field site, one is compelled to recognize the corporate tech discourses of "emergent markets" (Cutrell, 2011) and "next billion users" (Arora, 2019) that inform the user experience philosophy of these companies. As I witnessed time and again, the fact that people's behaviours would need to be changed through nudges, incentives, discounts, media publicity and more in order to not only bring them online but also make them active app-based consumers, is an important aspect of the 'emergent platform assemblage'.

Platform-Living, taken as whole

Existing scholarship on the gig economy, mostly focusing on Global North geographies, has heavily focused on the transformation of work and labour. As demonstrated in the section above, a narrow focus on platform work with a veiled emphasis on labouring conditions and paid work, especially with the implicit benchmarks of formal industrial work, has led to a blinkered theorization of what platforms are doing to societies and economies. Thus far, platform scholarship on the Global South, where the majority

of the world lives and labours, has been limited. Even when such case studies do appear, they either extend and instantiate the dominant theories of platform work that we already know from Global North studies or they highlight the lags and deficits in developing countries that make it difficult to transpose theory as such. This is not a new problem by any means and I take heart from anthropologists of informality, postcolonial bureaucracies and political society as well as others who have already contested 'dark' anthropology that tends to pathologize the difference of experiences, materialities and state structures outside of the West. There still have to be meaningful and useful approaches to make sense of life and labouring within informal economies, even for those who do not directly participate in informal work but are supported through those economies. Similarly, the heterogeneity of global capitalism as well as the centrality of social norms and kinship relationships to economic exchange *must be* incorporated within global thinking on global labour and by extension, global platform labour.

As I show in the dissertation, much of this work is yet to be done and current economistic and developmental analyses of platform work do not allow for a consideration of heterogenous labour markets, the position of migrants within them and importantly, how platforms might figure within people's visions of a good life. In the absence of a view of "life, taken as a whole" (Das, 2018), the bulk of existing scholarship focuses on platform work as an exclusive market phenomenon. What happens before or outside the market, who can and cannot participate in it, how platforms as sociotechnical objects might be reshuffling urban social relations and relatedly the contesting claims to citizenship over the city by different groups – these are all important considerations to understand why platforms succeeded in embedding themselves within urban social, political and economic relations. Similarly, as one of the foundational blocks of platforms, algorithms have yet to be fully studies as social and cultural intermediaries. What kind of affordances do algorithms produce for the relationship between a domestic helper and her patron? How do the exigencies of algorithmic networks alter the moral and affective norms that previously informed and governed interpersonal behaviour in an auto rickshaw or taxi ride? What new social experiences and opportunities for boundary-crossing do app-based interactions offer when

food delivery workers and taxi drivers are provided with people's home addresses or when they interact with and become responsible for inebriated customers, little children and so on? How does venture capital, through the vehicle of platforms challenge the distribution of urban power that was until now configured through appeals to local political institutions and leaders as well as ethno-linguistic claims to the city of Bengaluru. Indeed, many of these new encounters that algorithmic platforms produce also translate into physical and financial risk for workers as well as customers but outside of those exceptional circumstances, urban societies have had to *make space* and revise norms in order for platforms to function effectively and deliver on the promises they make.

Much of the world lives and works within largely informal economies and has tentative relationships with the State. Even where welfarist states exist at least for namesake, the capability of working class, non-metropolitan and poor individuals to access State resources or appeal to authorities is limited. For millions of dispossessed people around the world, entering the market and participating in it is not easy or straightforward (Appel, 2019; Chua & Mathur, 2018; A. Gupta, 2015; Krupa & Nugent, 2015; Mezzadra, 2019). The State governs them at a distance and globalized neoliberal markets require a constant reproduction and an updating of the self to be able to work at all. Then it is not only necessary to find new standpoints from where we theorize digital labour and platform living but also to simultaneously resist straightforward homages to the Global South. As my dissertation argues, we not only want to democratize the empirical fodder for platform theories, but we must also resist temptations of unity or uniformity as the assembling principles for any diagnosis of platform living. To that end, I also briefly engage with the notion of cosmopolitics (Cheah & Robbins, 1998; Stengers, 2005) (in the conclusion) that proposes difference as the ordering principle and a key epistemic pillar for any theory of the global-digital. Similar for other binaries that may hold for the sake of analysis but do not exist in the world in relationships of opposition or mutual exclusion – workers/consumers, digital/analogue, affective/material. If so, staying with processes and ontologies of encounters (where things meet, where they rub, where they are being worked out yet) are the sites from where the dissertation observes platform living. The dissertation does

not make generalizable claims about populations. Rather, my attempt has been to clear the epistemic ground that can allow for a serious consideration of difference in platform living and of digital subjectivities especially from a global South standpoint. It for that reason that taking platform living "as whole": mapping it through the interstices where social life, cultural norms, the charismatic power of digital technologies and the daily realities of platform work meet and act upon each other, offers a generative analysis of the platform condition.

Contributions to Platform Studies

The dissertation moves through four thematic chapters and ends with a concluding chapter. The first chapter takes up the theme of 'Labour', while the second addresses the configuration of 'Time' and temporality within platform-living. The third chapter titled 'Infrastructure' explores how gig platforms get embedded into urban infrastructures and reshape practices of urban discovery, navigation as well as the geographies of mobility in the city. The fourth chapter delves into the thematic pairing of 'Resistance/Responsibility' that offer insights on resistance (by workers) and the connected issue of 'responsibility' as a motivating moral and political force among platform consumers.

The dissertation makes the following contributions. In chapter one titled 'Labour/Precarity', I survey dominant understandings of platformization's effects on labour conditions. I focus specifically on a claim made by many platform scholars who argue that platforms are contributing to widespread precaritization in various socio-economic contexts. Reflecting on my experiences and interviews during fieldwork, I contend that such a teleology of precarity does not adequately explain the disruptive and transformational effects of platforms on work in the majority of the world. By engaging with select platform labour scholarship I demonstrate that 'precarity' as an analytic has been pathologized and has unwittingly come to signal to a dystopic future that is already present outside of industrialized countries. In that sense, I argue that "precarity talk" in platform research suffers from the lack of place-based engagement and constantly relies on a constitutive outside (i.e. the global South) to be able to articulate what good

platform futures might look like. While such a diagnosis may be tactically useful for some in Euro-America to demand a turn in policy and regulation towards full-time permanent work futures, it has created an intellectual and political impasse for thinking through work futures in the majority of the world. The chapter advances articulations of precariousness as an ontological category, a position from where scholars have recognized vulnerability as inherent to *and* as a productive political force for those already precarious to figure out a way forward. This chapter focuses less on the dynamics within daily platform work but more on how platforms have been assessed as a future of work. I demonstrate the utility of drawing continuities between precarious life trajectories and work presents. Through vignettes from fieldwork across India, I show how platforms appear as an avenue for addressing perpetual precarity within the 'circuitous investments' that workers make across places (of home and work) and the present and the future. I end by offering a short conceptual history of 'precarity' to argue that, in fact, a post-Fordist panic about precaritization has already been addressed by testing its analytical limits against various historical, geographical, and experiential contexts in the past. These correctives have emerged in the past from the fields of Since this dissertation contributes to an emergent field (platform studies, digital labour), along with providing an analysis of platform-living, I have taken on the task of introducing scholarly debates from a wide range of disciplines to my chapters. Rather than see the lack of such thinking as already present within platform scholarship, I see this as an opportunity for field-making and diversifying the agenda of digital labour studies.

The second chapter enters discussions of Time, temporality, and power as mobilized through control over time within platform-living. Similar to precarity, questions of time have primarily been approached within platform studies through the notion of 'time capacity' and 'flexibility'. Advocates of the platform economy have hailed its emergence as a step in the direction of flexi-time work futures. Critics have argued that what may appear as flexibility or a greater control over choosing one's worktime has in fact contribute to the slipping away of work/life boundaries. Even when platform workers are not working, they spend a large amount of time in figuring out how to make platform work profitable. The related

claim is that platform culture is thriving because it capitalizes on the ever-proliferating idea that *nobody cares.* In an environment where "nobody cares" about the long term impact of the casualization of work and with the simultaneous transference of all forms of reproductive care work (such as domestic chores, performing menial tasks as favours for friends and family), platform environments are driving us away from life as marked by ethics of care. I contest the notion of time as a have or have-not and instead expand the boundaries of investigation to look at the interconnected temporalities of high-skilled professionals and the lives of platform workers they depend on in order to meet their daily reproductive needs (food, wellness, commute, chores). Further, I offer a broader qualitative assessment of temporal capacities to include gendered pictures of personal time. It is not that platforms do not exert granular control when workers are logged-on, but it is important to understand why temporal flexibility appears as an attractive trade-off (and to *whom* it does) are key to understanding where platforms appear in people's lives. Beyond the daily distribution of temporal power within the city, there are also contested notions of futurity at play within platform participation as well as for those who write about them. How futurity as a broader category of life and, how the imagination of future bears upon near-future decisions and actions in one's life, is yet to receive serious attention within platform studies scholarship. However, as I show in the chapter, the juncture at which platforms emerge in a young, anxious India and how the possibilities of earning quick fame and money through a variety of digital platforms responds to these structural and personal anxieties about one's future is key to understanding why platforms appear as attractive short-term opportunities to people.

Chapter three titled 'Platform Infrastructures as Urban Assemblages' builds on preliminary calls to study platforms as (media) infrastructures (Plantin & Punathambekar, 2019). Also building on calls in the earlier chapters and in committing to study platforms at the micro-level, this chapter begins by making a case for platform capitalism as a project rather than a context (Appel, 2019). To clarify, drawing on work by urban geographers, especially those looking at the ongoing informatization of cities worldwide, I veer towards an exploration of how the thing that we call platform capitalism is made function through the

welding and weaving of algorithmic activity into the processes that constitute the shared experience of urbanity. Showing how media infrastructures especially are central to observing and understanding the materialization of discourses, histories, capital-nature relationships and more, the chapter makes a case for why platforms should be studied *as* media infrastructures, but they also constitute "the matters of politics" in our contemporary world. I then explore what kinds of media infrastructures platforms are: multivalent and hybrid digital objects. There has been sustained scholarly interest and writing on infrastructure across disciplines. In sampling infrastructural writings that could help us understand how platforms are worlded in daily urban life, I also bring together approaches to infrastructure that may not have previously been in direct conversation. To that effect, I introduce the notions of *peopling* infrastructure as well as the call to attend to how urban infrastructures operate as technologies of differential provisioning within urban assemblages. Combining these two approaches, I not only call attention to the role of individuals and community relations in making typically hard infrastructures *functional*, but I also explore how these peopled networks are far from benign or democratic. In that sense, both physical infrastructures and now algorithmic ones sit atop and percolate into these unequal arrangements. Having shown what kinds of new media infrastructures platforms are and how they might be enrolled into inter-action with other infrastructuring forces, I offer peopled algorithmic views of the platform city. How people navigate the new algorithmic city and how they find glitches, holes, and zones of exception between the layers of the informated and non-informated pockets. Finally, shifting from infrastructural processes the chapter returns to the new infrastructural subjectivities borne of platformization, showing how people develop sensorial modalities to *see like a platform* in order to successfully navigate it.

Throughout the dissertation, I take up transformations in capitalist living as well as in work conditions as ushered by platforms. With the rising discourse that makes visible how platforms subjectify their workers and consumers, there are also parallel calls for updating our tools and tactics of workplace resistance, especially while dealing with entities that make no claims to typical employment relations and offer no physical or communicative spaces for congregation. Chapter four is divided into two connected themes:

resistance and responsibility. The first addressing resistance looks at the nature of resistance and refusal as mounted by platform workers in India. Adding to what are considered familiar and effective forms of organized resistance such as mass protests, boycotts, issue-based strikes and longer processes of formal collectivization such as unionizing, I offer examples of new media tactics such as "silent strikes" as well as instances of play and mischief that workers engage in, in order to find relief from their own platformization. Traditional modes of collectivization and resistance have been celebrated and encouraged within academic writing looking for ways to counter the growing power of platforms. However, political tactics are far from benign. Nor are they entirely and only based on the commonly shared experience of work in order to build solidarities. As I discovered in my field sites, depending on the groups being mobilized as well as the authorities they were appealing to, the path to political mobilization for platform workers often wove in and out of nativist movements, groups advocating for ethno-linguistic, religious and caste-based interests. From the strong presence of migrant South Asian and Middle Eastern workers in taxi-driving in New York City and London to the affinities among Latina care workers in the US to the substantial numbers of non-upper caste and Muslim auto rickshaw drivers, historical factors have contributed to such group formations along different affinities. By showing how the path to platform power goes through local political constellations as well as electoral interests, the chapter calls for greater attention to the cultural, social and political contexts in which platform mobilizations are made. Illuminating the political potential of play and subversive media use within platforms as well as attention to platform workers as political and electoral constituents are two specific contributions that the first part makes. Given the rapidly changing and inherently emergent nature of platforms as media environments, I make no attempt to offer a theorization of platform resistance that might endure. I point to already extant possibilities.

Part two looks at how platform consumers perceive their role in the platform economy especially in the face of information about the unfair treatment of workers and low wages while relying on the same workers to meet many of their daily needs and requirements. Barring one conference on economic

sociology where the presenters considered the moral aspects of the platform economy, there is yet to be any discussion of the social, cultural and moral norms that sustain platform economy exchanges. Some work including my own has pointed to the centrality of communicative and empathetic work in lubricating daily platform interactions without which the *feelings* of safety, good service and "professional quality" would not exist. Many customers argue online that these normative expectations of kindness, generosity, helpfulness, fairness and overall humane behaviour should be reciprocal: *we can only get the services we want efficiently on a daily basis if we support the workers and treat them well*. Drawing on the work of economic sociologists who have studied 'moralized markets' I look at the articulation of moral stances as a pre-political response. Moral behaviours in the platform economy as I argue both set the grounds for what is acceptable and expected in daily platform exchanges but also contain what could become antagonistic class relationships between workers and consumers. Further, moral explanations are not limited to consumers, they also help workers decide the course of their daily behaviour – how much to extend oneself, where to cut corners, where is cheating okay? The answers to these questions change on a daily basis as the questions in which these contexts are asked change as well.

A large part of the struggle to secure labour dignity for blue collar and informal workers is the fact that the expectations of respect as well as more basic moral demands of humane treatment cannot simply be realized through law enforcement or punitive measures. So many workers that we spoke to across platforms in India, juxtaposed platform work against manual labour and physically demanding forms of work. They explained that the reason for transitioning to app-based work was not just to escape taxing manual labour but also to be in the proximity of clean, respectable work. I still remember watching a television ad promoting the *Skill India* mission where a young man expressed his motivation for joining a computer repair course. He literally said, "nobody wants to marry a carpenter, but if I work with computers, it earns me some respect in my community." My argument is not for reinforcing the hierarchy of work along which the scale of good treatment is drawn. My contention is that as I have shown through the entire dissertation, since the "matters of concern" within current platform scholarship are so narrowly

economistic and driven towards a kind of labour-tech solutionism, there is not much space to meet platformization as a wider ongoing life transformation. Algorithmic encounters also produce considerations for how we must treat each other within such systems. It is not enough to say that commercial algorithmic management causes the mistreatment of workers and privileges all the demands of consumers. The algorithmic intermediary also brings these two apparently antagonistic and co-dependent groups in close proximity every single day and what happens between them is constitutive of the new normal of platform societies.

The conclusion summarizes the contributions of individual chapters to the field of platform studies. Based on those contributions, I inaugurate a holistic interdisciplinary approach that shifts attention from platforms as the main agential objects to instead focus on them as worlded objects, entangled in the socio-materialities of the contexts where they operate. My aim with offering such a revised agenda for platform studies is not to dismiss or correct the specific empirical insights in the field with respect to labour conditions, algorithmic management, governance, surveillance and so on. As I elaborate in the conclusion, platforms are not just technical environments shaping an entirely new socio-economic world. They are also acted upon by other biopolitical, ecological, infrastructural forces. A singularly techno-capitalist understanding of platform environments suffers from a poverty of imagination, it does not allow us to recognize the role of agentiality (Barad, 2010) afforded and lost through inter-actions among various actors. In immediate terms, the primacy of Global North techno-justice thinking also furthers a map of agency and collective action where only a few options (unions, fair trade, boycotting apps) and some kinds of activism appear to be our alternatives. That is simply not true. Recognizing how cosmopolitical boundaries as well as globally networked value chains produce complex challenges for solidarity-building. This is not just about encouraging place-based practices or contextually engaged or participatory research. This is about furthering an ontological and anthropological turn within platform studies in order to place platforms within the management of individual and communal lives. Both, for imagining

alternate *careful* work futures as well as for labour solidarity struggles across borders, such a turn is necessary.

Note on Methods and Field Site

The dissertation draws on over three years of ethnographic and user experience research to reflect on how digital platforms remediate social power and urban life by looking at the emergence and proliferation of gig work platforms in India but also in the UK and the US. Most of my fieldwork was done in 4-6 months spurts between 2015 and 2020. Given the constraints around funding as well as the norms in my home disciplines (Information Science/HCI), most of these fieldwork sprints were supported by internships at industry research labs such as Microsoft Research and Xerox Research, although in 2019-20, I spent the last 5-6 months of field work doing independent research and some collaborative research for a multi-sited study of digital labour platforms in India supported by the Centre for Internet and Society and the Azim Premji Research Grants program. Given this winding trajectory through which I created resources for ethnographic research, I wore multiple hats throughout the years. At times I presented myself as an independent researcher and a graduate student, at other times I approached the same questions with the imperative to produce actionable design insights for the labs and companies that hired me as a user experience (UX) research intern. In the section below I briefly chronologically describe some phases of my fieldwork as well as the published and unpublished studies that have informed the dissertation.

Studying the immaterial labour involved in ridehailing (2015-16)

In 2015-16, I began studying ridehailing drivers' daily work in the US context. Based on the findings from this qualitative study I co-published a paper titled 'Standing out from the Crowd: emotional labour, body labour, and temporal labour in ridesharing' with Paul Dourish. We conducted 18 semi-structured interviews with drivers across the United States and drew from a survey of 121 drivers. The survey was designed with a dual purpose of collecting ridehailing drivers' experiences of their daily work but also with the goal of explicitly documenting the challenges they faced and the things they wanted to change about their work and the platform. The survey responses, drafted in the style of a 'bill of rights', were

later submitted to the US Federal Trade Commission's first-ever public consultation on the "Sharing Economy" in 2016. The paper on the other hand highlighted the importance of the immaterial labour (emotion-work, communicative work and risky work undertaken by drivers) within the work of ridehailing. We argued that the material and immaterial work such as being nice to customers, maintaining one's own emotions, appearance, and one's vehicle in order to maintain one's star-ratings – this type of work was in fact integral to becoming and remaining a successful ridehailing driver. Drawing on Arlie Hochschild's work on 'affective labour' as well as Gibson-Graham's work expanding the boundaries of economic activity beyond the market, we called for a serious consideration of what was then normally considered reproductive or non-productive work while thinking about ridehailing-work.

Ridehailing in Bengaluru (2016-18)

In 2016, I had the opportunity to undertake a six-month internship with Jacki O'Neill at Microsoft Research, Bengaluru. Beginning with this internship but also after that, I started studying ridehailing and other adjacent forms of platform-work in India's Silicon Valley, Bengaluru. The work on *Hisaab-Kitaab* or the ways in which ridehailing drivers maintain personal financial accounts in order to contest the opacity of the data narratives produced by platforms, is informed by the "go-alongs", interviews and observations conducted during this period. It is also during my ethnographic work in this period that I started developing an interest in the role of urban geography and ecological and infrastructural elements in the functioning of platforms. The vignettes presented in chapter two and three are informed by the time I spent de-familiarizing and then re-familiarizing myself with the informated geographies of Bengaluru as a platform-city. I possess basic fluency in Kannada, officially the native language of Bengaluru but one among the many languages spoken in the city (including Tamizh, Hindi, Telugu, and English). Although I spent some time learning Kannada, most of my interviews were conducted using a mix of Kannada, Hindi, and English. At times I was able to take friends who were fluent Kannada speakers to the field. Being an upper middle class woman also affected the ways in which my interlocutors perceived my presence amidst them (such as the time when I visited parking lots near the airport to interview drivers in

Bengaluru, discussed at length in chapter three). During this time, I also interviewed numerous start-up founders and employees (designers, engineers, UX researchers) to get a sense of their imagination of the platform design, especially with an eye to designing for the Indian markets.

Studying vocational skill-training in Emerging Markets (2017)

In 2017, I interned with the 'Digital India' group at the Microsoft R&D product development centre in Hyderabad, India. Here, I was tasked with conducting exploratory research to understand how the company might design a platform to provide digital vocational training in a way that it could be scaled to thousands and potentially millions of people across "emerging markets" in the world. Although tangential to my study of gig-economy platforms, this internship gave me the opportunity to immerse in the corporate tech-building environment and see how big technology corporations develop design approaches to capture users in developing economies such as India. It is also during this internship that I was able to see and experience the power of think tank white papers in shaping innovation discourses. How do corporate designers and product managers access information on the "real world"? How do tech companies decide the next big direction of their investments and product design? How do non-profits, policy organizations and academic researchers get embedded within certain discourses of technology-led development? Among the array of problems that administrators and entrepreneurs want to solve, which problem gets uptake? In my case, the problem that received most attention and interest was the 'Future of Work' problem and how it manifested into opportunities for intervention in the form of skill-training programs, job discovery and designing remote-work opportunities for the future. My immersive ethnographic work both with vocational skill trainees at a training centre in Hyderabad as well as the team I worked with in the tech company offered me a change to understand how platform-work appeared as a Future of Work solution.

Studying Atypical Work (2018)

In 2018, I worked with the 'Future of Work' research group at Microsoft Research, Cambridge (UK) with Sian Lindley. We decided to study how 'atypical' or 'non-standard' workers manage their daily

productivity and the role that different personal technologies play in that. Our study was motivated by the understanding that various forms of non-white collar and non-desk based occupations have existed long before the rise of platform-work. In our study, we interviewed and conducted a diary study with approximately 20 people in Cambridge and London. We spoke to carpenters, plumbers, nannies, self-employed beauticians who all acquired and did their work independently without enrolling on app-based platforms. We also interviewed people who worked through apps as 'TaskRabbits' (menial chore-doers), Uber drivers and Deliveroo riders (food delivery). Prior scholarship has questioned the utility of holding permanent full-time employment as the ideal standard to judge other types of work arrangements, especially in a world where "atypical" employment is on the rise. Permanent and standard employment norms have also historically not been conducive to especially vulnerable people including single parents, migrants, people seeking to upskill and reskill, people with disabilities and so on. As I show in chapter two (on Time and Flexibility), digital labour studies also suffers from a narrow conceptualization of temporal autonomy whereby the long hours and hectic scheduling within platform work is interpreted as the "lack of true flexibility" even though workers may report feeling like they have more control over their time. In this study, we sought to sidestep the debate on true or real flexibility in platform work by instead choosing to focus on temporal flexibility as a life-need, something that many people desire but, are unable to have while doing full-time jobs. In attending to time management and technology-use among such people who had already exited the sphere of typical employment, we studied how people balanced their social, familial and economic obligations by curating their atypical work schedules and how they used personal devices as well as social media platforms to delegate some of their scheduling and communicative work. In the dissertation, I discuss the debates around flexibility in chapter two in detail. I draw from this empirical study in that chapter to explain how flexibility is not a given feature of atypical work but is instead indicative of the possibility to craft and carve time out for people to remain available in different spheres of their lives.

Investigating women's experiences of platform work and feminized platform work (2019-20)

In 2019, I collaborated with Joyojeet Pal at Microsoft Research, Bengaluru to study the experiences of female platform workers as well as the platformization of traditionally feminized work such as beauty and wellness work. In this qualitative study, we conducted interviews with approximately 25 female beauticians working through an app-based platform in the city. We also managed to get access to the platform company's training facilities where I observed the training, recruiting and disciplining processes involved in creating platform representatives out of experienced beauty and massage workers. We published our findings in a CSCW paper titled *Making a Pro: Professionalism in beauty-work after platforms* (2019). An important insight that we gathered from this study was how digital platforms converged with the professionalism project of traditionally stigmatized workers (i.e. beauticians and masseuses). We also explored how app-based work configured as an opportunity in the lives of women whose work and life choices are often dictated by socio-cultural norms and family obligations. We found that the temporal flexibility as well as the "quietness" that smartphone-based work provided, allowed women to continue working discreetly. We also explored what kind of entrepreneurial subjects platform companies desire and recruit and how personal life circumstances such as financial needs and other kinds of vulnerability signified a "drive to succeed" for platforms.

Mapping the landscape of digital labour in India (2019-20)

The final phase of my fieldwork began in January 2019 and concluded in October 2019. Given that gig economy platforms were constantly changing their operations and features and by 2019, some of the platforms had been acquired by other bigger platforms as well, my intention in this concluding phase was to revisit my earlier findings and to possibly expand my analysis to places beyond Bengaluru to generate a comparative understanding. My research in this phase was supported by a research grant from the Azim Premji University's grants programme and I recruited four research fellows to assist me with four field studies in two big Indian cities (Mumbai and Delhi-NCR). Simiran Lalvani and Anushree Gupta studied food delivery workers and ridehailing drivers respectively in Mumbai and Sarah Zia and Rajendra Jadhav conducted similar ethnographic studies in Delhi-NCR. I simultaneously continued my own set of

interviews with food delivery workers and drivers in Bengaluru to update the data I had collected in the past. I supervised the four field studies, helped design their research plans, collaborated on framing interview questions with each fellow and finally, co-authored a set of blogposts published on the anthropology blog CASTAC (Blog, 2019). Through these studies we were able to uncover the fascinating ways in which kinship relations along the lines of community, language and regional identities played a massive role in supporting the work of app-based workers. We also discovered how gradually, over the years, ridehailing platforms had arrived at a cumulative plan for managing the safety of women passengers during a ride. This plan gave us a sense of how women in India are understood as "risky subjects" and then managed through a range of legal as well as socio-cultural norms surrounding gendered interactions in public spaces. By revisiting the work of ridehailing drivers at a stage when the enthusiasm and incentives in platform work had reduced, we discovered how the category of fleet owners had entered the platform economy and were now vital to the management of financial viability of the ridehailing economy.

Towards the end of my fieldwork, I was also approached by a portable benefits start-up that wanted me to work as a research consultant to specifically understand the financial lives of gig workers. By the end of my field research, I had conducted more than 100 interviews with platform workers across at least five cities in the world and conducted more than 700 hours of immersive participatory observation in parking lots, within homes, training facilities, warehouses, at traffic intersections, outside restaurants and in highly surveilled offices. In terms of methods, I followed the classic methods of mobility research such as "go-alongs" (Büscher, Urry, & Witchger, 2010; Sheller, 2014) in cars, auto rickshaws and buses with drivers and passengers. I also ordered hundreds of taxi and auto rides through apps. It is in the last leg of my collaborative research with four research fellows at CIS that I was able to pay close attention to food delivery workers as a group. I grew up in Gujarat, a state in Western India but have since spent many of my formative years in Bengaluru and Delhi in India. Given the linguistic diversity of India as well as of Bengaluru, all the interviews that I conducted were either done using a mix of Hindi, English, and

Kannada or, for respondents who preferred Kannada only, I relied on Kannada-speaking friends and briefly an interpreter to facilitate our conversation. In Delhi, all interviews were done in Hindi and in Mumbai, my colleagues used a mix of Hindi, Marathi, and English. While it was not my intention to make my dissertation research about India or the Global South and the insights presented are not limited to understanding places located in the Global South, I recognize that my analysis follows from these multiple positions that I occupy simultaneously.

Chapter One: Labour/Precarity

Introduction

In one interview with an Ola driver in Bengaluru, I asked the driver about his background and how he came to taxi driving. I was trying to understand what this driver, Narasimha, thought of his new work. He started by telling me that even though taxi driving was hard work, especially in Bengaluru were the traffic congestion compelled him to driver longer hours to meet his bonus targets, he enjoyed this form of work. Narasimha belonged to the Gowda community; a caste community engaged primarily in agricultural work in parts of North Karnataka. Since droughts had become a recurrent feature of his hometown ecology, farming had become an expensive affair, certainly no longer an assured means of income or accumulating wealth. Since Narasimha's family had never thought that this day would come, they had not thought of pushing him to get higher education. Especially given that India is now full of unemployed graduates and even postgraduates, Narasimha explained that there was no point in him returning to education. This brought his family to the logical conclusion and future pathway that many other families in his hometown of Tumkur resort to in the face of increasing precarity. They decided that Narasimha would go to the city, Bengaluru, and engage in some form of work to be able to support the education of his younger siblings as well as his family's subsistence. With few employable skills and a few friends and acquaintances in Bengaluru, Narasimha arrived in 2014 and started working at a construction site as a driver. His job was to ferry executives, contractors, and others and occasionally, he would also drive the JCB machines on site if they needed to be moved. Sometimes he would also be asked to clean the car. As soon as the construction project concluded, he would wait to hear about another or go looking for some other work in the meanwhile. He lived in a room that he shared with two other men, also migrants from areas near his hometown. Reflecting on his transition to Ola-driving, Narasimha explained that platform work had provided him an opportunity to exit the dusty and noisy construction sites. Even though construction work and driving for a company paid more and provided fixed income when the project was on, Narasimha longed to switch to an arrangement where he would not have to sit around and wait and be "on

duty" for long hours in the night. When I asked him if he felt exploited in ridesharing, he said the earnings could definitely be better but since he was not looking to make a future in Bengaluru and wanted to just earn enough to revitalize his farm and home back in Tumkur, ridehailing work suited his requirements. I asked if he had considered applying to government jobs or private jobs. He said he neither had the qualifications or certifications for it, nor did he want to become someone's "servant". Raised on the idea that he would grow up one day and inherit his father's farmland and keep the family business going, ridehailing seemed like a better option to settle for because there was no direct boss or manager involved. Asked whether he felt vulnerable within ridehailing, Narasimha explained that given his and his family's current circumstances, he definitely felt the pressure as the primary breadwinner but he also saw this as a form of penance, a journey away from his family in order to acquire resources and return to the way of life that he was more familiar with. Within this view of life, he appreciated the earning opportunities that ridehailing platforms gave him, even though he might not pursue this work in the long term.

The concept of labour has been undergoing a profound change during the Internet era with the rise of technology companies as mediators of all spheres of the global economy and public life. From seeking employment to working remotely to taking up freelance 'piece-work', digital mediation has transformed the world of work in multiple ways. Popular digital services that we use daily – from Search to social media platforms to e-commerce and taxi-hailing apps – all rely heavily on contractual human workers to perform efficiently. Human workers scrub websites off clean violent and graphic images, they apologise for app errors, traffic delays and rearrange their personal time to fulfil the flexibility of "anytime" services that app platforms promise. Among the many ways in which app-based platforms have disrupted daily normative exchanges, one is the major disruption and upheaval caused to extant arrangements of employment.

This chapter addresses the labour dimensions of the platform economy, understood as including both crowd work and "app-based on-demand gig-works". Much has been written about the labour conditions within platforms both in the Global North and also some in the Global South. Through my own

collaborative and individual empirical research, I have also investigated work conditions, algorithmic management, the temporal aspects, and the longer term social impact of platforms on labouring with an eye to Bengaluru where I did most of my field research. While questions of labour (work conditions, competition, effects on local labour markets, worker solidarity and organizing) have been asked across disciplines, my work is mostly in conversation with digital labour studies and ICT for Development work. The chapter is structured as follows. I begin by providing a brief and selective overview of literature on technology-led transformations in the domain of work. Then I summarize relevant literature on platformization and labour that includes writings on algorithmic management, work conditions and the changing nature of organizations with the rise of crowdwork and gig-work platforms. I further scope the discussion by looking at platform studies within Global South contexts and how those studies contribute in terms of determining the impact of platforms on the global futures of work.

After that, using vignettes from my fieldwork, I report on the appearance of platform work as an avenue of short-term paid work for domestic migrants in Bengaluru. Drawing on my own and others' research, I argue that in the case of Global South geographies as well as for historically economically vulnerable communities, where precarity is the norm rather than exception, platform-based work provides a temporary yet stable alternative to cope with the precariousness of life. I particularly draw attention to the social, political and religious worldviews within which my interlocutors chose paid work (including platform work). Within prevalent discourse on platform work and regulation, there is an insistence on regulating platforms in a bid to make them full-time employers rather than technological intermediaries. The justification for such a push is that unless folded into the norms of permanent and secure employment, platforms will cause a permanent casualization of work and erosion of the norms of social and economic security that accompany the ideal form of work, i.e. permanent, full-time employment. The underlying narrativization of precarity as a relatively novel and rapidly proliferating economic condition as opposed to the golden age of secure employment, occupies an iron grip over those imagining regulatory futures of employment after platformization. But how useful is this diagnosis and the resultant

recommendations to regulate platform work when they are brought to bear upon a place like India where formal employment forms only a small fraction of the entire economy?

More importantly, such a framework that centres economic precarity is also inadequate to understand the diverse ways in which platforms enter the social world of work and the reasons for which people choose some types of work over others. Moreover, as I show in the latter half of the chapter, the prevalent predication of global precarity and the formation of a "global digital precariat" class in platform work is also based on a limited historiography of labour relations in the industrialized world that perhaps assumes that the Global South is either already a place of widespread precarity or will eventually follow the story unfolding the Global North. In either case, it pathologizes the already present precariousness in developing countries as an imminent dystopic future for the overdeveloped ones. My intent here is not to deny the prevalence of precarity but rather to highlight precarity as an already prevalent global present that in-turn demands pedagogies of survival by mobilizing a varying range of social, cultural and political resources at the margins of the economy. Understanding and considering the social contexts within which precarity emerges and is managed throughout life, gives practical meaning to formulations of social inequality as well as the resultant regulatory imaginations. Revising our understandings of precariousness – how prevalent it is, how various kinds of precariousness are constituted through the habitualization and institutionalization of social inequalities and, how such ontological precariousness informs people's life journeys within and outside productive work, offers us meaningful contextual articulations of precarity and social inequality. Such articulations and people's ongoing precarious survival projects have the potential to inform a more generative politics of the future of work without returning to the ideal of full-time waged employment.

Technology-led transformations in Work

The role of information technologies in labour transformations has been a scholarly concern for a while now. Much before platform work as well as freelance remote work, scholars studied the global division of labour within offshore IT offices servicing white collar organizations in North America and Europe

(Aneesh, 2009). I discuss some of the intra-organizational work transformations especially from the angle of temporality in the second chapter in detail. Closer to the sort of platform gig-workers studied in this dissertation are other contemporary kinds of digital workers such as "data janitors"(L. Irani, 2015) and content moderators(Roberts, 2014, 2016) hired as contractors by large tech corporations or smaller third party tech firms that service the big firms. As has been studied extensively by now, these contractors are paid relatively less compared to their Global North counterparts. The category of "prosumers"(Ritzer, Dean, & Jurgenson, 2012) or those who "create content" has also come under considerable scrutiny with the rise of the 'micro celebrity' or influencers (Senft, 2013) who essentially labour for free to create their own brands on platforms in the hope of becoming famous enough to be offered compensation, visibility and advertising for their content. Marwick (2015), Duffy (2017), Baym (2015) and others have studied various kinds of 'culture producers' including those who sell handmade craft items on Etsy, fashion bloggers who strive to "build engagement on Instagram" as well as the 'relational labour' performed by musicians in order to "connect" with their audiences. Across these studies, scholars have both highlighted the emergence of new kinds of paid work categories (such as the influencer, micro celebrity, small online businesses) as well as the kinds of material and immaterial investments and the daily labour required to compete and succeed in a herd of platform workers.

Given the meteoric rise of platform enterprises and logics since some of its pioneers such as Mechanical Turk, Uber and Airbnb started not long ago, it is not hard to understand why there is palpable anxiety about the "gig-ification" of everything. Indeed, the logic of app-based gig-work has spread to all sectors of service and manufacturing work: from shift-based trucking to on-demand chefs and cooks to babysitting gigs to paid gigs for waiting in line for others. As Alex Rosenblat writes in her book *Uberland (Rosenblat, 2018)*, what app-based algorithmic platforms do really well is the ability to create ephemeral, spontaneous markets bringing service providers and consumers together in real-time. However, as many have noted, this intermediary position also affords a vast amount of power to platforms as they get to determine the price of gigs or tasks (Prassl, 2018; A. Stewart & Stanford, 2017), the commission they get

to draw from each task (Aloisi, 2015), the terms and hours of work for platform workers and more. Apart from these hard controls, algorithmic platforms also exert a lot of soft control (Rosenblat & Stark, 2016) on their workers by dictating how workers dress, how they must interact with consumers and what hours they must work in order to avail of benefits and bonus pay.

Overall, scholars have developed a typology of digital labour (Casilli, 2017) to hash out the differences and similarities between different types of platformized work. Crowd work then is work that is executed through online platforms that put in contact an indefinite number of organisations, businesses, and individuals through the internet, potentially allowing connecting clients and workers on a global basis (Howcroft & Bergvall-Kåreborn, 2019). The nature of the tasks performed on crowdwork platforms also vary considerably. Most crowdwork platforms involve "microtasks": "extremely parcelled activities, often menial and monotonous, which still require some sort of judgement beyond the understanding of artificial intelligence" (e.g. tagging photos, valuing emotions or the appropriateness of a site or text, completing surveys) (Irani, 2015a). However, the same platforms such as MTurk or Upwork also offer bigger and more skilled tasks such as the creation of a logo or a slide deck for a marketing campaign (Durward, Blohm, & Leimeister, 2016; Kittur et al., 2013; Kuek et al., 2015).

The "work on-demand via apps" also known as the gig economy jobs are related to traditional working activities such as transport, cleaning and running errands, but also forms of clerical work, are offered, and assigned through mobile apps. As Valerio De Stefano writes, "The businesses running these apps normally intervene in setting minimum quality standards of service and in the selection and management of the workforce.(De Stefano, 2015)" De Stefano explains that these forms of work present some major differences among each other, the most obvious being that crowdwork is chiefly executed online and principally allows platform, clients and workers to operate anywhere in the world, while gig-work only matches online supply and demand of activities that are later executed locally. This means that in the latter, matching of demand and supply occur on a hyperlocal basis compared to crowdwork where

essentially it is a global or at least an international market (Aloisi, 2015; Greenhouse, 2015; Singer, 2014).

It bears repeating that labels like crowdwork and gig-work are understandably provisional since forms of crowdwork are gigs and these nomenclatures only offer a convenient demarcation based on methods of work allocation and payment. All these platforms also do not demand exclusivity from the persons working for them, allowing workers to bid on the same task but also for clients to have more say in who gets to provide the service. This is truer of crowdwork platforms than gigs but even within app-based gig-work, workers are purportedly assigned jobs based on their past ratings and customer reviews and customers certainly do get to notify the platform if they do *not* want the worker to serve them again.

Some platforms do set a minimum compensation for tasks and also send prompts and nudges asking customers to tip workers for their service. Even within gig economy work, the difficulty and the amount of human labour required vary. As I discuss in detail in chapter two, based on the amount of anticipated interaction between platform workers and consumers, respective companies invest in different forms of training and determine the valuation of different tasks. Aloisi (2015) has also distinguished between menial tasks such as cleaning, running errands, home-repairs, and more specialized services such as driving, clerical work, legal services within platform work. De Stefano (2015) and others (Risak & Warter, 2015) have also noted that these are not just technical differences but also have important consequences on the proposal, acceptance, and execution of contracts between the parties involved.

Platformization and Labour

With the continual and novel kinds of technology-led transformations in the nature of work, concerns have also emerged around labouring conditions within novel forms of work. Broadly, with regards to user participation on the Internet and its increasing monetization or the blurring boundaries between participation and work in online activities, Terranova in her essay ‘Free Labour’(Terranova, 2000) and Trebor Scholz through his concept of ‘playboring’(2012) have pointed to the centrality of ‘attention’ as a

category of value and exchange within the information economy. As they argue, while we create meaning through social interactions on Facebook, we also in-turn "playbor", sustaining and keeping platforms as relevant, sticky, and interesting ecosystems. Further, our interactions, intimate expressions are also mined and analysed to build profitable knowledge over which we have no claims and derive no compensation from. Elsewhere, Andrew Ross called into investigation the mythologies of "loving what you do" surrounding freelance work (Ross, 2004, 2009) and creative labour (Duffy, 2017; McRobbie, 2018). Gradually as the boundaries of paid work blur and morph into online gigs (Mechanical Turk, UpWork), increasing potentiality and need for commodifying casual or subsistence work (Uber, TaskRabbit), both the questions that earlier writings on housework and reproductive labour implied – *where paid work begins and stops and how what was considered reproductive labour may now be valued when it enters or inheres market potentiality* – become pertinent to the studies of platforms as well. In the earlier, more embodied moment of networked labour concerned with transnational workers and offshore work, it was arguably easier to recognize the socio-material and identarian aspects of work since one could *see* who was working, their race, nationality, gender, caste etc. In the context of paid work and economic exchange across platforms, media studies scholars (Marwick, 2013) have emphasized how "putting a little bit of (your) identity": performing tangible and intangible bodily, emotional and communicative labours are integral to being able make a living off platforms such as Etsy, YouTube, Facebook and others.

Coming to platformized service work, especially the platformization of taxi-driving, scholars have established continuities and highlighted the differences brought about by technologization. Davis, in one of the earliest ethnographies of taxi driving (1959), observed the anonymity and mobility inhered in the occupation. He remarked especially of taxi drivers as "practitioner without reputation". In more recent work, Hodges(Gao Hodges, 2007; 2020) and Matthew(2008) separately studied the medallion system in New York City: how immigrants and others find their way to taxi-driving work and how all drivers paid a heavy fee to obtain a medallion, something they saw as an investment to reap profits without having to engage in immediate upskilling to make a living. In another study of taxi drivers, the authors discussed

the low mutual dependence and high mobility of taxi drivers as well (Eaton, Elaluf-Calderwood, Sorensen, & Yoo, 2015). Hodges also reported that by 2004, the number of medallion-owning drivers was only 29% (2007), implying that medallion-owners had instead become powerful intermediaries renting their right to drive to other drivers with no worker benefits. Sarah Sharma (2014) whose work I discuss later in the chapter on Time as well, through her ethnographic work on taxi drivers, illustrates the financially and materially taxing work conditions of Uber drivers in North America.

With regards to ridehailing or "ridesharing" work, some have argued that apps such as Uber do not qualify as "ridesharing" even though they do offer shared rides (Chan & Shaheen, 2012) because of the lack of parity between the driver and the riders. An extended version of the argument is that platforms such as Uber, Lyft etc. are part of an emergent privatization moment via technological enrolment whereby services that were previously considered within the ambit of State-provided public welfare are not being recast into forms of consumption (Aigrain, 2012; Belk, 2014).The general and loudest refrain is that platformized on-demand services usher an era of "low-benefit, insecure work" (Dubal, 2017; Irani, 2016; Nickell, Kliestikova, & Kovacova, 2019; Silberman, Irani, & Ross, 2010). This is the core of what many have argued is the ongoing precaritization-by-platformization. Relatedly, Lee et al (2015) called for greater transparency within algorithmic management since app-based platforms rely on algorithmic decision-making to match drivers and riders and to determine the rates of service based on the time of the day, ratings, and other factors. In our paper (Raval & Dourish, 2016), we highlighted the emotional, risk and bodily labours involved in the production of the platformized self.

Within Human Computer Interaction (HCI), crowdwork platforms such as Mechanical Turk have been studied extensively to understand their impact on organizational work and quality of work, motivations for "micro-tasking" (Cheng, Teevan, Iqbal, & Bernstein, 2015), negotiations between task-assigners and workers. A smaller group of researchers have sought to make visible the labour conditions of crowdwork platforms that are essentially global labour markets (Martin, Hanrahan, O'Neill, & Gupta, 2014; Salehi et al., 2015). Some researchers have also built systems such as Turkopticon (Irani & Silberman, 2013) and

Dynamo (Salehi et al., 2015) based on their earlier findings as experiments in design-justice to reduce the information asymmetry, offer collaborative venues for platform-workers and thus improve their work conditions. Gray et al (2016) emphasized and rendered visible the amount of collaborative work that platform-workers put in outside of their monetized time in order to become "super Turkers" or to rise above others within the competitive crowd of platform work. Elsewhere researchers have suggested that flexibility can lead to intensification of work effort. So, while employees may even report a preference for more flexible work arrangements, they argue that this can still come at personal cost such as reduced leisure time (Pedersen & Lewis, 2012).

Beyond strictly empirical studies, many others have attempted to theorize the relationship between labour and technology, joining the ranks of Terranova and others discussed earlier in this section. Most of them have taken Marxist language and concepts to analyse the putative alienation and precaritization of workers within platform work. Trebor Scholz and collaborators(Scholz, 2016) inaugurated and continue to run the 'platform cooperativism' movement where they join forces with international trade unions as well as the International Labour Organization (ILO) to invite mostly North American but also some Global South trade unionists and labour activists to deliberate on the state of digital labour. UK based researcher and a proponent of 'anti-work' politics, Nick Srnicek has written several pieces diagnosing and denouncing 'platform capitalism' (Srnicek, 2017a, 2017b; Srnicek & Williams, 2015) where he claims to demonstrate how digital technologies "generate new tendencies" within our current economies. He looks at individual big technology corporations and employs a political economy lens to investigate the long term transformations that such businesses are ushering into Euro-American economies and relatedly into their labour markets. Srnicek (2017b), Scholz (2016), Van Doorn (2017) and others who rely directly on Marxian theories of surplus value and commodity fetishism hammer home the point that there used to be a 'salariat'(Burrell, 1996) and that for some time now, industrialized nation states have been committed to the Keynesian notions of welfare and social security that have boosted secure, salaried permanent employment in these countries allowing the rise of a prosperous middle class that could afford to own

property and was further empowered to meaningfully participate in political processes. With the erosion of those socio-economic infrastructures brought about partly due to the rise of global finance systems, they claim that such a 'salariat' is dwindling. While platforms did not begin such an erosion they are certainly (as the claim goes) exacerbating economic precarity by assembling a "reserve force" (Gidwani, 2008) of workers who are willing to engage in on-demand piece-work without the expectation of medical or social security benefits.

Another such Marxist scholar, Christian Fuchs has written a treatise attempting to interpret Marx's writings on labour in his epic *Grundrisse* and connect them to the objectification of Facebook users/participants/labourers (Fuchs, 2013). I do not go into the detailed arguments of these writings here, but it suffices to establish that there is a dominantly held view that algorithmic platform work is causing widespread precaritization through the casualization of work and thereby assembling an army of precarious workers globally. Such a view broadly relies on various strands of Marxist and neo-Marxist thought to draw connections between earlier forms of industrial capitalism and platform capitalism now. While these scholars do not make explicit the limits of their analyses, most of this writing is based on studies of platform workers and/or personal observations and experiences of platform work and consumption based in industrialized countries in Europe, UK, and North America. Additionally, albeit in slightly different ways, the demographic variety of platform workers does not necessarily trouble the claims about precarity. So, for instance, there is no special attention or investigation of whether domestic, intra-EU, and other regional migrant populations that already arrive in precarious conditions might attest to such analyses of platform work. Even where migrant and other experiences of the gig economy are gaining attention (van Doorn, Ferrari, & Graham, 2020), it is assumed and argued that women, refugees, migrant workers, people with less than college degrees and so on must be *even more precarious,* since their social, political and economic disadvantages add to the mix. I return to this discussion in a moment but first I also want to gather up scholarship on gig platforms from the 'rest of the world'.

Global South and Platform Work

Although relatively scant, there has been some scholarship on gig and platform economy work from outside of the Global North. In their paper, Ahmed et al (2016) expanded the exploration of on-demand mobility beyond North America and Europe with an ethnographic study of auto-rickshaw drivers in Bengaluru, India. The study highlighted concerns regarding driver welfare, depicting the challenges these financially vulnerable workers faced in the course of their daily work. They argued that the Ola app had not changed the inherent vulnerability that characterizes auto rickshaw driving as work within the city. Kameswaran et al (2018) conducted a qualitative study with visually impaired ridehailing users and detailed how app-based services contributed to the contextual and social configuration of independence for visually impaired persons. Kasera et al (2016) in their paper on ridehailing in Namibia, studied traditional mobility arrangements in comparison with app-based mobility to argue that technology designed in the Global North does not align with the "tempo" and "pace" of drivers' contexts in Namibia. Surie and Koduganti (2016) in their paper on ridehailing in India, focusing on cabs, demonstrated how app-based work allowed recent rural migrants and lower middle class individuals to accumulate wealth in the short-term for their future plans. In another recent paper, Surie et al (2019) also explore how rural youth in Karnataka, in the face of prolonged drought and agrarian distress, began migrating to Bengaluru, the closest urban centre. Given the low-skill threshold of app-based work including food delivery and other kinds of services, these young male workers were able to find work and attain some level of stability by enrolling app-based work. Also, in a recently published paper with Joyojeet Pal (Raval & Pal, 2019), we explored the lives of women workers in India enrolled in on-demand app-based beauty and wellness work. We focused on the professionalizing potential of app-based platforms as well as the relative *invisibility* of such work that allowed women to participate in paid work without creating tensions in their social relationships.

Finally, in a series of studies of crowdwork as well as other app-based platforms(Anwar & Graham, 2020; Graham & Anwar, 2019; Graham et al., 2017; van Doorn et al., 2020; Wood, Graham, Lehdonvirta, &

Hjorth, 2019), Oxford-based researchers have reported on the state of digital labour in sub-Saharan Africa, South East Asia and South Africa. One of the key insights that these researchers provide is the creation and availability of a "global labour market" (2019) now and how it impacts social and economic mobility in these Global South regions. Graham and colleagues (within the same larger project) have also noted that the proliferation of crowdwork and app-based work has resulted in a *loosening up* of local labour markets, something that we also observed in Bengaluru and other parts of India. Since prior to the availability of digital platforms, aspects of work such as job-seeking, job discovery, communication about work and managing expectations of work and payment were all intricately tied to demonstrating one's familiarity with the local linguistic, ethnic and regional dynamics, gaining work as an outsider or a newcomer was relatively hard. It meant that such newcomers had to rely on personal networks and endure a fair bit of exploitation since they would have no leverage but would also be vulnerable to hostilities from local workers. In a qualitative study of 133 Uber drivers across India, Prabhat et al(2019) argue that in a country like India with an "exploding demography", widespread unemployment and the systemic lack of contract-enforcements, Uber and ridehailing generally are driving micro-entrepreneurship by offering migrants from smaller towns the opportunity to become small-business owners in the city.

Across these studies, including our work on beauty workers, a few things are said by way of context setting and providing a rationale for studying digital labour developments outside of the Global North. The primary motivation for so many of these studies remains the fact that there is an automatic teleology to digital research whereby any phenomenon is widely studied within Global North geographies first, partly because of the research and publication infrastructures that support the scholarship as well as the visibility that such research gains in terms of conversing with policymakers and mobilizing liberal democracies in the West. Thus, there is invariably a research *lag* that makes space for ICT4D researchers to call for studying "developing economies" partly because they are understudied but also because producing institutional knowledge about developing economies is what fuels global aid, philanthropy, and techno-solutionism. Sometimes, very validly, the case is also made that the Global South is where the

majority of the world lives and labours. More recently, the case has been made for the demographic dividend of the Global South where the majority of young people in the world will also come from (Chant & McIlwaine, 2009). In that sense, there is legitimate motivation for digital researchers, even those housed in Western institutions to make a case for how studying the 'Future of Work' and the 'Next Billion Users' in the Global South are key to future plans of global governance and technological enterprise.

Imagined Regulatory Futures of Work

Broadly, globally, the rise of platforms and their entrenchment within local economies, especially pioneered by Uber, created multiple legal challenges for existing frameworks governing non-permanent work, urban planning, traffic navigation, commercial vehicle licensing and more. There has been a spectrum of responses to the disruptions caused by platforms. In some places such as Germany[10], Spain[11], the city of Austin[12] in the US and briefly in the UK[13], platform apps were banned from operating due to their non-compliance with national and local regulatory frameworks. But as New York Times journalist Mike Isaac who covered Uber stories for several years, demonstrates in his book *Super Pumped*(2019), eventually platforms were able to bend legislation their way and gain legitimacy through a combination of tactics such as weaponizing their customers and getting them to lobby local elected representative but also by simply bribing and influencing policymakers.

One of the enduring challenges with the rise of the Uber economy has been the employment status of ridehailing and other platform workers. Since the beginning, platform companies have gone to great

[10]German court bans Uber's ride-hailing services in Germanyhttps://www.reuters.com/article/us-uber-court/german-court-bans-ubers-ride-hailing-services-in-germany-idUSKBN1YN171
[11] Uber driven out of Barcelona again https://techcrunch.com/2019/01/31/uber-driven-out-of-barcelona-again/
[12] How Austin's failed attempt to regulate Uber and Lyft foreshadowed today's ride-hailing controversies https://www.vox.com/the-highlight/2019/9/6/20851575/uber-lyft-drivers-austin-regulation-rideshare
[13]Uber's London Ban May Just Be the Beginning of a Global Ride-Hailing Backlash https://fortune.com/2019/11/27/uber-london-ban-global-ride-hailing-backlash/

length to establish themselves as technological intermediaries and *not* transport companies[14], using this status as justification for not according 'employee' status to their workers. In other words, platform companies claim to simply be in the business of matching people and aiding the discovery of services like marketplaces do. To clarify, workers, unionists, academics and activists (Dubal, 2017) have noted that classifying platform workers as 'independent contractors' or '1099 workers' or small business owners allows platforms to exploit them since such a freelancer status affords no minimum wage benefits, no social security or medical benefits or paid leaves and also, despite platforms emphasizing the 'entrepreneur' status of workers, platform workers have no real autonomy or bargaining power in setting their terms of work. Again, there has been a range of responses to the regulatory conundrums posed by the rise of platform companies with some, especially in the UK, connecting the contemporary issues of platform employment to older demands for the creation of a hybrid employment category (Prassl, 2018).

The contestations around employment classification reached two conclusive moments. First in 2018, when the UK Court of Appeal, based on a class action lawsuit brought forth by platform-based drivers and others, announced that Uber drivers *do* indeed qualify as employees and must be treated so[15]. Second was in 2019[16], when in another similar landmark move against Uber, Lyft and others, the California legislative assembly signed the AB5 bill into law, extending employee status to ridehailing drivers and others. Not going into the details of the cascading effects of these pronouncements that are still being challenged legally and resisted otherwise by companies but also by groups of workers, sociolegal scholarship has also drawn attention to the structure of contracts binding platform and worker relationships. As we noticed in some of our interviews and survey-based work with food delivery and ridehailing workers in Bengaluru, platforms use a wide variety of design and language tactics to obfuscate

[14]Rosenblat, Alex. The Truth About How Uber's App Manages Drivers https://hbr.org/2016/04/the-truth-about-how-ubers-app-manages-drivers

[15] Uber drivers' fight for workers' rights reaches UK supreme court https://www.theguardian.com/technology/2020/jul/21/uber-drivers-fight-for-workers-rights-reaches-supreme-court

[16]AB5 gig law enforced: California sues Uber and Lyft to make drivers employees https://www.sfchronicle.com/business/article/AB5-gig-law-enforced-California-sues-Uber-and-15248217.php

the terms of work while recruiting workers. To begin with, we found that most workers were unable to find the contracts that they had already purportedly signed. Companies reported that terms of work were located in the dashboard of the workers' app. Most workers were not equipped to understand the formal and legalistic language of the terms document. Even before that, to become a food delivery worker, one simply had to download an app and click 'I agree' to a terms of service document, watch a video tutorial, set up one's account and start working. We noticed that this sign-up flow was conspicuously similar to consumer-facing apps such as games, social media apps etc. that the workers were used to downloading. In that sense, the similarity and recall generated by the terms of service document did not adequately capture the nature of the relationship that workers were agreeing to. In India, platform workers are not even classified as independent contractors, rather companies treat them as 'third party providers' (similar to small business owners) who are in fact *providing* a service to customers using the platforms[17].

This background is important to understand what has come to solidify as the worker rights discourse vis-à-vis platforms, what is being broadly imagined as *justice* within this discourse and thus what remedies are being sought against the current financial and technological design of work within platforms. Based on the arguments laid out above, the earlier socio-economic analyses of precarity do not go away, rather they inform and form the basis of the legal and policy recommendations that academics, lawyers and activists are advancing. It is worth highlighting such a specific and deliberate narrative of precaritization that directly motivates what is then imagined and advocated for in better futures of work.

Working the platform: Ridehailing-work in Bengaluru

Although there are many variations in daily ridehailing work, I begin with a sketch of a typical day for a ridehailing driver in Bengaluru. While there is no publicly available information about the socio-economic composition of drivers in the city, I found that most taxi drivers I met were non-upper caste Hindus, mostly from parts of Karnataka. On the other hand, most auto drivers on the platform and outside

[17]For a detailed discussion on Uber and Ola's terms and services in India see: https://www.medianama.com/2017/04/223-uber-and-ola-terms-conditions/

of it were Muslims or Christians and were local to Bengaluru. This composition can be partly attributed to the costs of ownership as well as accessible forms of credit. Since auto rickshaws cost less and have come to be financed through State and corporate social responsibility schemes, they have found uptake among working class and poor individuals, especially from minoritized social and religious classes. On the other hand, taxis/cars are not only more expensive to buy but also require additional expenses to acquire "yellow plates" (commercial licenses). In the context of ridehailing, only those who had some capital to begin with, or had sold land or assets to buy a car could afford to ply taxis. It was not uncommon to hear auto and taxi drivers talk about how buying a car to do ridehailing was much riskier than buying an auto. They often described app-based taxi work specifically as a 'gamble'. While auto drivers typically owned their vehicles and hence decided their days and times of work, taxi drivers typically followed a shift-based routine in daily work. Additionally, they either began early in the morning (4 or 5 am) or chose to end late at night (2-3 am) because these night hours often involved long and well-paying airport rides (where autos cannot ply) with minimum traffic.

When logged-in, cab drivers were either assigned 'shared' or 'pool' rides or individual rides automatically; while drivers had the option to cancel an allotted ride, they could not choose which rides they wanted to accept. Most drivers I interviewed reported working 10-12 hours daily for six days of the week. Similar to the studies of ridehailing work across the globe, drivers in Bengaluru also reported that their work felt laborious and exhausting especially since platforms required them to drive long distances and navigate the notorious traffic conditions of Bengaluru in order to complete their daily targets to earn a bonus or "incentives" on top of the actual earnings from rides. These incentives were essential if drivers wanted to turn substantial profit in their daily and monthly work. Apart from the physically and cognitively exhausting work of driving attentively, similar to what we reported in the US, drivers in India also reported engaging in extensive communicative and coordination work in order to reach their passengers' locations, convey information about delays or possible errors in ride allocation. As I describe in detail in chapter three, elements in the built environment of Bengaluru such as one-way roads,

sporadically changed traffic routing, instances of infrastructural breakdown and the incorrect mapping of entrances to buildings and gated communities created an additional burden for drivers.

To mitigate the additional labour of finding and picking customers up, drivers had begun to call passengers in advance to confirm their locations and inform them about possible delays. At the end of the day, reflecting on the quality of their work, both auto and taxi drivers described their work as manually intensive and exhausting. They also confessed to being uncertain about their futures (of work and life), expressing a desire to transition to small-business ownership or government jobs. For many auto drivers, auto-driving is also something they had inherited or been inducted into by a family member who owned the auto rickshaw before them. A majority of taxi and auto drivers described their present-day labour and the hardship they were experiencing as forms of investment into their children's future education, hoping that their children would transition to desk based and white-collar jobs. As such, the daily account of ridehailing work in an Indian metropolis is not drastically different to accounts of similar work in the global North. One key difference is that Indian workers do not (and cannot) undertake ridehailing as casual work. Even as part-time workers for fleet owners, most Indian drivers remained within the subsistence economy, using ridehailing as one type of work in a *patchwork* of paid work to be able to survive in the city. Why ridehailing drivers in Bengaluru continued working in the platform economy despite what scholars in the global North have called an increasingly precarious form of work, we have to delve into the social, economic and political contexts of work and employment-based migration within which platform work appears as an attractive avenue of employment.

Circuitous Investments

In their paper on agricultural distress contributing to the influx of platform workers in Bengaluru, Surie and Sharma (2019) describe how the majority of Uber and Ola drivers operating in Bengaluru were rural migrants from the neighbouring districts of Hassan, Shimoga, Ballari, Chitradurga and Bidar in North Karnataka. Broadly, Bengaluru's labour market is composed of urban workers who have multiple jobs, are self-employed and "stitch up" their livelihoods through a combination of different kinds of low-skill,

low waged, informal work (Bhattacharya, 1998; Srinivas, 2017). Echoing what Surie and Sharma found, in my 'go-alongs' and interactions with drivers across Bengaluru as well, I observed commercial taxi vehicles ornately decorated with stickers on the outside such as 'Kuruboss', 'Mandya Gowda', 'Vokkaliga', 'Reddy' – all caste derived names to signify the identity of the driver inside the car. There were other stickers as well in Kannada and English and in Hindi and Urdu in auto rickshaws, often with positive or romantic quotes but also statements on hard work and honesty plastered across the front and backs of vehicles. Inside the vehicle, it was common to find a rosary, a small Hanuman idol or a colourful prayer cloth used in Islamic worship. When asked about their motivations to migrate from their hometowns in North Karnataka in order to undertake taxi-driving in Bengaluru, drivers often explained how prolonged drought, agricultural distress were deepening the socio-economic vulnerability of non-upper caste farmland communities such as the Vokkaligas (literally meaning 'those who work the land'), Gowdas and Kurubas[18], especially for young men who had been groomed to take on agricultural roles and become breadwinners for their households.

These backstories were important as they set context for their other responses. As I have discussed in multiple places in the dissertation as well, migrant drivers and platform workers often reasoned that, despite the fluctuations in platform earnings, as a 'short-term adaptive strategy'(Surie & Sharma, 2019) for accumulating wealth. However, when asked about how driving for Uber and Ola would remain sustainable in the future as commissions continued to drop, drivers explained that platform-work was not meant for having a future in the city. They placed it within what some have called a "response continuum" to the latest phase of precarity and explained how they saved money from platform work to pay off farm loans, invest in education, home renovation and general amelioration of their families back home. Many drivers in my interviews and in other published work regularly expressed their hope to be able to return to their rural communities. Rosenblat has touched upon such motivations in the US context

[18]Naheed Ataulla. The Importance of being Vokkaliga. https://timesofindia.indiatimes.com/city/bengaluru/The-importance-of-being-Vokkaliga/articleshow/535910.cms

(2018) where Uber drivers did not view platform work as their main or long term work. However, what is dubbed a 'motivation' is not simply a case of individual aspiration.

As in the economically vulnerable migrants and non-migrant drivers in Bengaluru reasoned, globalization and the emergence of hi-tech jobs in the city never translated into opportunities for the native Kannadigas, especially those from historically oppressed communities of caste. It is no coincidence that for decades, as the IT industry grew in Bengaluru and as it became the high skilled migrant hub of the entire nation, Karnataka also witnessed the meteoric rise of a nativist movement centred around securing employment reservations within high skilled work (Menon, 2012). But since those formal mobilizations cannot extend to the informal sector, they inspire alternate strategies of entering Bengaluru's labour pool.

Another issue remains. India's largely informal and "socially constituted economy" (Harriss-White, 2003, 2004, 2010) have been dubbed as the hallmark of its local quotidian economies. These "social constitutions" or the specific percolations of caste, class, linguistic, regional and other historical relationships play an active role in determining how migrant workers find entry-level work and then make their way to a form of work-based citizenship in Indian cities. For instance, as my colleague Simiran Lalvani and I discovered through an ethnographic study of food delivery workers in Mumbai (2020), while traditional food production and delivery communities such as the *Dabbawalas* are in fact tightly knit and filtered based on the castes of their workers and similarly, their consumers are also enrolled in caste-based relations of food consumption and purity, platform work afforded workers from any caste or religion to participate. We observed a similar *loosening of the labour market* where migrant women from rural parts of Karnataka as well as from the north-eastern states of India preferred platform work, not because they could not get work easily but because the established channels through which migrants entered wellness work (salon owners and their friends) were extremely exploitative since salon owners who agreed to employ migrants were already aware of workers' precarious positions in a new city.

Pedagogies of Precarity

The journeys of surviving and thriving in platform work in Mumbai, Bengaluru and Delhi can also not be fully understood without contextualizing them within the larger social landscape of India as well as the local support networks of older migrants who, through a combination of WhatsApp groups, temporary accommodation support, their own nurturing of social networks with long-time city residents and businesses, had created a sort of soft landing and the social infrastructure that is key to precarious living within India. Lalvani, in her account of Mumbai's food delivery workers, identified kinship networks of *bhai-giri* or brotherhood built among young men living in the same ghettoised neighbourhoods were crucial in recruiting new food delivery workers as well as in maintaining benevolent surveillance over these workers' lives (2020). As described in her account of these workers, an already recruited platform worker would act as an advocate and a role model encouraging young men from his (usually non upper caste and low income) community to take up this line of work. This *elder brother* or *bhai* would also discipline and train the newcomers, making connections between work performance, community reputation and self-respect to produce a compliant and successful platform worker from his community. On the flipside, the experienced *bhai* would also vouch for newcomers in case they faced difficulties in producing paperwork or landed in some kind of trouble while on the job (accident, rains, delivery issues, violence). Elsewhere, through years of hanging out with women from urban slum settlements in Delhi, Tarangini Sriraman (2013) has conceptualized pedagogies of gendered citizenship that these women developed while standing in queues for hours in order to procure government welfare benefits and identification documents: a kind of phatic labour (Elyachar, 2012) that is integral to the worldliness of urban poor and especially women in India.

What I learned through my interviews with migrant and local ridehailing drivers in Bengaluru was that they did not approach the question of work and by extension, platform work, only through the calculations of daily and monthly earnings. For many domestic migrants, getting a job in the city provided a temporary opportunity for earning money even if it entailed hard manual work. In fact, as

Fareed, one of the drivers I interviewed, told me, before coming to ridehailing he had been a truck cleaner and then a heavy machinery cleaner, living at construction sites, hoping that a new job would show up once a construction project was over. Temporary migration for work is a global phenomenon but it also occupies a special place in the Indian imagination since remittances by Indians working in the UAE and the US have played a substantial role in facilitating the upward mobility that many middle class Indians experienced in the 1980s and after. Deepak Unnikrishnan's novel *Temporary People* provides multiple accounts of Malayali migrants in the UAE (people from Kerala) who become "temporary people" – people without passports or entitlement to basic human rights, people who voluntarily undertake taxing manual labour in the extreme climate of the Middle East in order to transform their material and social status back home in Kerala/India. Scholars have documented this dual life of migrant work journeys that are not only undertaken to improve one's own material life conditions in the present but are also simultaneously considered forms of long-term investment (of hard work, time, displacement) for the sake of those back home.

Also, importantly, my interviews with platform workers across the board revealed that all their life choices and actions were not always oriented towards self-maximization or maximizing personal profits. One such moment of realization occurred when I rode an auto rickshaw with a middle aged Muslim driver. Since he had insisted that I pay him in cash, I stopped our ride midway to go withdraw some cash from a nearby ATM. This sparked a conversation about financial security in his line of work and I asked him a few questions to understand how he perceived and ensured financial security for himself as well as for the future of his children. In response, he detailed how he worried daily about unforeseen situations, accidents, health crises that might affect his ability to earn. He also commented on how the platform dream was over exaggerated: that he never thought platforms would make him rich and indeed, platform earnings had substantially reduced in the years that he had worked through Ola's app. As others have noted and my interlocutor did too, he did not rely on the app-based platform with the hope of making a fortune. In fact, most auto rickshaw drivers used apps to anticipate demand and line up rides during the

slower hours of the day. Most even cancelled booked rides if they found a passenger hailing them on the road, simply because the penalty for cancelling a ride cost them much less than the earnings and fuel and time savings the immediate opportunity offered.

In 2019, I was approached by a financial technology start-up to become a research consultant and study on their behalf the financial lives of those in the platform economy. The start-up was looking to provide insurance, loan guarantee and overall financial education to platform workers. This made me think a lot from the other side: *why were so many low income workers financially insecure? Was it the lack of awareness and the lack of a point of entry into the financial assemblage? Did they simply not have the money to save and invest? Why were they so suspicious of the financial security discourse?* These questions emerged from my conversations with the start-up founders whose 'pitch slide deck' started with the "problem statement" that *platform workers are incredibly economically precarious individuals and they must be 'developed' into better financial subjects through behaviour change and "awareness". That if 'we' could convince platform enterprises to pitch in and contribute to speculative financial products such as insurance, fixed deposits, and loan payments through our new platform, then we had figured a way to solve precarity.* This problem statement and its guiding assumptions were informed by none other than the *Alia* portable benefits platform built through partnership by the National Domestic Workers Alliance in the United States[19].

Without going into the details of the portable benefits discourse that has since emerged as a band aid solution to the economic precaritization caused by platforms, I return to my interlocutor to whom I re-posed these fin-tech pitch questions: *Do you save? Do you invest? Aren't you worried about your children's futures and their increasing demands?* Without directly answering these somewhat intimate and direct questions, the driver reminded me that as a Muslim he considered it *haram* (or taboo) to earn money off something (such as investments or betting) that he had not directly *toiled* for. I was nominally

[19]For details about the 'Alia' platform for domestic workers see: https://www.dailycal.org/2020/01/31/domestic-workers/

aware of the field of Islamic banking and banks that sought to especially attract Muslim patrons while adhering to the tenets of the Quran[20]. But my auto driver was not interested in that conversation, he reiterated: *we must be honest and work hard and what we earn from our hard work, Allah will supplement that, and he will ensure that we survive. If we do no harm, we will be taken care of.* Although the most striking of all my interactions, this was neither the first nor the last time that auto drivers of different faiths had justified living within one's means and relying on an honest work ethic as the ideal way to live. Perhaps it was their defence against those who highlighted their materially poor lives but even so, these conversations compelled me to rethink what counted as *good life* within academic and policy talk on the 'future of work': *What do these experts imagine as the good life? Where do their 'floors' and 'ceilings' of good work, good life and futures derive from? By extension, what does 'platform precarity talk' seek to eliminate and achieve? In countries where economic relations of work are not governed by minimum wage norms, where forms of social debt, gratitude and collective living constitute the pedagogies of precarious survival, how do we retool precarity both as a non-fatalistic analytic but also as an instructive condition of life that is accounted for and managed through material, social, cultural and spiritual collectivities and dependencies?*

Another pattern that I observed in my interviews with ridehailing drivers was that I saw most drivers sporting at least two but sometimes more than two smartphones. Usually, those phones would be mid-range Chinese brand phones with giant screens. They would hold them a certain way, slightly far from their ears, often talking on loudspeaker or with an earpiece attached while driving. Different drivers cited different reasons for owning more than one phone. Each phone had multi-SIM capabilities, so it was not necessarily to have multiple phone numbers. Some explained that having two phones allowed them to separate personal and professional communication, establishing boundaries through the use of different

[20] It is out of the scope of this chapter to provide a longer discussion of the moral economy of Islamic Finance but for a comprehensive discussion of the conceptualization of 'interest' in personal Islamic finance, see Asutay, Mehmet. "Islamic moral economy as the foundation of Islamic finance." *Islamic Finance in Europe*. Edward Elgar Publishing, 2013.

devices. Others explained that one device was for communication and 'work' and the other was for watching downloaded movies, YouTube videos and generally for entertaining – thus segregated to conserve battery. But through their gestures, the ways in which the devices were handled and woven into their daily gestures and self-presentation to the passengers sitting in their car and their peers hanging out in parking lots, it was apparent that being associated with recognized technological work as seen through their smartphone use was an important aspects of their work identity crafting. I would often question the utility of multiple big smartphones: *why do you need two and why do they need to be so big?* And often, instead of answering my questions, they would either pull out a third device or tell me how many devices they owned.

Kentaro Toyama offered a while ago that ICT for Development scholars should move beyond a strictly need-based framework to study technological use and instead start paying attention to aspiration-based technological practice (2017). Given the growing numbers of young people in the so-called 'developing countries', the link between aspirations, vitality, futurity and technological consumption has only become more apparent as is evident in the explosion of non-elite content producers and consumers on a platform like TikTok. But returning to the attempt at retooling precarity as a useful category to understand the life situations of platform workers, Dillahunt and colleagues (Dillahunt et al., 2017; Kameswaran, Cameron, & Dillahunt, 2018), while studying platform-use among low income communities of colour in and around Detroit in the US, have urged HCI researchers to *not* box low income individuals within certain ideal trajectories and narratives of empowerment and justice and pay equal amounts of attention to their entrepreneurial aspirations and efforts. Particularly in their study, they found ridehailing platforms to be a temporary scaffold that solved mobility problems of their participants living in resource-poor areas with poor mobility (by design). There is a great deal of responsibility involved in arguing against a straightforward extension of narratives of vulnerability and for *not* reducing resource-poor lives to states of abjection. This chapter and my work in general do not make arguments of cultural relativism that invariably slip into the distinctions between developed and developing countries and solutions for formal

versus informal economies. A drier sociological way to make sense of the smartphones might be to say that collecting, owning, and displaying these smartphones feeds into the link between livelihood and selfhood.

The smartphone has for a while now offered an instant albeit short lived avenue for performances of class mobility – to be able to show that one is *updated* and *keeping up with the times.* Even so, the smartphone is rooted in the 'transversal' (Neilson & Rossiter, 2008) of gender, class and caste: for young men groomed to inherit land and become agriculturalists like their fathers and uncles, having to move outside of their communities and social class and take up what is traditionally seen as service/servile work (i.e. taxi driving) not only produced a crisis of class (or a downgrade) but also one of youth masculinity (Jeffrey, 2010). Staying in the proximity of multiple latest digital devices and staying constantly connected with one's family and friends in the city and the village through these smartphones also offered an immediate and literal embodiment of the social status and dignity that many workers desired. Generally, non-white collar work does not enjoy the same dignity and social status as desk based work. For many drivers who had come to platform work from other forms of manual work (construction, transport, logistics etc.), a key motivation was the promise of dignity, desirability and respect among their families and peers. Digital and social media participation and within that, *keeping up with the times:* upgrading to a new phone, having an account on the latest social media site, talking about one's phone's latest features, memory, screen size as well as being able to share pirated movies and the latest "content", these activities have now become integral to our performances of class identities and consequently vital to our social capital. For drivers but also for food delivery workers who were typically younger men, being "attached" to app-based work afforded them a certain amount of familiarity and recognition due to the popularity of gig platform services among the affluent sections of the society.

Various researchers have attempted to highlight the limits of platform work analysis, especially within studies emerging from the global North that solely focus on what happens within platforms (Anwar & Graham, 2020; Prabhat et al., 2019; Surie & Koduganti, 2016). Existing global North studies of gig work

take sociological and political economy approaches to diagnose the platform condition. Most of this scholarship has determined that gig platforms contribute to the erosion of full-time, waged, and secure employment. Many of these studies place platform work (including crowd work) as the latest development in a longer history of casualization of work and the systematic dismantling of worker rights that started with the Reagan and Thatcher era in the US and the UK. Responding to this moment of scholarship when 'precarity' gained purchase as an analytic after the financial markets crash in 2008, Brett Neilson and Ned Rossiter called for "sociologizing precarity" (2008) in order for precarity-analysis to not become a panic-discourse. Several other writings have since critiqued the precarity discourse that gained momentum since the publication of Guy Standing's book *Precariat(2014)* where he argued that the ongoing attacks against work security and labour have resulted in the formation of a new class called the "precariat", a class that is *not* the "salariat". Within platform studies, those interested in explaining platform work as a movement of labour exploitation have generously borrowed from Standing and other proponents of the earlier precarity discourse, describing platform workers as the new "global digital precariat".

Some have further extended this analysis to the Global South, explaining that that the 'precariat' also exists outside of the West even though non-Western workers have benefited from the wage differentials of global platform work (2017). Others, especially from the Global South, have challenged this totalizing declaration of precarity in multiple ways. For instance, Surie and Koduganti's paper (2016) on Uber drivers points to how platforms allow already precarious agricultural and informal workers to accumulate wealth in the short-term, enabling them to further invest it elsewhere. Prabhat et al's paper on the *Uberwallahs (2019)* in India directly challenges the notion that app-based gig work is bad or exploitative. They posit new platform work against the prevalent landscape of informal work where regulation, contract enforcement and grievance addressal are largely absent, thus arguing that app-based work is ushering formalization and financial transparency, thus truly supporting the growth of small-business owners. Others, again beginning from the realities of Global South living, have pointed to the redeeming

role of platforms in supporting visually impaired passengers, women's safety and so on. In some sense, these writings are making a case for diversifying the analysis of platform work futures, but they largely rely on the framing of Global South places as spaces of informality where there is widespread dispossession and the law does not function as promised. However, the emphasis on material poverty and the weak enforcement of contracts still does not sociologize precarity in that such a framing still forces us to approach platform workers as primarily economic subjects. Thus, the question being asked of platforms in the Global South is no longer whether they offer full-time work or salaries or insurance but whether they are helping people emerge as materially richer subjects. Such an analysis still does not occupy itself with figuring out what constituted precariousness and precarity in contemporary societies outside of industrialized countries that do not share the historical trajectories of welfarism and then neoliberalization and globalization.

Retooling Precarity for Platform Thinking

This dissertation's larger argument is that we need to displace the hegemony of economistic explanations and expand our understanding of the (platform) economy as also moulded and maintained by productive and non-productive exchanges outside of markets. To that end, it is also necessary to retool what constitutes precariousness beyond economic vulnerability. For many across the world, including women, queer people, people of colour, people with disabilities, migrants and others, the ideal of a completely and permanently secure (economic) life may not only be unattainable but may also depend on and demand a total transformation or disavowal of the commons within which they operate. This is not to suggest that one should not strive for such transformations (whatever they might be), but the fact that vulnerability to others as well as the limits and demands that political, social and cultural norms impose on personal projects of the 'good life' are both realities of collective life. Before moving to a possible reimagination of the precarity analytic that *works* for the analysis of platform work in the Global South, in this section I offer a short summary of some key critiques of the earlier precarity discourse.

As Kathleen Millar notes (2017), prior to becoming a term prevalent in academic discourse, precarity emerged as a political (activist) platform that was adopted by social movements in Europe, especially in the EuroMayDay protests in the early 2000s (Neilson & Rossiter, 2008). For Millar, three conceptual works stand out as 'primary order texts' on precarity, at least for the way that it is talked about in the contemporary moment, including in digital labour studies: Pierre Bourdieu's talk on precarity (1983), Guy Standing's work on *The Precariat: New Dangerous Class* (2014) (2011) and, Judith Butler's (2006) *Precarious Life: The Powers of Mourning and Violence.* For Millar, these three texts deal with precarity as a labour condition (for Bourdieu), as a class category (Standing) and as an ontological experience (Butler). As Millar narrates, Bourdieu spoke about précarité in response to the rise of temp, part-time, and casualized employment in France in the late 1990s, a concept that he was himself reviving from one of his earliest sociological studies of unemployed and underemployed workers in 1960s Algeria. Through the 1970s, precarity along with terms such as "social exclusion" gained uptake in academia as descriptors of poverty rather than insecure employment. However, with the erosion of neoliberal reforms and along with it, the guarantees of full-time employment and the introduction of "flexible" employment relations led Bourdieu to declare that "precarity is now everywhere."

Following Bourdieu's line of thinking then, there has been a flurry of academic work on precarity primarily as a labour condition (Kalleberg, 2009; Ross, 2009; Vosko, 2006) where precarity refers to precarious work: "employment that is uncertain, unpredictable and risky from the point of view of the workers (Kalleberg, 2009)" As Millar, Neilson and Rossiter, Munck (2013) and Vij among others have now established, these studies of precarity largely focusing on post-industrial societies of the global North, link the rise of precarity to post-Fordism. Especially beginning in the 1970s, the shift to a new strategy of "flexible accumulation" (Amin, 1994; Harvey, 1989), trade liberalization, cuts in spending on social welfare programs and the subsequent creation of global supply chains contributed to the dismantling of the Fordist-Keynesian regime of the post-World War II period in the global North, thus resulting in the proliferation of precarious work. As Millar notes, within the discourse of precarity as a

labour condition, the “newness” of the phenomenon is emphasized, viewing it as a symptom of that historical era. Within HCI and Design studies as well, the genesis story of precarity often begins with the story of Taylorism and its extension as a management philosophy into Fordism and then its enduring legacy within modern workplace conditions and employment relations.

Although at first glance it may seem like Guy Standing’s book continues the precarity argument in the labour direction, especially with its urgent tone of concern over the rise of casualized work, Standing’s claim goes farther in scope to suggest that precarity is now more than just a condition of new work. He offers the neologism “precariat” – extending precarity (condition) or precaritization (process) to the creation of a class (proletariat). The term gained momentum during the EuroMayDay protests in early 2000s as a political technology (Millar) or a tactic to generate identification and solidarity among sets of disparate workers across industries and countries in the region. For Standing the precariat extends from call-center workers to creative freelancers to migrants and more. The onus shifts from precarity as an affective and material feature of work to a work-based identity or as Standing says: a “class-in-making” and even more, a “dangerous class” characterized by deep anger, anxiety, anomie, and alienation (2014). As others have already remarked, the “precariat” shares the negative connotations of the “lumpenproletariat” (jobless class) (Bussard, 1987).

Neilson and Rossiter (2008) have critiqued this class-based approach to precarity, arguing that if vulnerability is considered a formative condition of contemporary capitalism, the experience of vulnerability vastly differs for workers across historical moments, geographic sites, and social positions. They emphasize the heterogeneity of capitalism. The concept of the precariat, they explain, necessarily demands “collapsing the variations of precarity into some stable, undivided subject position”. Ronaldo Munck(2013) criticizes the class-based unity of Standing’s precariat, noting that such a putative “class-in-making” does not explain how if at all the relations of production within contemporary capitalism are being changed. Munck and others make a historical argument: that in fact, the conditions of labour being dubbed as precarity within contemporary capitalism in Europe and North America have been the norm

rather than the exception within the larger working-class history(Jan; Munck, 2013; Neilson & Rossiter, 2008; Seymour, 2012).

Despite their differences, Bourdieu, and Standing's conceptualizations of precarity rest on labour. In contradistinction, Butler advances an understanding of precariousness as a generalized condition of human life (2004). For Butler, since human existence is fundamentally social in nature, we are always *being* within interdependent relationships: "being exposed to others" and hence always made vulnerable to others. These conditions make us prone to the risk of violence and even though Butler admits that social distinctions make "some lives more grievable" than others, regardless of class, caste, gender, race, being human entails a common experience of vulnerability that she calls ontological precariousness. Butler's perspective is decidedly not political-economic but as Millar notes, by approaching precariousness as a common human existential condition, "Butler aims to find a starting point for ethical action in today's world." As Butler suggests[21], rather than devising a quick escape from our vulnerability, staying with our precariousness and recognizing that of others makes an ethical encounter possible – an avenue that is not marked by the relation of outside/inside or not necessarily hierarchical; a position that this chapter finds resonance in. Taking Butler's notion of 'ontological precariousness'(2006) many scholars have since attempted to bridge and revise the analysis of precarity as a labour condition itself condition (Allison, 2012; Berlant, 2011; Lorey, 2015; Molé, 2010; Muehlebach, 2011, 2013; Muehlebach & Shoshan, 2012; Neilson & Rossiter, 2008). Much as I do in this dissertation and especially in this chapter, these scholars have brought specific labour regimes and political-economic structures to bear upon the idea of *precarious commons* but also importantly, as I tried to do through the discussion of my vignettes, this body of work has asked how material conditions contribute to subjectivation processes

[21] While Butler did later offer an extended analysis of ontological/existential precariousness as manifested and distributed unevenly through political and socio-economic institutions (Puar, 2012; Butler, 2011), her original thesis inspired a lot of further work on precarity beyond labour (Banki, 2013; Ettlinger, 2007; Hundle, 2012; Tsing, 2015). Anna Tsing (2015, 2), for example, defines precarity as "life without the promise of stability."

(affect, subjectivity, psychological interiority and approach to life) (Millar)[22]. As Millar remarks, this Butler-inspired work (including Lauren Berlant's *Cruel Optimism* and an array of writings by Kathleen Stewart (2007) that seem to mainly focus on the category of affect) capture the relationship between (precarious) labour and life – a key relationality that is currently absent from platform studies thinking.

Two points must be highlighted here. Firstly, as some responding to Standing and Butler have remarked, it is not a coincidence that Butler was writing about precarity in the aftermath of the World Trade Centre attacks in the US and Standing, after the US financial crisis in 2008. There seems to be a temporal gap between the (global) precariat's academic purchase and then later, the digital precariat's rise in academia. Although Standing and Butler's works have carried over to the platform moment, their responses and critiques have not. Secondly, if we do strive to provincialize precarity, Neilson and Rossiter offer a methodological reorientation: to identify uneven, spontaneous experiences of precarious living and how they shape individual and collective futurities also demands that we take precarity as a "prelude to political organization". To researchers of precarious life, they suggest that we cannot simply juxtapose empirical and conceptual notions of precarity as if one can revise the other but rather "it requires a constant movement and transposition" – an incremental theory-building that responds to different types of precarity. Such a moving, roving theorization of precariousness can hopefully transcend the pathology and the 'dark anthropology' (Ortner, 2016) of precarity, look beyond its automatic use to describe material and economic deficit to instead start thinking *with* precarity. Earlier in the chapter I alluded to the presupposition of a common employment and labour relations history that actually largely draws from

[22] Much like the first two approaches to precarity discussed above, these works ground their theorization of precarity in the analysis of specific labour regimes and political–economic structures. But they are also interested in how these material conditions constitute affect, subjectivity, psychological interiority, and lived experience. For example, they have examined how joblessness erodes a sense of social belonging (Muehlebach, 2011); how youth unemployment disrupts everyday temporalities and life plans (Allison, 2012; Jeffrey, 2010); how the loss of labor protections produce psychic and affective states of anxiety (Molé, 2010); how precarious forms of labor constitute an instrument of governance and subjectification (Lorey, 2015); and how contingent employment impedes normative, middle-class aspirations for the "good life" (Berlant, 2011). From these perspectives, precarity is both a socio-economic condition and an ontological experience (Neilson & Rossiter, 2008).

developments in the US and the UK. This section has provided a sketch of those developments as well as their influence on 'precarity thinking'.

The rise of the precarity analytic and its subsequent scoping down through the critiques listed above still leaves open the question of vulnerability with regard to places where precariousness is and was already present (such as places in the global South). The universalizing discourse or what Das calls the "super concept" (2006) of precarity in this case, cannot be supplanted by another theory. Instead, in this concluding section, I offer different ways to approach the issues of urban poverty and vulnerability resulting from not just economic hardship but also other forms of minoritization that mark the projects of 'good life'. The argument that I make here is specifically addressed to the impulse within platform studies to make precarity into a sociological category (or a "super concept" rather than a historical condition) but I also surface a tension that marks attempts at grand theorization: the difficulty of dealing with singularity and difference. What I mean by the latter is the fact that there does not currently exist a reconciliatory framework for the "global" and divergent analyses of platform-precarity. In this situation, pronouncements about platform precarity in the global North and their subsequent alternatives in the form of regulation or solidarity politics sit awkwardly with other analyses that show precariousness as a normative life condition in the global South and thus arrive at very different conclusions on the place of platforms within global South economies and societies. This incommensurability cannot be remedied by keeping intact the idea that precarity is a relatively novel and emergent condition in life or in livelihood. Politically precarious subjects have always existed throughout the history of the world. With events such as the Civil Rights Movement or the decriminalization of homosexuality, many such subjects may have experienced a "waning" of their precariousness and with other emergent crises, women, migrants, non-citizens also regularly experience a "waxing" (Singh, 2015) of precariousness. Precariousness is certainly not a fixed or bounded condition.

Then the question we need to be asking with respect to digital labour studies is not whether it heightens precaritization but rather how various forms of digitization interact with the already present multiple experiences of precariousness in life. Untethering vulnerability from the domain of observable market activity and extending its analysis to life is crucial here. In 2019, when I started fieldwork with platformized beauticians and massage therapists in Bengaluru, the need to extend my ethnographic inquiry and theoretical scope became urgent. For the female beauticians whom I wanted to interview, most of their spare time that was not spent working, was spent at home taking care of family. Unlike the drivers I spoke to, there was no chance of getting a meal or coffee or just hanging out by the roadside with these women workers. Their ability to participate in platform work in large part hinged on the possibility of keeping their work out of the sight of their families, never letting work timings and appointments get in the way of family obligations. As against that, for the men and women massage therapists, most of whom were migrants from the North East Indian states and had left family behind to undertake a journey of "circuitous investments", Bengaluru and mainland India were already dangerous places where their facial features made them hyper visible and hence socially precarious subjects, further also making them financially vulnerable because of the cultural stereotypes and stigma attached to them. Filtering through app-based platforms, smartphone work, company uniforms and re-appearing as representatives of popular technology platforms helped them escape or deescalate moments of risk and vulnerability.

Han argues that it is the attention to each singular case and its divergences that move us from a general critique of late liberalism, neoliberalism and social abandonment that are associated with the historically bounded notion of precarity to seeing how vulnerability and politics are interwoven in concrete lives (2018). Within the platform precarity discourse, that borrows from an older statist discourse of the weakening of welfare norms, it is also not addressed how the visions and operations of technology corporations, their tactics to maximize growth and revenue are in fact highly responsive to the local environments they operate in. Attention to both kinds of emplacements: of the diverse social lives of platform subjects as well as that of the local or regional forms that platform corporations take challenge

the fixed and foreclosed theorization of platform workers as a "newly" vulnerable class. As Han reminds us, and I concur,

"an adequate response is not simply to swap one master concept for another but rather to…attune to the textures of vulnerability not so that we can say "yes! To justice" (Lear, 2015) but so that we can see the diverse forms of politics that are already before us(ibid.)*"*

To that end, this chapter calls for a political retooling of precarity that challenges the prevalent dystopic and fatalistic pictures of vulnerability within platform work, but I have also called for extending the analysis of vulnerability to aspects of life beyond the (platform) economy.

Chapter Two: Temporal Management in Gig Work: *Something in the Meantime*

One day while I was waiting at the training facility of a platform company, to speak with a group of beauticians who were coming in to become platform workers, I inadvertently ended up overhearing one of the interns at the platform company make multiple phone calls to potential platform recruits. Many of the women, who were supposed to turn up that day at 8 am to take their final test and qualify as government-approved platform beauticians, were not there yet. At the other end of the line, there were stories. As the intern would tell me later, it was understandably hard to expect these women to turn up on time. Even though punctuality was a desirable trait as it directly contributed to the quality of the platform's services, many of the women who worked in beauty and wellness sectors were single mothers but also others who were the primary breadwinners of their family. However, this did not liberate them of their roles as homemakers and mothers. As the intern explained to me, if the platform had to succeed on the backs of these women, they (manager, executives) had to understand and be accommodative of the temporal demands and social constraints on women's abilities to leave their homes for work. Afterall, a huge draw for experienced beauticians (women) to switch to platforms was the fact that they would no longer have to report to work at a certain time or stay put for hours (as they did in traditional salons) without work. Subsequently as I would learn from my conversations with the beauticians, app-based work brought about its own set of challenges of safety, security, the assurance of payment, unfair penalties, the inability to move appointment timings but in the larger scheme of things, one thing stuck. There was a common understanding that these women workers could set the terms of their daily work: they could march to the platform office and voice their concerns, they could log off if they had to attend to family, they could even log off for long periods and go take care of family back home in another town. But when they were back, they would still be able to start working with the platform immediately.

A key aspect of just-in-time businesses is the temporal management of all involved. Above and beyond how organizations generally seek to control their employees' work and life temporally, just-in-time or on-demand enterprises operate on an accelerated notion of time as they seek to fulfil spontaneous demands. Gig Economy platforms too, instil a range of disciplinary surveillance mechanisms such as tracking their workers (Levy, 2015), nudging them at the time of low supply, monitoring their work speed and efficiency and so on. Revealing injustice via temporal management has been a key concern in all sorts of platform studies, especially by management and law scholars and activists. Part of their effort has been to show how on-demand platforms exacerbate 'presenteeism' (Lehdonvirta, 2018) or create workers that are always *on*, even after they officially log off their apps and stop being on paid, monitored time. Through the debates between those sympathetic to the gig economy and those opposed, the term 'flexibility' has come to signify this contestation over impact of platforms. Platform companies market themselves as time-freeing devices in two ways: to their workers they offer the possibility of exiting 9-to-5 jobs and the temporal bounds of shifts and regulated work time, allowing them to work on their own time, and to the customers platforms offer the promise of spontaneous gratification of needs and demands. Specifically, platform companies recognize and highlight all forms of chores, commute and even eating as laborious, and boring tasks that eat into the actual realm of *living life* – of leisure, of socializing and of "getting to business". Platform advocates within and outside academia emphasize the voices of workers who applaud the temporal autonomy (Botsman & Rogers, 2010; Jarrahi, Sutherland, Nelson, & Sawyer, 2020; Shapiro, 2018) that platforms afford them; for mothers, disabled persons, retirees, single parents, college students (Manyika et al., 2016) and aspiring entrepreneurs who either cannot or do not want to meet the temporal and presence requirements of typical employment. Critics on the other hand, counter the claims of temporal autonomy and argue that the blurring or absence of work-time boundaries, *anytime work* actually exploits workers because platform workers are still thinking, learning and engaging in acts of care and maintenance to get better at their work, even when they are not officially logged on and working (Anwar & Graham, 2020; S Sharma, 2018; Wood et al., 2019).

This chapter offers an expansive meditation on temporal considerations in the gig economy as witnessed in my fieldwork across sites and countries. Without privileging one position over another, the chapter explores the situated articulations of temporal flexibility as gig workers expressed them to me in their own contexts. In doing so, I offer multiple qualitative articulations of Time that are currently absent in platform discussions and whose inclusion may help us overcome the limited utility of *not/flexibility* debates within platform studies. These other qualitative articulations come from my unpacking of the gig workers' 'life plans' as they described them to me and how and where they situated the utility of gig economy work in those plans. As I show in the chapter, the temporal autonomy (or the lack of it) experienced within daily gig work is only a small, symptomatic aspect of neoliberal life. Not only that, but the ways in which we think of the passage of time in the context of our lives also weaves in multiple temporal and vital affects: nostalgia, tradition, ancestry, generational commitments, urgency, respectable work times, war(time), national economic and political crises and so on. Each of these events and many others index considerations and feelings anchored in the passage of time as well as notions of futurity, all of which are deeply connected to the material and ethical responses that follow after. Platform time is indeed a manifestation of how capitalist enterprises seek to extract maximum vitality from their workers but the specific time slots and schedules that people choose, their decisions to start and stop work and the arrangements within which they place platform work alongside other forms of economic and non-economic activity, these actions are deeply shaped by the macro and intimate orders of time and its affects that all of us are enrolled in. In that sense, time is not just spent as a commodity, but time is also invested in projects and people with the hope and expectations of non-immediate and non-monetary rewards. Similarly, attending to temporal investments can help us see movements and penetration across class, caste and gender boundaries as platforms offer gig workers a shared space of interaction with their others (affluent, highly educated). This last bit has been discussed at length within literatures on consumption cultures that view 'service' not just as provision and exchange but also as *movement* between worlds – the ones that one occupies and the others that one wishes to occupy (Bennett, Emmison, & Frow, 1999; Mathur, 2010).

I note in the first chapter that even as critiques of employment classification within platform work gain steam, governments and policy outfits have begun to seriously consider 'hybrid employment status' (Prassl, 2018) or a sort of third category that offers a way out of permanent and independent contractor categories. The aim there is to harness the benefits of nonstandard employment, including temporal flexibility, without rendering such hybrid workers more precarious. Keeping with my aim to widen and enrich the repertoire of foundational blocks and possibilities in determining what platform work is or could be, I offer in this chapter a qualitative exposition of platform temporalities over an enumerative one where we do not simply just count and measure time as a unit of platform work but rather attend to temporal movements and investments that help people reach specific futures of life.

Gig Economy and the Promise of Free Time

In her chapter titled The Gig Economy and Finding Time to Care Less (2018), Sarah Sharma discusses the temporal ramifications of the rise of TaskRabbit, a platform that offers on-demand, just-in-time workers for hire to do an array of chores from gardening to handyman work to standing in line on your behalf. Here she builds on her book In the Meantime (2014) where Sharma ethnographically explores the experience of temporalities in the work of those involved in the speeding up (taxi drivers, frequent flyers, receptionists) or slowing down (yoga instructors, proponents of "slow-food") of time. In her book, Sharma offers the analytic of 'power chronography' to point to the temporal distribution of biopolitical power within private and public spaces as facilitated through technological and organizational norms. One of Sharma's main arguments in the chapter (on "time to care less") is that gig platforms are normalizing a cultural understanding of carelessness towards each other. The main example she uses is that of TaskRabbit, the chores and menial tasks delegation platform. TaskRabbit was founded in 2008 by Leah Busque, a former IBM software developer, after she grew frustrated that she had no time to buy dog food. As Busque narrates later, she realized how helpful it could be if she had a neighbour or a friend to rely on. With the guiding ethos of "neighbours helping neighbours," she started TaskRabbit, mobile app and

online company that connects freelance workers to people who wanted to delegate such chores. The company's tagline reads, "*We Do Chores, You Live Life.*" As the tech blog LifeHacker explains,

"We all have stuff on our to-do lists that we're either too busy to finish, or let's be honest – we just don't feel like doing. That's where TaskRabbit comes in. Whether it's getting groceries, putting together furniture, or picking up a Craigslist purchase, TaskRabbit's network of reliable doers will take it off your hands."[23](Sharma 2019)

As Sharma explains, it is not a stretch to imagine that dog food isn't exactly fun to buy and it's not an errand anyone could just ask their neighbour (or friend) to run, at least for free. In response, TaskRabbit can help get the job done, often at a very low cost with the help of "professionals" who will commit to doing the job on the terms that you can set (when, what kind of dog food, from where, drop it off anywhere you like). As Sharma calls it, "the app will connect you directly to an amenable subset of people for whom doing chores isn't so boring!(ibid. P65)" If social exchanges are felt and known to be burdened by economic exchanges, all gig economy platforms offer the option to disentangle them at a relatively minor cost[24]. Tasks on the platform are electronically billed although there is an option to pay tips in cash. In a qualitative study of platform workers in the UK[25] we noticed what Sharma also states: that the electronic scheduling and billing of tasks further helped create boundaries through platform interactions thus "greasing an otherwise awkward transaction". Often, as we noticed in our study, platforms/apps acted as a source of authority and a sort of "front desk" for many workers who could refuse tasks, increase their prices and avoid having to ask for and count money after the task by simply relying on the platform interface to communicate with clients. TaskRabbit's promotional videos promote

[23]Miller, Tessa. 2013. Interview with TaskRabbit's founder Leah Busque in *LifeHacker* online blog. https://lifehacker.com/im-leah-busque-founder-of-taskrabbit-and-this-is-how-496031842

[24] Elsewhere, pondering the nature of friendship after the gig economy, Sharma, and others, echoing what Viviana Zelizer argued long ago, suggest that economic and social exchanges are not separable. One (economic) is also not detrimental to the other (social). In fact, of the multivalent relationships between the economic and social, many kinds of social exchanges are integral to the economic ones and vice versa.

[25]Understanding Flexibility among atypical workers. Raval, Noopur; Lindley, Sian. 2019. (Unpublished)

the message that "you can get on with the life you should be living" (since chores are taken care of now). As Sharma and others have noted, TaskRabbit (and other platforms) describes platform-work as "freelancing" and "micro-entrepreneurial" to give workers a sense of identity but at the same time, in a bid to attract more workers, platforms describe the labour involved as menial, easy, something that anyone can do without much skill.

Sharma's chapter's main argument is about time or free time. As mentioned briefly in the introductory parts of the dissertation, in order to normalize, popularize and create space for the adoption of app-based platforms, their parent companies have gone to great lengths to show the many ways in which the gig economy is good (for everyone). One such claim that Sharma targets is that platforms such as TaskRabbit but also others *free up time.* Thus, the promotional slogans and scripts targeting potential users saying, "you can get on with the life you should be living" and the promise of *freeing up time* spent in doing undesirable chores. The undergirding assumptions are that 'chores' or menial tasks of social and other kinds of reproduction – actions of maintenance, care and repair involved in keeping the rhythms of daily life functional, are boring and they eat up the time that individuals could spend in *some better way*. Sharma problematizes this claim as she argues that TaskRabbit does not really free up time in the absolute sense, but it devalues care labour overall (by calling reproductive and care labour menial and undesirable). Further, she argues, that platforms such as TaskRabbit, "…make(s) claims upon time or free time as that which should be free of sustaining and maintaining life (ibid P4.)", thus fundamentally reconstituting our notions of life, leisure, and work. For Sharma, platforms are pushing social life deeper into the consumptive realms of "superfluous privileged needs and demands" (by platform consumers). Such a move, for her, is an impediment to a feminist post-work and post-gender future.

The temporal organization of work and life is central to understanding, enacting, or challenging any kind of politics of labour. The distribution of temporal capacities is also entrenched in a sexual division of labour and for Sharma, platforms deepen this sexual division because they feminize certain forms of work

(2019, P.81). Feminization of Work, as comprehensively theorized in the Sociology of Work, does not only refer to women's participation in work but rather the ontological recognition of certain forms of work as *feminine* and thus requiring less effort, less skill and consequently less pay. Feminization then refers to both the social and monetary devaluation of such kinds of work, including platform-work that apparently can be done by anyone without any special skills. As Sharma concludes,

"The app expands the conceptual boundaries of what actually constitutes care labour, and the work of social reproduction in general, while it devalues this labour as a useless pursuit of time that can be undertaken by anyone else any other time. (ibid. P82)*"*

Speaking specifically to temporal reorganization within platform-work, Sharma explains that apps such as TaskRabbit offer "a new temporal experience of being able to control when you work" referring to testimonies where workers find the affordance to decide immediately, on a daily basis, whether and when they wanted to work at all. In one such testimony in the New York Times, a single mother and a TaskRabbit worker also described her work as "hard labour" (ibid. P76) with a good cash payoff at the end of the day but what Sharma finds overlooked is the time (16 hours) spent at work which was way more than any acceptable temporal standard of work. She also reminds us of the uncertainty that lies beyond the immediate control over daily time as well as the long term precarity that casualized work introduces among such workers – not knowing whether one day will be as good or profitable as another, the possibility of risk, accidents and penalties. Additionally, as we found in our study as well, depending on multiple factors, jobs often took more time than scheduled, leading to a spill over effect into workers' entire workday. Further, feeling like one has no choice but to work and the lack of any paid leaves contribute to making what seems like *anytime* work into *all the time* work. Not only Sharma but others have also argued that the diffused, fleeting and ephemeral presence of the algorithmic boss as well as the (perceived) ability to control when and where one works, make the undignified and laborious moments seem like a part of the "trade-off"(Barratt, Goods, & Veen, 2020; Shapiro, 2018) in order to retain one's

independence rather than an accreting form of alienation that many see as integral to platform work. To Sharma, "entirely recalibrating to the time demands of others…while doing tasks that others have devalued" (ibid. P76) captures the essence of how platforms deploy time management to extract maximum vitality in the service of profit, leaving a devastating trail of precarity in its wake. She calls platform consumers, a "privileged, consumption-fuelled population that depends upon gig workers."

As I discussed in chapter one, the post-Fordist and then post-Taylorist reorganization of productive and reproductive times, driven towards maximum value-extraction, of course, begins much earlier than the gig economy. Nor does it seek to singularly maximize the time at-work. In what Melissa Gregg has called the 'post-secular' workplace (Gregg, 2018), the productivity discourse intersects with other emergent discourses of 'self-care', 'work-life balance' as well as that of AI and maximizing human potential. These discourses may originate or concentrate in high tech firms, but they also certainly proliferate outside of them through the habits and communal cultures of tech workers and their others. Simanti Dasgupta has written about such ideologies of software practice percolating the design and management of water infrastructures in Bengaluru (Dasgupta, 2015). Returning to the productivity and efficiency discourses, even outside of the gig economy, many enterprises that claim to harness the power of Artificial Intelligence (AI) offer user-centric products that are directed towards *freeing up your time*[26]. From receptionists and personal assistant chatbots to the MTurk platform's army of pieceworkers to other intelligent assistive systems in specialized domains (medicine, security…) – all offer the illusory future of work that hinges upon the reclaiming of personnel and personal time[27]. Not just through technological solutions but technology companies have now, for decades, offered the options of temporary and

[26] For instance, see this online op-ed where, as the title suggests, the author says: "Screw it, AI can have our jobs". The article uses IBM's Watson as an example of how Artificial Intelligence-powered platforms are freeing up human time so that we can indulge in more creative pursuits. https://thenextweb.com/artificial-intelligence/2018/04/04/screw-ai-can-jobs/

[27] During my fieldwork, I met a Stanford student involved in one start-up that offered cheap, AI-powered personal scheduling assistance (name redacted) to "free up your time so that you can do better things". When I inquired about the 'cheapness', I was pointed to a page on the company's website that actually stated how they paid Filipino workers the "minimum wage appropriate to their region".

permanent remote work as well as nap room facilities, large and well stocked pantries and free dining, gym and wellness facilities on campus in a bid to save time(Carr et al., 2006).

Multiple things are worth noting here. As organizational, management and administrative science scholars have studied (Crowley, Tope, Chamberlain, & Hodson, 2010), the post-Taylorist organization seeks to streamline individual, group and organizational times even as companies expand operations across continents and time zones, in a bid for ruthless efficiency and maximizing organizational productivity. Surveillance measures such as keystrokes, eye tracking, website blockers aimed at minimizing distraction and nudging employees are not new to the platform economy either. Simultaneously, for white-collar workers living in metropolises across the world, rising costs of housing and access to infrastructures of self and family care and leisure rub up against the organizational demands of time-efficiency and productivity. Faced with this increasingly pervasive reality, employers have sought to blur the physical, social, moral and aesthetic boundaries between work and life as evidenced by the rise of informal attire at work, the abolition of time sheets for certain creative and cognitive professionals, the availability of sports, sleep and relaxation facilities etc. Of course, as many have criticized, the negative consequence of such a blurring is the rise of a 24-hour professional who only goes home to sleep, shower, and store things. Cases, such as of one Google employee who stopped renting a house at all and started sleeping, showering, and living (in a van) at work, are popular knowledge now[28]. Even when I worked as a research intern at a technology research lab during my fieldwork in Bengaluru, the Human Resources manager had to regularly send out emails to the entire lab requesting interns unfamiliar with work culture, *not to sleep* at work *every single day.*

Reading around the gig economy's time management and peeking into the professional lives of its "privileged, consumption-fuelled" (S Sharma, 2018) consumers to at least locate them as a part of a larger

[28]Ben Popper. The Verge. How to live in your employer's parking lot and not pay rent, according to the tech workers who did it. https://www.theverge.com/2014/9/9/6126305/tech-employee-lives-in-parking-lot

matrix of time assemblies, matters. However, time is both relational and communal, our exercise of temporal capacity and associated privileges do not happen independent of these interconnected structures that shape everyone's times. This is not to suggest that the accelerated and minutely surveilled time of platform-work is simply par for the course. It is also not to discount the frivolous gratification and hyper consumption that on-demand platforms provide to affording consumers but then, the question emerges as to where we might draw boundaries between consumers and workers. The relationships between consumers, workers and other actors in the city, in the office, the time of mothers, domestic helpers, security guards, bus drivers, the time of the working poor and the time of the rich maybe distinct but are surely connected and held in certain measures of value that are not *just* determined by platforms. Further, as mentioned at the start of the chapter, when thinking about platform living, considerations of time within our lives are always inflected qualitatively– with concerns of longevity, futurity and aspiration (*lifetime*), with boredom and waiting (*timepass*), with urgency and opportunity, with time for self (me-time) and for others (family-time, community-time). These conceptions of time exceed the strictly horological bounds within which time management in platform work is measured and recognized but they (these other times) are absolutely present, felt and considered, as I show a little later in this chapter. Attending to the entanglements and weight with which these different shared and individual considerations of time press upon individual workers' life decisions is imperative to understand in order to unpack the "trade-off" of flexibility versus security that platform scholars have written off as a sort of blinkered position of short term self-interest among platform workers. This is not simply an academic gripe but has serious implications for how and what we imagine as corrective action. As I repeat in pages across the dissertation, echoing Edward Said's concerns with the power/knowledge nexus of representational work, we *must* ask questions of what is framed as a given problem. My dissertation necessarily has to do some of this work because what is offered as a theory of digital labour is largely disconnected from the material, temporal and biopolitical realities of the majority of the world and such theory does not equip us to *study, observe, be curious about* rather than diagnose platformization as an ongoing process. Nor does such theory offer generative ways to study difference, to study where

platforms' value extraction projects fray and splinter and get tangled up in the local, national, and aspirational. How do gig platforms feature in the lives of white-collar women who are constantly striving to realize their ideal professional and personal selves? Similarly, how does gig-work, as temporary and lucrative paid work feature in the life projects of migrant workers looking to build a base and establish their networks in the city?

Flexibility at Work

Flexibility in the context of work arrangements has been studied extensively inspiring even its own category called 'flexi-work' (Garrett & Danziger, 2007). Also, what counts as non-standard or atypical work has also changed and expanded to accommodate contingent work, vulnerable work, domestic work, freelance work, illegal, and informal work over the years. Atypical and non-standard are also often used interchangeably to describe short contractual, zero-hour, on-call and self-employed work arrangements (Broughton, Biletta, & Kullander, 2010). In relation to this type of work, flexibility has been highlighted as a defining factor, with some authors referring to certain types of atypical work, such as crowd work, as hyper flexible (Howcroft & Bergvall-Kåreborn, 2019). The freedom of atypical workers is said to be constrained by forces such as cyclical downtime and the structure of projects (Ashford, George, & Blatt, 2007) as well as by economic concerns. Research by Ashford and Blatt in the UK (2006) has highlighted how independent workers use a number of tactics to create optimal structure for the pursuit and performance of work, ranging from tactics that structure their time and space, to those that regulate their emotions and emotional reactions. As discussed earlier, time and space, of course, are dominant themes in the general discourse on work-life balance, with the rise of mobile work causing work practices to blur into private spaces, and work to be performed at non-permanent work locations. For atypical workers, however, the shift from one traditional site of work ("the office") to various other kinds of spatial arrangements for work is less relevant. Mobile (in transit, on-the-go) frontline work requires coordination between field sites and offices, and remote work (including crowd work) by its nature happens from home, cafés, and shared workspaces. For atypical workers, the flexibility of the site of work is often

identified as an advantage (Nienhueser, 2005), but it is not clear how this compromises the relationship between work and home.

Further of course, the ubiquity of digital technologies has loosened the temporal boundaries of work, shifting the relationship we have with work technologies from that of "use" to things that allow us "presence". Studies have shown how mobile phones, instant messaging and social media as overlapping channels for work and private communication, make it difficult to attain a neat separation between work and life (Sluiter, Manevska, & Akkerman, 2020; Ticona, 2018). For knowledge workers this might mean being present 'at work' from home[29]. For atypical workers however, who do not have a fixed time or space for work, technologies are used to build a sense of work time and presence/availability. For instance, Ciolfi and de Carvalho's work (Ciolfi & De Carvalho, 2014) shows how integrating work and non-work activities is actually a coping strategy for nomadic workers to attend to both work and non-work demands and aspirations. Ashford and Blatt have also highlighted how independent workers attempt to create structure in their work (2007). Blatt and Ashford further examined how nonstandard workers use meaning making to facilitate staying on task and getting work done under conditions of great freedom. They argue that instead of debating whether flexibility in nonstandard work is about choice or false choice, it might be more fruitful to observe how choice is construed to the self and others because, firstly, actual degree of choice may not be a clear-cut issue. Second, in terms of behavioural and attitudinal outcomes, narratives of choice may matter more. They build on Ammons and Markham's work (2004), who found that those respondents who talk about working at home as a result of their choice have greater motivation to make it work. The degree of choice expressed in their post hoc narrative—or their actual perceived choice to work in a nonstandard arrangement—has particular behavioural consequences quite independent of their actual level of choice at the time they made the decision. Dick and Hyde (2006)

[29] For example, Orlikowski explores the socio-material practices around the use of phones in work settings and how they have redefined the boundaries of the workday as well as the expectations concerned with co-workers' availability [42]

similarly found that what mattered in the choice to engage in part-time work depended on how workers narrated it to themselves. As Weick (1995) wrote, nonstandard careers are "improvised work experiences that rise prospectively into fragments and fall retrospectively into patterns". Importantly, as Ashford et al(2007) emphasize in their argument, "What may have been a complex and messy process of choice and nonchoice when entering nonstandard employment may emerge as a coherent narrative of either choice or lack of it, each with its associated pattern of attitudes and behavioural inclinations." Blatt and Ashford's qualitative research on independent workers also suggests that nonstandard workers nimbly construct and alter the meaning of their work to remain focused and positive while working in ambiguous conditions.

Flexibility in Gig Work

With reference to the gig economy or platform economy, various gig workers, remote workers, crowd workers and atypical workers have cited 'flexibility' as a key motivation for continuing their current work, although a slew of studies countered the gig economy rhetoric of flexibility ("anyone can work anywhere") by highlighting the risk and precarity, personal investment and low wages that such workers undertake to participate on platforms. In one study on care-work platforms, Ai-jen Poo, the director of the National Domestic Workers Alliance in the US, noted that "domestic workers are the original gig economy workers… because they…have experienced its dynamics, struggled with its challenges, and most importantly found some solutions to survive as a vulnerable workforce." (Poo & Shah, 2016)
In their paper titled 'Good Gig, Bad Gig: Autonomy and Control in the Global Gig Economy' (2019), Wood et al discuss what they deem "the flexibility myth and the absence of social contract". Their "global" analysis suggests that while the ability to work from home or choose their own areas of work was seen as a major benefit of gig work, also allowing workers to multitask and attend to domestic work, studying and alternative paid work, "workers' ability to convert this potential into actual flexibility was often constrained by the lack of affordable alternative places of work." They further explain that while workers valued the 'temporal flexibility' afforded by gig work platforms, earning a decent income

entailed long working hours. They offer examples such as that of James, a Kenyan remote gig worker who makes USD 3.5/hour and works 78 hours a week apart from the time spent in doing other paid and unpaid work. Or Olive, another Kenyan remote data worker who complained about the unstructured working hours that caused some days to be entirely filled with work in order to deliver results for a client in another time zone.

Wood and colleagues (2019) remind us how these workers also work other jobs locally apart from the remote work they do from home. They argue that such long working hours are unsocial and could be a source of exhaustion. Many, in a similar vein, have argued that the value that workers place on flexibility in platform work cannot be uncritically accepted (Berg, 2015; D'Cruz & Noronha, 2016). Agency, they say "operates within possibilities, and constraints of social arrangements… in this sense we are both active and passive" (Jahoda, 1982). Thus, they conclude that it is possible for remote gig workers to value flexibility, even though its realisation is dependent upon plentiful demand (Lehdonvirta, 2018). Returning to Wood et al, their paper also argues that workers' ability to exert control over flexible working time has been found to be dependent on workers' structural bargaining powers (2019). Since gig workers have limited bargaining power due to their independent contractor positions, their ability to demand, leverage and use the potential temporal and spatial flexibility at work is limited. Following this line of argument, others have sought to dub flexibility as a question of control or autonomy within the employee-employer relationship. Since for both, platform workers located in industrialized countries and outside, the paying customers are often either located in industrialized countries such as the UK and US, workers are always operating on the convenience and temporal demands of their clients. Even for those interfacing with clients in their own cities through gig work apps, the consumer/client often occupies a much higher socio-economic position of privilege, impinging upon the workers' exercise of their right to refuse or modify the terms of work.

Flexibility in Atypical Work

In the (diary) study with atypical workers in the UK (mentioned earlier, described in detail in the introduction) we found 'flexibility' as a key theme that most of our participants explicitly highlighted as a desirable feature of their current work arrangements. What they meant by flexibility referred to different things: for some, it meant that there was no *given* or fixed time to start and stop working, for others, their space of work was not fixed (clients' homes, worksites, pickup and delivery locations) but also, they had to interact and extract work from their neighbourhoods, villages or cities. Flexibility emerged as a key theme in our analysis in terms of how participants structured their overall work but for each, flexibility meant different arrangements that allowed them to schedule different forms of paid work as well as personal obligations on a daily basis rather than just the ability to work whenever. In order to gain such flexibility then, workers had spent considerable time and energy in scheduling, communicating as well as building scaffold networks to support childcare, work-discovery etc.

Several participants emphasized how the promise of flexibility at their end encouraged potential clients to choose them over established and big businesses because atypical/independent workers working through platforms and otherwise could "get the job done" and be "booked at the last minute". Often the jobs that these workers were assigned were not new furniture assembly jobs or they were 'hybrid' jobs requiring a mix of packing, moving, repair, assembly etc. As workers described, with big business work orders, clients could not afford to miscalculate the required time, resources and labour as listed in the work orders. On the flipside, for the Taskers we interviewed, realizing that there was a market for such 'hybrid' jobs where their willingness to not just assemble furniture but also carry it up the stairs or mount it could generate extra income, these workers had begun to expand their listed skills, tasks as well as the tools they carried for 'just-in-case' work. It was very interesting to hear from TaskRabbit workers especially how the platform design had in fact evolved to become protective of workers' time per task as the platform grew. For instance, many of the early workers had reported to the company how, being assigned tasks

with a limited time period to accept or reject them, interfered with the workers' ability to thrive on the platform. If a Tasker was traveling in the Tube underground or was completing another task, they would not be able to check incoming tasks and respond to them, thus displeasing platform clients and making it seem like a 'ghost platform'. Similarly, other workers reported how the platform developed an *unavailability mode* after much feedback from early user-workers, again, since clients tended to request jobs on their own times. A user would remember their chores, a broken table, a tv to be mounted, groceries to be bought – not well in advance but through a mix of spatio-temporal cues, while in proximity of the broken table or the tv. Contrary to Sharma's imagination of what may seem like frivolous and spontaneous desires by platform users, the way our respondents described it, chores and everything that constituted reproductive and maintenance labour often *appeared* mostly to one person in the household, often at bedtime or in the rush of the morning or while commuting to work, spurred by actual breakdowns or urgent needs for things.

Returning to Sharma and Wood and colleagues point about workers having to wait around eternally for such spurious demand to arise and thus causing a state of eternal precarity for platform workers, we pointedly asked our respondents how they dealt with the lack of control over their own time schedules since their whole selling point was to be available on others' times. Very simply workers denied being in an eternal state of waiting. Or at least, the kind of limbo or perpetual and clueless waiting. In fact, through the diaries they filled and their interviews reflecting on their time-scheduling, workers were able to demonstrate how they accounted for and thus controlled the periods of platform availability through extremely carefully knit arrangements involving other people, devices and planning ahead. This sort of planning ahead was not just for platform-work but for them to be able to remain 'atypical' or freelance workers or to juggle multiple part time jobs.

In the US context, Rosenblat et al (2018) documented the motivations of early Uber and Lyft drivers for entering gig work. Subsequently, multiple studies have shown how gig workers across the board do not

consider platform jobs as their "main job". Some have definite *timelines* for when they might stop gigging and others described gig work as a *steppingstone* or something *in the meantime* as they tried to finish college, start their own business, raise a young child, learn a new skill etc. In our study as well, not every participant's aim was to end up in a permanent contractual job, many just wanted to wait and have enough to get by while they travelled and explored different kinds of work. Arranging for flexibility included building and relying on "scaffolds" such as for one respondent who could afford to work extra when her best friend watched her son. Similar to other studies on non-standard workers, we also found that atypical service workers often work on other people's times, such as the childminder who tended to two "wrap-around" kids (she used this term for the kids who needed to be watched for a few hours at different times of the day) before and after school time or the Deliveroo riders who are in fact, working the most, when others want to stay indoors (rains, snow, winters, football matches, late nights). Similarly, a beautician we interviewed worked only when her son was at school and, the plumber, movers, construction workers and electrician that we spoke to get the most amount of work during summers in the UK, when everyone else was moving homes. Especially for Deliveroo (food-delivery) work, demand only picked up during lunch, dinner, late in the night and on weekends – times of leisure/rest for typical workers.

We discovered that atypical work was not only about working in the shadows of typical productive temporal economies, but also emerged as a response to other life exigencies that were equally important at the time. In that sense, rather than having fixed or neat boundaries for work and life, in our study we found that workers leveraged "temporal cracks" by integrating work and non-work activities. To re-emphasize, what we learned about flexibility (in the UK context and elsewhere) is that it is not a given or uniformly defined occupational feature of any work. Further, flexibility can also be defined in many different and also contradictory ways, thus demanding to be situated within a spatiotemporal ecology of work to precisely understand what people mean by flexibility as a desirable feature of work. Even for the gig economy jobs, the temporal implications of working a certain shift or working against the schedules of standard productive times are not lost on the workers, as we noted in our study. But as Rattenbury et al

suggest, “it is useful to think about this in terms of long-term change. As temporal norms weaken…the times when we find ourselves doing things may become less marked…(2008)” While digital labour scholars have dubbed this shift as the ‘precaratization’ or ‘casualization’ of labour(Scholz, 2012), merely the temporal reorganization of time and the ubiquity of unstructured or unallocated time does not automatically translate to such precarity. Scholars have demonstrated that even within permanent employment, insecurity and risk manifest in many ways and also that, within scholarship generally, we need to be more reflexive about the positions that academics occupy and the vantage point from which they write and imagine about the good and bad futures of work, especially considering the class positions that inform their conceptions of security and ‘good work’.

To conclude this section, drawing on our study, I propose that perhaps flexibility must be thought of as a requirement rather than being a characteristic of atypical work per se. What this simply means is that rather than viewing ‘flexibility’ as a false lure or even a marketing discourse that platform workers seem to have bought into, it might be more productive to think of flexibility as an indicator of the temporal economy of typical jobs wherein many workers, based on their identities, life needs and duties are unable to fit. Whether they attain *true* flexibility (good pay, job security and autonomy over work scheduling) or not, platform workers but also others surrounding them, are immersed in a graduated and complex understanding of personal and professional times that are to some degree, at odds with the norms of permanent employment. Importantly, as we found in our study, signing up for platform-work did not mean signing away one’s control over time completely. Workers strove to *craft out* flexibility through the creation of boundaries between work time, family time, vacations etc through a combination of communicative work and delegation of scheduling to their personal devices. Unpacking and troubling straightforward notions of temporality within platform living, especially to focus on time as the flow of power, capacity and vitality allows us to attend to those who feel marginalized by so-called permanent and typical employment structures as well as those who fall out of those grids precisely because they are expected to prioritize unpaid care work in the home or family building or the nurturing of social relations

as well as those whose time is already demarcated and controlled through hard and soft social, political, economic norms and expectations. Sharma, whose work I discussed earlier in the chapter also discusses temporality in gig work to arrive at the questions of care – *who has the time to care?* The question of flexibility is not far from her concern. If flattened out as in/flexibility without attending to the implicit temporal subjects in whose names we attempt to fix an ideal kind of temporality, we are unable to *decentre* and re-centre the demands of flexibility in ways imagined by the already extremely precarious. That is also where this dissertation's political investment lies.

The problem is not so much with the analysis of the terms and conditions of flexible work in the platform economy but rather the ahistorical and unanchored analytical standpoint from where scholars draw convenient boundaries, sometimes receding into the provincial, sometimes unwittingly relying on nativist protectionist statements against the perils of "global labour" and at other times, by simply choosing to address platform-work as a national problem of precarity born of specific histories of industrial relations as the universal condition of labour time. Understandably so, depending on the audience or specific questions of labour policy to be answered within local or national contexts, the exclusively economic (Marxist and neoliberal) analyses serve a purpose. They are useful in informing urgent regulatory concerns around the gig economy but it is also important to understand that one of the problems of reactionary regulations especially to fast evolving techno-social phenomena, is that these analyses tend to fall prey to and feed into the hype cycles partly created by the most visible elements of the discourse. Thinking with and thinking through feminist, anti-racist, anti-casteist intersectional impact within policy or otherwise, demands slowness as well as a kind of optical reorientation (discussed at length in chapter 4). Even with the most rigorous of ethnographic work, the concerns, motivations, and life journeys of minoritized and dispossessed communities do not make themselves evident without deploying subaltern practices of reading, excavating, and embedding. These practices are essential not to get at a kind of singular truth, in this case of why or how flexibility matters to evidently precarious platform workers. Rather, such practices of attunement (Amrute, 2019), of reading, of a kind of detective work that reads

around the decisions that people make, help us locate the sphere of subaltern politics within which people are crafting life projects. Especially relevant to this chapter then, as I show in the next section, are these social locations from which subaltern subjects frame questions of futurity and how those visions then distil into their microsocial practices including platform-work.

The Time to Care

Picking up where Sharma leaves it, the question resonates: *who has the time to care?* Albeit, in the way that Sharma asks, it is a callous, throwaway question that platform workers and consumers ask somewhat rhetorically in response to the observation that platforms devalue and delegate reproductive and care duties. However, as Sharma points out, there is indeed a direct relationship between (having) time and caring as it trickles into formulations of duties, rights, and the fabric of social relationships. While it is true that despite the overwhelming participation of young men in platform work, the work itself is *feminized* because of how it discounts *and* devalues the investment of the self at work, less has been said about women's participation at all. By this I do not mean just women's participation within platforms but rather, the continuum of women's work and how platforms figure in this. Women across the world make for very interesting developmental and economic subjects for national and international policy experts since "the problem of women's work" is an enduring challenge across the globe. A big challenge is the lack or scant participation of women within the organized and formal workforce despite there being almost universally instituted legislation as well as a recognized need to hire and support women. Of course, while there are glaring problems of sexism, workplace harassment, lack of childcare support etc. in workplaces, there are also more pressing external factors that disallow qualified and skilled women from taking up certain jobs at all. A comprehensive discussion on women and work is beyond the scope of my argument in this chapter but at the time of my fieldwork, India was (and still is) on a path to a "youth population explosion" where over a decade, about 500 million more people are set to join the country's workforce (Arora, 2019). In 2019, the median age of India, a country of 1.3 billion people, was 29 years, thus casting the enduring problems of unemployment, informal work, and women's low

participation in the workforce into a new light: as challenges to the *future of work.* Such a renewed focus on the informal sector as well as women workers, has inspired a mixed bag of research motivations, especially since many in the developmental sector recognized this as the 'opportune moment' to make a case for women as financial inclusion subjects. It also helped researchers such as myself and my colleague, Joyojeet Pal to make a case for investigating women's experiences in the platform economy in order to understand the barriers to women's participation in the platform economy.

In what follows, I offer two arguments from our empirical study of platformized beauty and wellness workers that are most relevant to our larger discussion on the graduated flavours of temporality at work in the gig economy. My two contentions are as follows. Firstly, the notion of "care" as embedded in the temporal management of workers is not simply one of extraction. Platforms are assembled and kept functional through the daily patchwork of their own employees, managers and workers. While company leadership may seek to maximize revenue, they are keenly aware of the need for biopolitical management required to deliver on their promises. Caring for workers, not in a totally selfless and altruistic manner, but with the goal of producing healthy, "professional", punctual workers is well within the mandate of platform functions. As I show in the discussion below, there are variegated temporalities in different service relationships, and they weave into and transfer over in platforms' temporal management. Secondly, care-time in all its manifestations is punctuated by the matrix of roles and relationships within which individuals are embedded. Then, it is not simply about (not) having the time to care but which duties and roles of care take priority over the others.

The Chronometry of Care

Beauty and wellness platforms, an upcoming segment in India's platform economy, offer app-based booking and at-home services to consumers at their convenience. Much like TaskRabbit, HouseHelp, the platform we studied, also marketed itself as the solution for those overworked women who did not want to step out in the traffic, make appointments and wait at salons in order to get massages or regular beauty

treatments. Also similar to the conception of chores, professional women often describe self-grooming work as "maintenance work", not frivolity or vanity but a passage ritual required for them to get hired and to be able to succeed at many a service sector and other professions. One important motivation for the study was to enact what I called for earlier in the chapter: *to change the instruments, attunements and subjects – things that constitute the matters of concern (de La Bellacasa, 2017) in platform studies.* To that end, by choosing to focus on an area of platform work dominated by women, we hoped not to just provide a supplementary view of gendered work but rather to situate platform scholarship within the continuum of women's work. To clarify, we were not so much interested in only shedding light on the gendered experiences of platform work but whether (and how), what we know about the effects of platformization holds true for those who are already engaged in a lifetime of unpaid care work. Further, importantly, what we would find out about women platform-workers then, would not only be a matter of gendered differences but how fundamentally different social agents experience platform work. Both, in neoliberal developmental studies of women and academic scholarship, it is recognized that women also occupy and thus embody different social lives than men before and outside of work but also both, their contemporary social spheres as well as the structural conditions of heteropatriarchy bear upon women's ability to participate in the workforce.

Within platform work, they described to us the temporal gymnastics of everyday. One big problem was that as a platform operating in eight Indian cities, HouseHelp's time slots remain agnostic to the realities of navigating urban spaces (traffic, transport, safety, finding clients' houses). Given Bengaluru's traffic congestion, most workers reported a huge disconnect between how the app visualized work time. Like a masseuse said,

"Even if the client booked a one-hour massage, I have to call them at least one hour before, then start looking for an Ola auto (rickshaw), you know it's not easy to get an Ola. You have to keep trying. Then after the auto arrives, I have to show him my huge folding bed. They ask for extra money to carry that. Many times, the client gives a location in the app, but that location is not exact. And some clients get

irritated if you call them again and again to find the house. So here I am, going in circles and the Ola guy is threatening to just drop me off. There is bound to be delay."

Even after reaching the client's home, setting up and creating a salon space within the room (laying out perforated sheets, giving disposable clothes to the client, explaining the service to them, often waiting for the client to attend to their home chores in between the service, but also waiting for the client to shower between two different services such as a body scrub and a massage, these realities are not accounted for on the platform). When we went back to the platform manager with these questions, he explained that this is part of being an entrepreneur, that this would be the reality at-work even outside the platform. We saw another group discussion at the platform company's office where workers unpacked how delays at work as well as the spill-over delays caused by one client into the next job, led to monetary penalties for the worker. They also articulated how, these constant administrative considerations of timekeeping, arranging for transport and dealing with digital or cash payments were in fact getting in the way of the "feel-good service experience" and "relaxation" they wanted to provide. Workers' recounting of their experiences highlighted the class ruptures in the structuring of service time. The way that platform design arranges to make workers available at the clients' convenience but also the way that the company resolved disputes had instilled in the workers that they were on their own at work. Most workers we spoke to said that if the client made you wait because she was cooking or waiting for a phone call, you just have to wait. If the client demanded extra massage time, despite there being the provision to order extra paid massage time (15 minutes), you just gave it to them for free because if you resisted or asked them to pay extra, it would immediately ruin the experience and lead to a bad rating and review. Knowing to wait and inculcating the patience, silently absorbing the material costs of waiting, workers explained, were part of the longer game of performing professionalism, thereby extending one's longevity on the platform by ensuring good ratings and feedback.

Importantly, this temporal see-saw became further complicated as it tangled up with the platform's business model. Without going into detail about the "Uber bias" within platform research imaginaries, platforms that offer more time-consuming services such as chore-work, skilled and unskilled tasks, actually rely on their workers' service quality and good experiences created by the workers to build the platform's loyal base. As a manager explained, "…you have a fixed person that you go to get your hair done or eyebrows done, if the platform has to replace that and hence generate a "repeat value" then we have to invest in training and quality assurance as well" What a platform's repeat value captures is a kind of competitive relationship between the human worker and algorithmic selection whereby the platform, in fact, benefits from the loyalty that workers build in order for customers to want to override algorithmic recommendations and instead manually opt for the same worker again.

Here is where we encounter the old familiar again: flexibility. As we went from one interview to another, probing why these women, mostly from out-of-state working-class families, were continuing with platform work despite their own stark descriptions of the daily challenges and waiting involved, we were told that platform work afforded (more) flexibility compared to full-time salons. As one worker explained,

"I used to work in a salon before this and they have fixed timings. You have to come in by ten even if there is no customer and you have to stay till seven or eight. Even in the afternoons when the business is slow, if the manager is sitting there, you cannot even go out. Worse, on weekends when there is a lot of work, the timings do not matter. You have to stay till they need you. There is no overtime, you only get one day off weekly." (Raval & Pal, 2019)

That hours going past 7 PM is the norm for most Indian workplaces meant that on average, salon workers were expected to spend at least nine hours at work daily. The inflexibility with evening hours, which are often the busiest, can raise challenges for managing home tasks, and also flow into the time period with the worst commute in the city. The problems with workplace flexibility were voiced across the sizes and specialties of salons. While smaller establishments could deal with labour shortages, larger establishments

such as five-star hotels dealt with privileged customers that they had a harder time turning away. A massage therapist who used to work at a five-star hotel spa explained how one had to plan and inform months in advance to apply for leave. Compared to these temporal exigencies, the platform provided work-hour slots from 9 am to 6:30 pm and workers are told to complete three jobs every day, irrespective of the times they choose to work. But most importantly, the "reserve force" nature or the "already alienated" terms of the gig-workforce meant that the platform has a revolving-door policy in terms of re-entry. At least four women workers that we interviewed had joined, worked for the platform, left work without notice for more than one month and then returned, only to be re-trained and on-boarded again. On the other hand, the personal nature of separation from on-site salons meant leaving a job can have long-term consequences on one's ability to gain a position back in certain networks.

Platformization also fundamentally transforms the chronometry of many a service profession including beauty and wellness work. While beauty-work has not traditionally been quantified in terms of the time taken for each job (for instance, 'eyebrow threading' is not advertised or availed of as a strict ten-minute activity), when offered as a platformized task, a time value was associated with each job. Simultaneously, considerations of time (as money), being late to work and working too slowly or too quickly do not drastically alter a worker's reputation in non-platformized work since there are no ratings and reviews unlike platforms where everything – from arrival time to the time taken to finish work to demonstrating one's "flexibility" in adjusting to clients' time as well as any afterthoughts the client might have while reviewing could affect the way a platform worker was rated. Especially in beauty and wellness work, while traditionally the quality of work was judged for its "experience" including the amount of relaxation provided, the ambience, hygiene, customer service, in the platformized version, the onus was on meeting the time windows associated with the promised "maintenance work". Many platform consumers that we spoke to, emphasized how they resorted to platforms to attend to their urgent and basic needs such as getting last minute grooming before an important event or recharging oneself with a home-based massage

to *keep going* and remain functional. For *real relaxation* as some called it, clients still preferred going away, taking themselves to a spa or salon.

Returning to the new time metrics attached to various tasks, as we learned in our conversations with platform designers and managers, these metrics were in fact built to serve and protect workers' time, contrary to our assumptions about worker surveillance. In beauty and wellness work, and other forms of care-work where service and experience cannot be easily converted into piece-units, and where the experience of care is intricately woven with presence and time. There is no standard of how much time spent on a job is enough or how much time translates to a good enough experience. In the absence of a human manager (or as against managing one's own work), disintermediation of beauty-work necessitates unambiguous commodification of service. As HouseHelp and all other platforms in this space do, each beauty service is not only listed with a description of what it entails but also a fixed time limit for each task (for instance, 'full-arms waxing' costs INR600 (USD 9) and has a time-measure of '30 minutes' listed next to it). When asked what this time measure is supposed to indicate and who it is meant for (workers or clients), one of the managers at the training centre explained:

"it is for both, the workers and clients but more so for clients...it is often the client who is in a hurry to get things done or requests extra time. For workers, we educate them about these time-values during the training period to ensure that they maintain a certain speed. Clients get irritated if the worker is too slow. Also, if workers complain to us that they cannot complete 3 jobs in a day, we need to be able to tell them that they are being slow at their work. So, this time indication is important for all these complaints and disputes."

Earlier in the chapter I contested the dichotomous framing of not/flexibility in platform work by engaging with studies of atypical work and by offering to think of flexibility not as a 'have' or 'have-not' but rather as only attained through time-crafting practices. I also proposed that a shift in reading practices and attunements is key to rendering visible the qualitative investments in saving certain kinds of allotted time

versus spending other kinds. Hopefully, this section has offered two novel learnings that have been missing from platform studies literature until now: firstly, a deeper understanding of platform temporality that shows the interplay of class, gender and time as embedded within the cityscape and secondly, another exploration of flexibility as a motivation but this time, as an articulation of platform work as "better than" the work they did in the past and how it used to extract value from their bodies and lives. As the last part of this section reveals through the logics of platform design, designers and managers were keenly aware of the 'spill overs' and temporal demands of relaxation that clients imposed upon the workers. Drawing on our paper, instead of asking if platforms care or not, we proposed a time and care graph along which various platform occupations could be mapped. The proposition is that platforms *do* care (at least in the ways that platforms can be thought of as caring) but that these caring capacities depend on the amount of human interaction required in different kinds of work. By this logic, it makes sense that food delivery workers are recruited, onboarded, trained, and fired remotely through the phone's interface and with the help of video tutorials and phone calls. Taxi-driving falls somewhere in between while companies see merit in training app-based beauticians, carpenters, plumbers etc for up to ten days and then provide them with customer care and financial support because they (companies) are building what they call an "experience" while accounting for all the contingencies involved in entering domestic spaces and working intimately with bodies. Based on this analysis, we argue that what we perceive to be policies, actions and designs of care *are* built into platforms that heavily depend on their workers' self-management and emotional labour to become profitable, to generate loyalty and so forth.

Dreamwork in Platform Capitalism

In this section I switch from the analysis of the distribution of time capacities within and around the platform economy to investigate the temporal affects of platform capitalism. Platform economies unfold within and across the borders of national and local economies. Gig platforms also historically emerge at a point in the global economy where anxieties about mass human unemployment are rife. Not just with regard to platform work but in the larger public discourse on employability, various experts have been

found saying that having soft skills, an aspirational outlook and a readiness to adapt to the changing future of work are key ingredients to succeed in the emerging futures of work, especially as Artificial Intelligence swallows up low-skilled jobs. Although capitalist production rests on material and immaterial work to produce and maximize value, the legitimization of capitalist discourses very much depends on what Arjun Appadurai calls the "collective dreamwork" (2015) in order to imagine futures of growth and progress. In that sense, being able to anticipate the movement of capital and adjust one's future course of actions, alternately also known as "being flexible" and being able to adapt to disruptions, are key to mastering the uncertainties produced by capitalism. Although not readily apparent, the work of becoming flexible and remaining constantly aspirational, no matter the domain of work or life, is also a form of temporal attunement that is key to thriving within platform capitalism. Platforms not only offer temporal flexibility at work but also demand a flexibility of the self, an entrepreneurial spirit as the manager of a platform company explained. In order to remain flexible, or adaptable subjects who can weave in and out of platforms without getting permanently burnt, platform workers, as I show below, engage in regular speculative work.

Ever since its founding, especially in the first few years of operations and then later when it went public, Uber constantly remained in the news for various reasons including its fights with regulators and city administrations but also importantly because of its co-founder and CEO, Travis Kalanick. Kalanick who until his ousting in 2019 remained the embodiment of Uber's work culture came across as a brazen, entitled personality and had developed a cult following among tech entrepreneurs and others because of his approach to tech-building but also his disdain for rules and laws[30]. Despite burning billions of venture capital dollars until the company went public, Uber's brand remained relatively untarnished; nobody in the entrepreneur circles seemed to care if Uber made any money. For a long time, Uber was considered an

[30] See for detailed reporting on Travis Kalanick and the change in cultural norms after his exit: https://qz.com/work/1123038/uber-has-replaced-travis-kalanicks-values-with-eight-new-cultural-norms/

elite member of the 'unicorn club' along with companies like Lyft, WeWork, Didi, Airbnb and others[31]. Unicorns are privately held companies that have reached a valuation of USD1bn in a relatively short amount of time. Both for Uber but also for companies like WeWork, many have remarked how astonishingly little was known publicly about these companies' finances. Even so, they continued to attract massive rounds of venture funding even as their cash-burn was reported every quarter[32].

When I returned to Bengaluru in 2019 to conduct more interviews with ridehailing drivers, the excitement around Ubering had subsided a great deal as incentives had largely plateaued and drivers were having to work long hours to turn a profit from driving. Many could not quit right away because they had taken loans to buy cars in order to get in on the ridehailing wave when incentives and earnings were still quite good. That was also the year that Uber was about to launch its public offering. In one such instance when I was talking to a group of drivers in Bengaluru, I probed him about *his* future of work. I asked if he had ever thought of Ubering as long-time or permanent work or if he had decided for how long he would do this work especially now since the incentives were going down. At this time, I was also consulting as a researcher with a start-up company looking to offer portable benefits to gig economy workers. Some of my conversations with the start-up founders propelled me to think more seriously about how gig economy workers thought about their own futures. Inspired by these conversations as well as the fact that the gig economy "wave" had subsided, I assumed that these circumstances would invite some considerations about personal futures in gig economy work. While I was speaking to Mr Ramaiah, a forty-something Bengalurean with two children and asking him about planning for the future, another driver Mahesh who was listening to us chimed in. He said,

[31]Alex Wilhelm. As Uber and Lyft continue to melt the 2019 unicorn class loses its shine. Tech Crunch. 2019. https://techcrunch.com/2020/03/18/as-uber-and-lyft-continue-to-melt-the-2019-unicorn-class-loses-its-shine/
[32]Alex Wilhelm and Kate Clark. WeWork and Uber are proof that valuations are meaningless. Tech Crunch. 2019. https://techcrunch.com/2019/09/13/wework-and-uber-are-proof-valuations-are-meaningless/

"We always knew this was going to happen. We are not stupid; we keep reading about how much money Uber and Ola are losing every year, so we always knew that this money-making scheme is not going to last for very long. But jitna bhi chalta hai, chalney do (let it go on for as long as it does), then find something new. We are also hearing that Reliance is going to launch a taxi app now. So hopefully something new will come up. I used to clean cars before this, now we have this, so we enjoy it. Then we will find something else, for now we just heard that Ola got some crores of funding so it will go on…"

Just like Mahesh did, there were many others on the Facebook group for Indian ridehailing and taxi drivers and some more on the Telegram group for Mumbai and Pune-based drivers, all of whom regularly kept up with news about platform companies, especially news on funding, lawsuits, fines and more. Ola's CEO Bhavish Aggarwal was a reviled figure among the drivers that I saw interacting on Facebook groups. Aggarwal's salary was regularly reported in the news[33], often in a manner that celebrated and built on the awe and magic commonly associated with tech prodigies in public discourse. Beyond gig economy platforms, the lives of tech entrepreneurs and "boy geniuses" like Mark Zuckerberg and Elon Musk – what they eat, how they work and how much they get paid, these topics are endlessly discussed in online forums on Reddit, Twitter, Quora etc. The driver who posted an article listing Aggarwal's salary captioned his Facebook post as "Aggarwal *chor* (thief) gets a pay raise but he says he cannot pay drivers". What Mahesh said to me as well as the responses to this Facebook post reveal the speculative work that drivers constantly undertook in order to update themselves and prepare for the future in the face of uncertainty. As Mahesh also expressed, drivers understood that there were no guarantees in platform work: there were days when incentives were good and other days when the app would be banned by local authorities. It is not just that surviving platforms requires speculative labour (it does) but also the fact that speculative work functions at multiple levels of platform capitalism. Platform companies have managed to accrue huge sums of money without having to show profits largely because they operate as only

[33] Peerzada Abrar. Bhavish Aggarwal to forego salary for 1 year as Ola launches fund for drivers. Business Standard. 2020. https://www.business-standard.com/article/companies/bhavish-aggarwal-to-forgo-salary-for-1-year-ola-launches-fund-for-drivers-120032701645_1.html

partially knowable entities. New rounds of funding would fuel intense speculation and anticipation of announcements in the media about business expansion, new features and products, mergers and so on while nobody outside the company really knew what constituted the company's valuation or its increase. In a sense, everyone was in for a ride as long as it lasted while preparing for the possibility of the unicorn disappearing. What I found remarkable was how the speculative discourse extended to platform workers as well who imagined themselves as employees, exploited workers, small-business owners as well as some sort of shareholders (although not literally) in the future of Uber.

The time of gig economy's emergence also coincided with a period of growing national anxiety in India. In 2014, when Narendra Modi first became the prime minister of the country, a large part of his election platform had portrayed him as the leader who would tackle the issues of growing unemployment especially among the youth. In the subsequent years, his government's flagship skilling and employment programs (*Skill India* and *Make in India* respectively) would also fail miserably due to a variety of reasons. As discussed in the introduction, if gig economy platforms had initially been hailed as supplementary mechanisms to boost employment in developing economies, for India, a country that was not only facing "jobless growth" but is also experiencing an ongoing "youth population explosion", national and state governments began to actively forge partnerships with various platform companies in a bid to address the increasing unrest and national anxiety related to unemployment. Against this backdrop, aspirational affect and speculative or anticipatory orientations became two prized commodities seen as essential to one's survival (and futurity) as it began to seem that no immediate State-led deliverance was in sight. While platform work has been investigated as a possible future of work in terms of the sheer employment opportunities that it may provide, how platform capitalism coincides with the flows of global financialization as well as the historical and material conditions ('the present') within which people imagine their futures is yet to be studied. As Bear et al remind us (2015), speculative processes, just like the theologies of the economy are located deeply in the ethico-political systems that we call culture and society. Studying the flows of speculation such as "vernacular speculation" (Bear, R. Birla, & S. S. Puri,

2015) of the platform workers juxtaposed against the high finance speculations about platform unicorns, both placed against the larger moods of national economic failure and heightened uncertainty reveal the work that being flexible and aspiration performs for workers trying to predict and govern their own economic futures. Such an imagination or the "dreamwork" of the flexible self under platform capitalism cannot be directly deduced from the analysis of daily work or family fortunes or economic dispossession in a place. As I have attempted to show in the form of a temporal attunement or an attitude towards futurity that many in the platform economy embody, the aspirational and entrepreneurial ethos within platform work emerges as an anticipatory response to the rise of platform capitalism.

Conclusion

Gig work platforms have been said to offer temporal flexibility and a greater autonomy over choosing one's time of work. Critics have argued that the promise of temporal autonomy in daily work masks the larger problem of the casualization of work and the erosion of full-time, permanent employment that the gig economy is contributing to. Secondly, the platform economy has also often been attributed with fostering a culture where people care less and delegate their reproductive labour such as menial chores, household duties and mundane obligations to platform workers. I revisit these claims in this chapter. Through my empirical work with a range of atypical workers including gig workers, I show how the debates on flexibility as a real or false affordance of platform work miss the fact that temporal and organizational norms of full-time employment have historically prevented people in vulnerable and transitional life situations to participate in what is idealized as standard employment. In the chapter, I argue for paying attention to the temporal and technological practices of platform workers but also broadly those who are unable to acquire or participate in full-time, waged employment. Responding to the observation that platformization sanctions an ethos of carelessness (towards the other), I offer a differential consideration of how we identify care within the bounds of capitalist living. I show how the practice of extending care and platforms' goals to maximize profits are not in diametric opposition to each other. Rather, as I show in the chapter, platforms actively support and encourage certain practices of care

in service of their own growth. I call special attention to how platformization transforms the temporal organization of many a profession (such as beauty-work). Finally, I go beyond the discussion of temporality as configured in daily platform exchanges and explore how high finance speculations about platforms, national economic anxieties, and the goal of carving a personal future under these imperatives motivates platform workers to engage in speculative and aspirational self-work.

Chapter 3: Platform Infrastructures as Urban Assemblages

Introduction

In December 2018, *Dunzo*, a Bengaluru-based service platform published their annual trend report titled '*7 reasons why urban Indians are lazy and proud!*'[34] based on their customer analysis. Using a combination of snazzy infographics, cheeky puns and bullet point insights, the report celebrates Dunzo's user base of young Indians and the kinds of things they order using the platform's app. The report begins by saying,

"So many tasks, so little motivation. It's common knowledge, that the quintessential lifestyle of the new age Indian involves a frustratingly long list of everyday tasks. Uninvited guests to this stress party include painfully long lines, infuriating traffic, the unreasonable need for one's bum to leave the couch or worse yet, actual social interaction with fellow humans. To quote the enduring wisdom of an erstwhile meme, 'Ain't nobody got time for that!' However, Indians being Indians, have coped, and how!"

Dunzo is an app-based platform company that allows its users to list elaborate and menial tasks that a *Dunzo Partner* (an app-based independent worker) then completes on the user's behalf. For instance, if you forget keys at your friend's house you can get a Dunzo guy to go pick them up and get them to you. If you are gardening on a Sunday morning and you forgot to buy potting soil, just list the task on Dunzo and someone will drive to the shop, follow your instructions, purchase that exact brand of potting soil, pay the shopkeeper in cash from their own pocket and bring it to your door. When the app launched, one could avail of such tasks for as little as INR 20 (0.26 USD). As the company boasts in its report, the range is endless, "from forgotten chargers to remembered birthdays…from Tupperware to underwear…from laundry to luxury…"

[34]'7 reasons why urban Indians are lazy and proud!' Dunzo 2018 Annual Report. Medium. https://medium.com/@DunzoIt_48896/7-reasons-why-urban-indians-are-lazy-and-proud-e6ca9118c42a

The report wants us to know that folks all over the country have "unlocked their phones and opened their doors to labour-less deliveries" Of course, these are not labour-less deliveries because they literally involve a person who for a brief period of time agrees to perform *any* kind of communicative, cognitive, emotional and material labour for the user. As the report goes on to detail, some of the top requests across Indian cities were for condom purchase, buying *biryani* (food) to address late night hunger pangs, curd, milk, pizza at odd hours, sanitary napkins, cigarettes, soft drinks and so on. Continuing with its cool language, the report tells us that the platform experienced a peak in orders for cigarette rolling paper at 4:20 am and that the company "rolled with it". The longest order required a commute of 42 kms and the shortest task ordered a *Dunzo partner* to collect an object from the second floor and deliver it to the third floor of the same building. Two years into business, Dunzo received a massive round of venture capital funding from Google Inc., signalling its financial success but also the viability of the idea that an app-based platform could be used to delegate almost any task with a general workflow and a little bit of communicative and collaborative work between the customer and the worker-partner. Given Bengaluru's appetite for techno-logistical innovation, *dunzo-ing something* quickly became a common phrase (*let me just dunzo it to you!*).

Dunzo is of course only the latest addition to the range of urban algorithmic platforms including Uber, Ola, Swiggy, Zomato etc. that have embedded themselves within the visible service infrastructure of Bengaluru and other Indian metropolises. Both critics and advocates of gig economy platforms largely agree that such algorithmic just-in-time platforms have already become a part of the vital urban infrastructures that keep a city moving, producing, and reproducing. Especially at the time of writing this chapter, during the global covid-19 pandemic, digital delivery platforms have become the only way for traditional brick and mortar businesses to remain operational. From restaurants to grocery stores to clothing stores, small and big businesses that were otherwise 'walk-in' only, have overnight invested in and established partnerships with urban delivery platforms such as Postmates, Grubhub, Doordash, Taskrabbit, Uber, Zomato and Dunzo. Although these remain exceptional circumstances, especially for

platform studies scholars they become revealing of the vitality and the criticality of gig economy workers but also of the platforms themselves as networked, designed software objects that have scaled up in order to meet the sudden spike in online orders and deliveries.

The same infrastructural moment also produces its exclusionary shadow for those who are not digitally connected, who cannot afford delivery fees, those who live in non-networked zones and those who have to risk their health and lives to *become infrastructural* in order for platforms to deliver on their promises. While times of crisis affirm and confirm the infrastructural role of urban algorithmic platforms, outside of crisis, as I observed in more "normal" times as well, platforms were already becoming indispensable to the flow of goods, money, and people within the city. However, platforms as intermediary infrastructures are far from stable, completed, centralized or even just simply technical. As infrastructures do, platforms are also actively enrolled in the differential provisioning of resources and thus, key to the questions of equitable urban planning and distributive justice within the city space. Thus, in order to understand the eternal reshuffling of urban power, it is imperative to understand the ongoing phenomenon of platform infrastructuring. Specifically, as I ask in this chapter, *what formal aspects of urban algorithmic platforms make them infrastructural? What sorts of infrastructural roles do such platforms play in the city? As urban media infrastructures, what changes do they bring about to the practice of urban power?*

Beyond Platform Capitalism

Thus far, 'gig economy' platforms have predominantly been studied from a labour perspective. Even when thinking through urban questions, digital labour researchers and activists characterize the city after platformization as naturally more unequal because of the ways in which platforms seek to extract maximum value out of their workers while privileging their consumers' time and needs. As discussed in chapter one, most digital labour studies illuminate how algorithmic platforms loosen up the tightly knit local labour markets (Graham & Anwar, 2019). Others detail how the built and ecological environment of a city demands hard work and long hours in order to turn a profit from platform work (Popescu, Petrescu, & Sabie, 2018). Some have also focused on the appropriation of built infrastructure by platform

companies without them (companies) paying into the building or maintenance of these state-funded public amenities (Frenken, van Waes, Pelzer, Smink, & van Est, 2019; Van Dijck, Poell, & De Waal, 2018). Given its primary interest in labour transformations, digital labour scholarship tends to approach the implications of urban platforms from the perspective of human workers and their formal and social interactions within and through platforms. Apart from workers, digital labour studies also trace the animating and disruptive force of venture capital flows (Kenney & Zysman, 2016; Srnicek, 2017b) that are key to the scale and rapidity with which urban algorithmic platforms have been able to proliferate globally. However, as Nigel Thrift reminds us,

"It is all too easy to depict capitalism as a kind of big dipper, all thrills and spills. But capitalism can be performative only because of the many means of producing stable repetition which are now available to it and constitute the routine base (Thrift, 2008)"

Thrift calls this an "apparatus of installation, maintenance and repair on the one hand…and the apparatus of order and delivery on the other (ibid.)" In the prevalent digital labour studies as well as platform studies narratives that zoom in on the workings of venture capital as well as the regulatory gymnastics of platform companies, we do not get a thorough, intimate and most importantly a contingent view of how platforms come to be operational in the world through various forms of routinized action. The other issue implicit in Western neo-Marxist writings on infrastructure, as Anand et al point out (Anand, Gupta, & Appel, 2018), is the straightforward relationship between technological development and cultural progress. Especially in the work of Lewis Henry Morgan (Anand et al., 2018; Moses, 2009) for instance, it is assumed that advances in technology bring about changes in social institutions, organizations and so on. I have addressed the shortcomings and pitfalls of drawing on classical Marxist theory to explain platform living elsewhere in the dissertation, but it still bears mentioning here that in contradistinction to such implicit assumptions, cultural expression, social life, and techno-material enterprise are not in a hierarchical or teleological relationship.

Walter Benjamin (1999) and then drawing on him, Brian Larkin (2013) have striven to remind us how infrastructures ('technological') are not only far from disinterested and apolitical but they are also always caught up in the "grip of dreams" and come (and stay) with an "unmistakable dream world that attaches to them". Notwithstanding a few exceptions, prominent platform labour work does not pay attention to the materialization of differences – of cultural norms, kinship networks, religion, geopolitics and more. One side effect of letting this teleology go unchallenged is that it naturally posits industrialized countries as the ideal or default sites for studying sociotechnical effects and elsewhere, such as in the postcolonial world, it may appear that there is nothing interesting to say about social and cultural phenomena because they simply suffer from an inherent backwardness or lag in terms of technological and infrastructural developments. This is not a new or open debate and the case for studying local, national, and regional infrastructures on their own terms for how they mediate *global* modernity, has already been made. Even so, some of these tendencies to universalize proclamations about what platform infrastructures do or how they function, persist. My argument then, is not for cultural relativism while studying platform effects across the world but rather, at least for the bounded concerns of this chapter, it is important to establish that what we refer to as platformization is not a universal phenomenon. I heed Burawoy (2000) and others' (Appadurai, 2013; Appel, 2019; Ong, 2010) call to move away from the "phantom discourse of globalization". The proliferation of platforms is not (or not *just)* a total triumph of capital. And their emergence as infrastructures is also not obvious or uniform. Studying them as emplaced, contingent, and embodied processes, as I show in this chapter, can offer us generative ways of engaging with platforms as matters of politics. In that vein, this dissertation as well as this chapter pushes back against blanket proclamations of 'platform capitalism' as an explicatory phenomenon.

Media Infrastructures as matters of politics

Within classical anthropological studies of infrastructure, scholars have begun to pay attention to the "hard" and "soft" infrastructures of information and communication technologies (Bronfman, 2016; Couldry & Mejias, 2019; Dourish, 2017; Lobato, 2019; Medina, 2006; Parks & Starosielski, 2015; Plantin

& Punathambekar, 2019; Roberts, 2016b; Starosielski, 2015; Wilson, 2016) such as postal and telegraph systems, undersea cables, signal traffic flows across continents, the breakdown and repair of media objects (radio, television). Digital ethnography (Boellstorff, Nardi, Pearce, & Taylor, 2012; Hine, 2000; Pink, 2016) has, for some time now, focused on virtual worlds, online fora, roleplaying, and video game worlds as well as identity crafting and performances that leverage the formal affordances of online platforms. There are fewer explorations of emergent computational media (including platforms, algorithms) *as material infrastructures* (Dourish, 2017). Similarly, it remains to be understood how algorithmic platforms, for instance, function as social infrastructures[35]: not simply because they mediate social exchange but rather *how* they transform sociality in a given place. As I discuss a little later in the chapter, the emergence and entrenchment of new computational technologies as well as the flows of innovation, capital and labour that accompany their installation also push against the ontological and epistemic boundaries of what we identify as infrastructur*al (are algorithmic platforms infrastructural? What are their classical infrastructural qualities but also, how are they different from other infrastructure?)*

It is not enough to simply announce that infrastructures have material lives, but rather that acknowledgement expands what we consider as infrastructural matter today. Discourses, (Escobar, 1995; Ferguson, 1994) narratives, language, habits, ecological forces, multiple histories, geographies, capital-nature-state relationships (Gupta, 1998) - they all form the matter of infrastructure. Both, infrastructure directly but also materiality generally, have been of active interest to media scholars from the beginning. Within media and communication studies, as John Durham Peters (2015) reminds us, Harold Innis (1950) first placed infrastructures at the centre of his analysis when he showed how the temporal and spatial properties of media influence the political organization of nations and empires. Following Innis, McLuhan (1994), albeit without calling it infrastructure, made a strong case for the materiality of media.

[35] With the exception of Sarah Barns' work: *Negotiating the platform pivot: From participatory digital ecosystems to infrastructures of everyday life. Geography Compass, 13(9), e12464. (2019)*

Most recently, as Parks and Starosielski (Parks & Starosielski, 2015) remind us, a genealogy of the study of media infrastructures must consider scholars including Manuel Castells, Herbert Schiller, and James Carey, who have written extensively about telecommunication networks.

Responding to some of the lacunae I highlighted earlier in the digital labour studies side/sub-field of platform studies, media and communication scholars have not only been attentive to the *places where cables make landfall* (Starosielski, 2015) but also to the historical, geopolitical sedimentations of race, capital and empire within communication networks. Pendakur (1983) has written extensively about the MacBride commission report and the centrality of media infrastructures in post-war modernization efforts, explaining how efforts to establish the new 'international information order' emerged from a powerplay between countries at the core of post-war hegemonic power and those at the peripheries. Aouragh and Chakravartty (2016) have further argued how the global expansion of Information and Communication Technologies maps along the older hegemonic order of telecommunication infrastructuring..This focus on geopolitical alignments and shifting imaginaries of modernization and development remained a key concern for scholars engaged with the politics of neoliberal globalization and in particular, the phenomenal growth and expansion of cable and satellite television during the 1980s and 1990s (Parks, 2005). During this period, a number of countries across the postcolonial world dismantled state monopolies, reduced tariffs, and taxes, and invited foreign investments in a number of sectors including media and telecommunications. This phase of market-oriented growth was defined by the thoroughgoing financialization of every economic and cultural sector across the world and led to the emergence of what Appadurai (1990) famously called a disjunctive mediascape. While grappling with the complex and still unfolding effects of these transitions on the development of media infrastructures is beyond the scope of this article, we raise these issues to underscore the importance of situating the geopolitical power of platforms in relation to distinct cultures of capitalism and formations of empire(Aouragh & Chakravartty, 2016; Bratton, 2016; Rossiter, 2017; Sparks & Roach, 1990).

Platforms as hybrid, multivalent infrastructures

As anthropologist Penny Harvey and colleagues (2016) note, infrastructure has become an increasingly popular analytic for all kinds of projects in anthropology, urban geography, media studies and cognate fields of inquiry. Attention to infrastructure "from the dimensions of embedded power relations to the effects of standardization to scale-making capacities and their connections with social relations…" has in turn proffered a multiplicity as well as a multivalence(Anand et al., 2018) where any one approach in the field of infrastructure studies has several meeting points with other approaches. With the surge in platform studies scholarship, it would not be an exaggeration to say that platforms are also being studied from multiple dimensions for their multivalent promises.

Jean Christophe Plantin and Aswin Punathambekar (2019), in their introduction to a special issue on 'platforms *as* infrastructures', call for an 'infrastructural turn' within platform studies. Coming from media infrastructure studies, the authors note that digital platforms such as Google Maps, Facebook (and Facebook Zero) have reached the scale, indispensability and the level of use that is typically associated with infrastructures. What distinguishes platforms from other media infrastructures is that they are programmable (Bogost & Montfort, 2009; Helmond, 2015). In that sense, platforms are also always emergent and have modular components (Baldwin & Woodard, 2009) that can be reconfigured to "afford innovative uses and conceptions" as well as third party applications as long as they comply with the platform's guidelines. Further, as Jonathan Zittrain has noted, platforms are also *generative (Zittrain, 2008)*, meaning that the outcomes of interactions on a platform are not known or decided in advance although they are guided or constrained. Platforms also rely to a large extent on the participation of their users (Langlois & Elmer, 2013; Van Dijck & Poell, 2013) or prosumers who either actively produce user generated content or contribute through feedback loop. Gillespie's work (2010, 2018) on the discursive construction of 'platform' as a tactical category as well as his later work on the centrality of (human) content moderation as central to the socially and legally legitimate functioning of platforms has been

formative to the emergent infrastructural turn in platform studies. Surveying the available approaches within media and infrastructure studies, Punathambekar and Plantin note that,

"On the one hand, the critical study of platforms emphasizes the political economy of these platforms-qua-infrastructures, their agency and responsibility, the link to datafication, algorithms, and surveillance capitalism. On the other hand, the social study of infrastructures foregrounds the relationality of technology, the scalability and temporality of infrastructures, the reliance on invisible labour and maintenance, and patterns of inclusion and exclusion. (2019)"

While Langlois and Elmer's work has highlighted how economic logics shape platform affordances, Safiya Noble's work (2018) on Google's search engine algorithms argues that these algorithms produce racist and sexist search results not accidentally but precisely because of an "instrumental" approach to what are perceived as benign technological decisions. Noble, Eubanks (2018) and others in the rapidly growing fields of 'AI and Ethics' have repeatedly made the case for attending to the production and computation of difference through computational infrastructures, something that this chapter also addresses. To briefly summarize, social media and digital content platforms have already begun to be studied as *social* and *political* infrastructures – revealing how the computational and economic logics underlying our favourite haunts on the Internet are doing more than is visible to the eye. They are in the business of affording us expression and helping people create all sorts of value through them. Simultaneously, they are also actively nudging and limiting what we see, feel, and think.

These platform theories predominantly take social and digital media platforms such as YouTube, Google Maps, Facebook, Twitter, and others as their empirical sites. While some of these observations about platforms apply to the urban algorithmic platforms that I discuss throughout the dissertation, they do not equip us to address the material and social implications of platforms within urban contexts. As I highlighted in the chapter on temporality and 'power chronographies', after liberalization reforms in

India, the urban solidified its position as the harbinger of modernity. Even today, despite a majority of the Indian population living in rural India, migrating to the city and implicitly, migrating *out of* agricultural work, hold aspirational valence. Gig economy platforms in Bengaluru are not untouched by these flows; as Surie and Sharma show (2019), persistent drought in agriculture-practising areas surrounding Bengaluru has propelled many from those areas (Gulbarga, Tumkur…) to migrate to the city and take up some means of subsistence such as driving. Algorithmic platforms, both as vital service infrastructures and casual employment avenues, join the repertoire of urban technologies that get enrolled in the differential provisioning of resources. In the following section, I briefly make the case for why approaches to computation in urban geography as well as anthropological approaches that focus on infrastructural flows are both crucial to specifically understanding how platforms get enrolled in the differential provisioning of vibrant matter in urban contexts.

Peopling Infrastructures

This chapter is both a conceptual and empirical exploration of platforms-qua-infrastructure. As I noted earlier in this chapter, the things we identify as infrastructural are not just "hard" or material. There are "soft" infrastructures such as social relations maintained and serviced over time that in-turn provide the scaffolding for action. There is also "phatic labour" such as that performed by Egyptian women in Cairo (and elsewhere) – the communicative and affective economies whose flows produce the pathways through which microfinance debt relationships are established and accomplished (Elyachar, 2012). This phatic labour creates as "social infrastructure that is as essential to the economy as roads, bridges or telephone lines…" (ibid). Those hard and soft infrastructures are also not separate. As Abdoumalique Simone shows in his theorization of "people as infrastructure" (2004), in the inner city of Johannesburg, the brokenness of built infrastructure and thus the social world that it generates becomes the stage for particular kinds of communal relationships between people in the city. In Simone's celebrated account, we find the reminder that technical brokenness (of a road or pipe) becomes the stage for a polity where people are intimately aware of the technical and material brokenness of a technology and thus its warped

operations in terms of capturing, supporting and proliferating the standards by which every citizen's capacities are to be compared and judged. He argues that urban politics then "operates not as a locus of mediation and dialogue among differing experiences, claims and perspectives"(Simone, 2004, 2006) but rather, as he shows and as I also encountered in my fieldwork, bit by bit, through the struggles over building the city and what version of the self it may allow to live and prosper.

As Didier Fassin (2011) reminds us, life does not only have meaning and is not only symbolic, but life is also matter. Not just broadly in the Marxian sense of the structural conditions that determine the life of a given society but also in a Canguilhemian sense where the materiality, the longevity and the inequalities that society imposes on life demand a materialistic orientation – the kind that informs the intimate daily and personal formulations of the ethical in public life. In the South Asian context, although not calling it infrastructure, Dalit Bahujan and Adivasi scholars, and especially Dr B.R. Ambedkar among them, made it his *lifelong* commitment to exposing how caste and the social life of caste inherited through an 'accident of birth' pervades all considerations of the material-ethical (Kumar, 2010). In that sense, not all people are equally infrastructure and socio-infrastructural relations are also deeply historical, not just in structural but also intimate terms. Such correctives or expanding of what we mean by infrastructure and how we think about it liberates us from a top-down, governmental topology of infrastructures, allowing us to attend to their *multivalent promises* at other scales. As Larkin, drawing on Raymond Williams, notes of the indivisibility of the politics and poetics of infrastructure, he writes of infrastructures as "…materials (that) are always in the grip of dreams and…(objects) that come with the peculiar and unmistakable dream world that attaches to them…(Larkin, 2013; Williams, 2015)"

It is with this knowledge, for instance, that Govind Gopakumar approaches the phenomenon of infrastructural protests in Bengaluru (Gopakumar, 2020). The #steelflyoverbeda protests[36] in 2017 where

[36] *Steelflyoverbeda* literally translates to "don't want steel flyover" in Kannada. There is a longer history of civic action and local mobilization for the cause of urban issues in Bengaluru where 'Kanglish' (a mix of Kannada and

citizens marched on the streets to protest the construction of a steel flyover through the central parts of the city, was the latest in a history of Bengaluru civic activism offline and online. Far from treating the new flyover as just yet another ugly, unwanted, disruptive technical project, savvy citizens industriously produced and distributed information about the ecological and mobility impacts of the proposed flyover. Their argument was that the flyover, in cutting through the iconic parkland of Cubbon Park in the middle of the city, would permanently alter what we see and identify as Bengaluru. As they detailed, the felling of the giant canopied *Gulmohar (Delonix Regia)* and Pink Poui trees that fell along the path of the flyover, would both be an ecological but also a historical loss[37]. Simultaneously, as others have noted of this and past protests, the citizen action groups leading the protest, carefully wove a common ground of hybridity by calling their protest hashtag #steelflyoverbeda in order to make it an inclusive issue, one that concerned the savvy, environmentally conscious, English speaking migrant residents as well as the native Kannada speakers who cared about the (home) land. Following Michel Foucault's ideas, we understand that representation is not separate from material practices and that we cannot think of infrastructures except as assemblages that are equally co-constituted by fabricated forces (cement, rubber, plastic, electricity), natural "vibrant matter" (Bennett) (rains, heat, light, dust, typhoons), ideological projects, interpersonal and intercommunal negotiations and everything that lies in between or falls through the gaps.

Infrastructures as Provisional Technologies

Within urban geography, anthropology and cognate fields, the role of cities in producing and governing difference through the provision of resources, has been comprehensively studied across global contexts (Caldeira, 2000; Schwenkel, 2015a, 2015b). Channels and processes of distribution have received a lot of

English) is effectively deployed to create common ground and language between the city's English speaking elites and Kannada speaking elites and non-elites.

[37] While the function of nostalgia within Bengaluru's urban politics is not within the scope of this chapter's discussion, older images of the city ('Garden City', the land of saint Basava), and thus by extension ecological and non-human elements are often invoked in contemporary contestations over city-making. Harini Nagendra (2019) has written extensively about tree canopies in the city that, although planted by colonial British administrators, now constitute what is signaled to as the old/real city.

attention in this regard, especially when thinking through the production of space and the organization of time within the city. In their important work *Splintering Urbanism*, Graham and Marvin (2001) adopt a Lefebvrian approach to urban space and infrastructure to draw our attention to *what lies in between* seemingly hard, complete, eventual infrastructures – "the long term accumulations of finance, technology, organizational and geopolitical power…(ibid.)" Conceived of that way, suddenly infrastructures appear as containers, platforms and channels hanging in balance, revealing the flows that have shaped them. Graham and Marvin, drawing on Raymond Williams's idea of "structures of feeling" refer to how infrastructures give shape and are also shaped by daily human experiences, sentiments of hope, violence, and abandonment. Star and Bowker (2006) make a similar connection by reminding us that if one neglects to study a city's sewers and power supplies, not only do we miss out on essential aspects of distributional justice and planning power but also dreams, aspirations and intimate rhythms of the city as a living organism. Scholars such as Gupta, Ferguson, Mitchell (2014) and others have paid special attention to the regime of paper and the circulation of arbitrary rules (bureaucratic rule, administrative processes and rationalities, ID artefacts and documents), emphasizing the 'governance' aspect.

Media studies scholars have been slow to notice the relevance of cities for their research (Ridell, 2010, 2019; Ridell & Zeller, 2013). However, this situation has now drastically changed because of the widespread use of 'networked portables'. As Ridell argues, "today, the city is one of the most fascinating spatial contexts in which to explore people's relations with various media in terms of both representation and technologies.(2019)" Geographers have been interested in the transformative role of ICTs for some time now(Amin & Thrift, 2002, 2017; Batty, 1997; S. Graham & Marvin, 1996; Kitchin, 2011; Kitchin & Dodge, 2011), especially the work of Graham and Marvin, Amin and Thrift, Kitchin and Dodge has also been widely cited in urban computing and media scholarship now. As Ridell points out, Jerry Kang and Dana Cuff's (2005) ideas of pervasive computing as *percolating* urban spaces, has been particularly useful to grasp at the scales at which computational mediation sinks and works in the city. Responding particularly to the notion of differential provisioning through infrastructures, Kang and Cuff state that the embedding of computation has an infrastructural relevance because, through the *kneading of computation*

into the physical environment including the *corporeal engagement of urban dwellers*, computing gets enrolled in the production of space in unprecedented ways. Particularly with regard to the (in)visibility of computing infrastructures, while early proponents of ubiquitous computing predicted that computers and connective networks would eventually weave themselves into the fabric of everyday life leading to an 'infrastructural disappearance'(Dourish & Bell, 2007, 2011), later critical infrastructure studies scholars have stressed on the imperative of *not* letting (computation) become invisible infrastructure(Jackson, Edwards, Bowker, & Knobel, 2007). It is not so much about whether computational media have truly sunk in and blended beyond recognition but rather what their sinking in causes to our mediated daily sensorium and, what bringing them to the surface of our critical awareness of the urban can contribute to our understanding of the government of difference in cities.

Going back to Thrift's remark about routinized action at the core of capitalism's daily workings, Seija Ridell notes,

"*has arguably always contributed to the urban 'long now'... but the specific affordances of algorithmic technologies assign to kinaesthetic, proprioceptive, tactile and haptic habituation a significance that reworks and accentuates the infrastructural role of routines (2019)."*

As Evelyn Ruppert and colleagues (2013) have noted of digital devices, "…such devices have mediated and reworked 'not only social and other relations, but also the very assumption of social science methods and what we know about these relations…" It is then necessary to understand urban algorithmic platforms as more contingent – as ontologically co-constituted by material, social, affective, phatic, and ideological actions, that are of course, dynamic, and non-uniform. *It remains to be asked what kind of a socio-material force urban platforms are. How do platforms (as infrastructure) rework social relationships? How do platforms enrol the social, political, ecological, and corporeal and other constitutive matters of the urban public sphere – how are they shaped or worlded by these matters and how do they add to the formation of urban publicity?*

Relevant to this chapter's exposition on platforms as urban infrastructures and the scales at which they remake the urban, it is important to reckon with the "affective" and "corporeal" turns within digital media and infrastructure studies that allow us to understand infrastructures (and platforms) in the most intimate sense. I have signalled to these two analytics through the chapter so far but here I highlight a few positions that help us understand how they change the ways in which we think of infrastructuring. The move towards the intimate, the corporeal and the affective is especially useful for platform studies because digital media technologies operate as much at the level of the "bodytechnical" (Ridell, 2019) as they do at communal, ethereal, and ideological scales.

Platforms as Urban Infrastructures

Urban algorithmic platforms such as Uber, Ola, Swiggy and others are not simply and predictably enacting the scripts of venture capitalism that originates in Silicon Valley. The built urban environment of Bengaluru, its ecological landscape, its urban history as well as contemporary struggles over urban power – all of these offer resistance and demand reshaping and redesigning of platform logics. It is important to understand how these routine and stable repetitions that allow platforms to appear as normative infrastructures are formed and maintained. Further, urban algorithmic platforms have by now successfully displaced, replaced, and *been emplaced* within and through urban infrastructures. A large part of their function depends on the coordinated and collaborative actions of people. Ubering in Bengaluru offers a very different experience compared to Ubering in Seattle or Manila. Ubering does not just happen! Apps do not just arrive and get adopted; people do not just execute the scripts that make platform transactions successful. As I show in this chapter, a lot of small and big adjustments both within the urban-ecological as well as within the platform interface allow the so-called platform disruption to materialize. Not only this but people's shared understandings that emerge from their platform encounters, the responsive work that they undertake in order to *fit* within app-living or to *make* apps work for them – I argue that these infrastructural practices that amount to *seeing like a platform* are key to understanding how platforms

appear and function as vital urban infrastructures today. This chapter is specifically interested in understanding how algorithmic platforms get embedded into the socio-material infrastructures of urban spaces. Narrowing further, this chapter demonstrates how algorithmic proliferation and platform participation do not sit separately, on top of material and social infrastructures. The algorithmic, as a liquid force, creates new possibilities and constraints for how we interact with our built environment, ecologies as well as other people. It *messes* with the sensorial, ontological, and ideological frames that inform the common urban sensible – how we lead a shared public life, how we think of the limits and affordances of our own infrastructural practices and consequently, the agenda for urban political action.

Urban media scholar Seija Ridell, while writing about algorithms (ibid.), cities and bodies, argues that even within urban media studies scholarship, the corporeality of labour power often falls by the wayside. When we talk of labour power, we are also talking of individuals and groups of people in the flesh, people who eat, dream, work, love, fight and use their smartphones. While Ridell is more concerned with 'algorhythmic corporeality' – of the new bodily rhythms that emerge from platform living, in this chapter I attend to the distribution of the platform sensibility – of the sensorial and material reorientations that contribute to functional platform living. By the sensorial, I specifically refer to a kind of seeing as sensing and a way of sense-making as one navigates the city. Following Ghertner (2011) and Larkin (2013), in their respective works have emphasized the links between aesthetics, poetics and politics of infrastructure, I too, do not mean to suggest seeing or what can be seen as mere appearance but rather wish to emphasize the centrality of seeing, sensing and the deliberate construction of sensorial environments as contributing to modern, global political rationalities and urban infrastructure projects. Ferguson has argued, the crafting of aesthetic regimes can be key to establishing specific State-subject relationships and expectations. Larkin but also Graham and Marvin draw on Raymond Williams to show how infrastructures are in the "grips of dreams". I explore this space of loops - of feeling, seeing, perceiving and sensemaking that filter through the algorithmic sieve of the platform to produce what we recognize as life changed by platform participation.

It is not so much a failure of what constitutes the theory of platforms today but rather where it leaves us in terms of the possibilities for imagination and action. It is to attend to and illuminate the possibilities that already spring up in the daily spatial, temporal, and inter-actant exchanges within and through platforms; to bring theory closer to the rich and messy terrain of life, that we must re-approach platforms as infrastructural. This move affords us respite from the political impasse and the apparent boredom of urban algorithmic platforms such as Uber, Swiggy, Didi and others that are otherwise constantly spoken of as enacting predictable scripts of hypercapitalism. When encountered in daily life, the same platforms save us time, deliver hot food on a cold day, glitch out and get us stuck in a traffic jam and also allow us to extend ourselves across places and time zones. For some they offer the promise of a quick buck, for others they appear as tangible objects of convenience, for others they offer dignity. Platforms as much as other infrastructures, mediate, facilitate and shape the health and economic wellbeing of a city today. Studying them as infrastructures allows us a peek into the evolving urban assemblage. Across platform studies, media studies as well as urban geography and anthropology, responding to the prevalent perspectives listed above, some scholars have also advanced micro-sociological approaches that enter the infrastructure debate through experiential categories. I list some of those approaches here that are relevant to my argument about the infrastructural visions and inter-actions within platforms. These approaches that emphasize the social, corporeal, affective, and communal aspects of infrastructuring are yet to be fully integrated into platform studies. My proposition, as I argue a bit later, is that these perspectives are key to illuminating the processes by which platforms materialize among urban dwellers (literally, how they appear and are felt in daily living) as well as how they contribute to the government of difference in the city.

Bengaluru as Infrastructural Space

Linguistically, Bengaluru is divided into Tamil and Kannada speakers, the former being the migrants who lived in the cantonment area outside of the native city (peté) in colonial times and the latter being the native inhabitants who lived inside the area originally settled as Bengaluru. After decades of incorporation and annexation of surrounding villages and towns, just within a decade, the city space grew sevenfold bringing in waves of Telugu, Hindi, Malayalam, and many other language speakers from different parts of India. Gopakumar (2020), Benjamin and Raman (2011), Nagendra (2016), Nair et al(J. Nair, 2005; S. Nair & Healey, 2006) among others have documented the rise and transformation of Bengaluru from the cantonment city during British times to the 'Garden City' as developed by colonial administrators to the more recent moniker of 'IT city' or 'Silicon Valley of India' after the outsourcing boom and now, the start-up capital of India. However, in recent times, Bengaluru has achieved national and international notoriety for its traffic congestion. Since the IT boom in the 2000s, the city started to witness an internal migration of young, high skilled professionals with STEM degrees pouring in to work at the various multinational tech and other companies headquartered in the city. Subsequently, with the "biotech boom" and more recently, the "start-up boom", more waves of workers have settled on what was earlier considered the outskirts of the city. With the concentration of work, leisure, schooling, and other amenities in these hubs that service IT employees, the centre of Bengaluru shifted from the cantonment area in the middle of the city to various wards/neighbourhoods especially in the East and South.

As a start-up founder described in an article in *Times of India*[38], a leading English language daily in 2015, the southern neighbourhood of Koramangala had become the "start-up capital *of* Bengaluru" because "the "informality and casual atmosphere" of Koramangala is attractive to entrepreneurs." The founder goes on,

[38] Shrabonti Bagchi, The Times of India. August 8, 2015. Koramangala, India's hottest start-up neighbourhood. https://timesofindia.indiatimes.com/home/sunday-times/deep-focus/Koramangala-Indias-hottest-start-up-neighbourhood/articleshow/48406753.cms

"…for employees, it is accessible from all parts of the city…and most importantly, there is a casual, energetic vibe here that would be lacking in an IT park or SEZ (special economic zones), which often have this 'factory kind of feeling'."

He was of course responding to the earlier wave of the ITES outsourcing that resulted in the construction of massive IT parks that house up to 15,000 workers at a time. Not only the IT parks themselves but also the flyovers, the four-lane roads, the overbridges – the entire assemblage of mobility and other infrastructures that were created to make these parks functional. Attracted by low rents and more space in Koramangala compared to the old CBD (central business district) area in Domlur, Flipkart, India's e-commerce giant first setup its offices in the area as a start-up. Following Flipkart that later went on to be acquired by Walmart, many other start-ups set up shop in the same area thus beginning what the article calls a "virtuous cycle" of space and software. As another tech founder in the article described, "…we didn't want an 'office-office'…our office is actually an independent house on rent…" Carol Upadhya (2011) and others have written extensively about the transformations in urban planning, real estate allocation and land zoning in the wake of software-led enterprise in the early 2000s. Kavita Philip (unpublished), through oral histories, has looked at open source programmers and activists, the original "people working out of independent houses", have also sought to make and remake parts of the city by embedding themselves in citizen activism projects.

This rough sketch of the palimpsestic urban space of Bengaluru might provide some context for what kind of urban phenomena emerge as problems and what solutions *naturally* emerge from the logics of such a cultural, social, and political space as the one I just described. It is against this backdrop that Govind Gopakumar's book on *Automotive Citizenship (2020)* focuses on traffic congestion as a socio-technical assemblage. In colonial times, as a part of the colonial administrative mythology about 'unruly natives', it was widely assumed that if left to their own devices, the natives would crowd the streets and create chaos. Even after independence, traffic congestion, slum settlements and other unsanctioned and undesirable

elements that cropped upon formal urban planning schemes were perceived as inherent to the postcolonial lack of civilization and discipline (ibid.). In contemporary India, and Bengaluru, as Gopakumar argues, traffic congestion can no longer be treated as incidental (if certainly not a sign of savagery). As he demonstrates in his book, civic authorities, pedestrians, vehicle-owners, and others are in a constant struggle to determine who rightfully owns *how much* of the road and thus, what uses of the road should be legitimized and protected. Particularly relevant and useful to my argument here is the analytical frame that Gopakumar develops to dissect these contesting groups, classified by a certain perspectival position. He calls them all "infrastructurescapes" and states that there multiple overlapping Bengalurus being claimed, built, receded through three such *scapes* namely *Sarkarada Bengaluru, Brand Bangalore* and *Namma Bengaluru. Sarkarada* (meaning of the government) refers to the top down perspectival paradigm from where the State sees the city (administrative, political, juridical), *Brand Bangalore* refers to the layer of elite "concerned citizens" and venture philanthropists who have circled back to their home city after prospering through tech and pharma enterprise and now, seek to accrue and capitalize on political power by becoming the powerful public intermediaries who hold the administration accountable. *Namma* (means 'our' in Kannada) Bengaluru is an equivalent of what Partha Chatterjee has called the political society in India (2001). It includes nativist Kannada activists, urban eco activists and other kinds of ordinary citizens who make claims of ethnic, linguistic, residential and other forms of nativity as their entry point to social and political power over the *vision* of Bengaluru – what it should look like, what it should be, what its future should be like and hence, how it must be infrastructure and organized today. In his work then, what appears as the breakdown of infrastructure in the form of traffic congestion can actually be read as symptomatic of the rise of an automotive or vehicular citizenship that is at odds with other *visions* of occupying the city.

The Bengaluru that I lived in and subsequently visited to conduct fieldwork on app-based mobility and service infrastructures, lay at the intersection of these scapes as well. Just when I had started my first round of fieldwork, while I was presenting a research plan to a group of researchers at a lab, one of the

interns quipped, "…*your research will be really useful! AI researchers can figure out how to harness artificial intelligence but how will they account for the other AI on Indian roads…animal intelligence! Imagine a self-driving car trying to navigate the road alongside bullock carts (hahaha)"* He wasn't entirely serious of course but his quip was revealing because the technologists in the lab, who were also residents of Bengaluru and perhaps embodied the vision of *Brand Bangalore,* genuinely looked at the traffic on the road and bemoaned the lack of civic sense, the potholes on the road when it rained, the failure of the traffic police to bring order to the roads and so on. To them, it was apparent that *we needed more technological solutions* to make the city a better functioning, efficient and productive assemblage. In the sections that follow, I do two things: I provide a sketch of how the arrival of algorithmic app-based services brought about changes in the daily infrastructural practices and norms of Bengaluru. Secondly, I show how platform users' compliance in terms of seeing how platforms work and what needs to be done to make them work – these actions are central to the success of algorithmic infrastructuring.

Another point worth bearing in mind is the fact that while a techno-utopian discourse of platforms and innovation often advances the idea that platforms (such as gig platforms) thrive in cities that are more receptive and accommodating of innovation and experimentation, in some ways a celebration of innovation over regulation, the success of techno-enterprise in Bengaluru directly depended on a longer history of the neoliberal capture of urban planning and development visions (i.e. the privileging of brand Bangalore) that allow for Bengaluru to remain a fertile space for disruption itself. In that sense, techno-enterprise, in some sense, does not disrupt but rather capitalizes on a longer process of flexibilization and the turn towards a laissez faire economy where the State has been reimagined as a facilitator and supporter of private enterprise, even if it means that private technology corporations proactively dismantle public infrastructure.

The platformization of Bengaluru

In this section, I offer two vignettes to show how algorithmic flows have sunk into the socio-material infrastructures of Bengaluru. As each vignette attempts to elucidate, algorithms as "vibrant matter"

(Bennett, 2010; Bergmann, 2016; Hocutt, 2018), re-animate socio-material relationships within the city, thus producing new cartographic and mobility logics. After that, through two more vignettes, I show the limits of algorithmic re-makings that platform workers and consumers discover when platforms fall short of delivering their promise. A key argument of this chapter is that through the infrastructural practice involving platforms, people develop what Ranciere has called an 'observational modality' (2004) – way of seeing that provides the basis for acting upon the world but also an investment in the observational, visual and sensorial as a gauge for determining the smooth workings of infrastructure. To that end, I offer two examples of *seeing like the platform*, ways in which people attempt to see, compute, process urban information like platforms might. These are not straightforward alignments, people don't do so simply out of empathy or a false consciousness where they privilege platform truths over their own, but rather as Asher Ghertner calls it, these are *experimental ways* of seeing (2011) in order to understand why platforms might be working a certain way, why they might not be performing as expected and how they might be producing entirely novel implications that, for instance, did not appear in traditional mobility or service exchanges at all.

Creating maps of viability

One evening after fieldwork, I braced myself for what was going to be, inevitably a long ride (15km) between Indiranagar and Koramangala. Having taken hundreds of rides both through and without ridesharing apps, taking an Uber ride at 8pm, from Indiranagar 100ft road which is a hub of restaurants, bars, pubs and night clubs, all the way south to Koramangala which is both a residential but also now, a busy commercial district, I was keenly aware that we would be going *against the flow* of those trying to enter Indiranagar for socializing and then further up, we would be stuck in a flow going against those trying to leave Koramangala to go home. I could also sense that my Uber driver was aware and unhappy about having to take this ride at rush hour. For him, it not only meant navigating the traffic but also losing time just waiting in the traffic jam. At one such spot where we had been waiting for about 10 minutes, he finally broke his silence and complained. He started, "…if only you could have crossed the road, then I

wouldn't have to enter the one-way road and we could have left Indiranagar much earlier. Now see, we are stuck here madam."

Even though I was justified in what I had done as a platform consumer (I had simply ordered a ride and waited at my location), as a long-time resident of the city and as a researcher of ridesharing apps now, I felt guilty because I knew I had not been "smart" and I had not played the game right to achieve the goal that everyone wants to achieve in Bengaluru – navigating the city collaboratively to avoid traffic and optimize travel time. So notorious is the traffic of the city that it has even acquired a digital and social presence of its own: much like the famed 'Karl the fog' Twitter account that embodies the spirit of the fog in San Francisco and the Bay Area, Bengaluru's iconic traffic hotspots also have Twitter accounts and meme pages of their own. The worst and the most (in)famous of them all, is the 'Silk Board Junction', an intersection in the southern part where the jam can extend from minutes to hours. Against this backdrop, merely logging onto an app and ordering a ride does not mean the passenger will be picked up from their location.

As drivers and passengers explained, making ridehailing work was as much the responsibility of a passenger as it was of the driver. As my driver stated but also what I would often hear from multiple other drivers, just the mere act of locating each other (driver and passenger) and determining where they should meet in order to begin the ride, was a negotiation that demanded accounting for the infrastructural landscape of the area. While the app interface displayed passenger location, as drivers and "good passengers" reasoned, drivers and passengers *should* and *would* have to work collaboratively and communicate with each other if the starting point was located on a one-way road or under or over a flyover or located inside a gated community. The proverbial "bad" passenger was still entitled to just wait at their location and expect the driver to find them, but it would result in a lot of wasted time. These negotiations became even more contentious and would sometimes result in elaborate cartographic and

infrastructural discussions if it were a ‘shared’ ride where the driver has to pick up multiple individual passengers.

Ridehailing researchers and news reporters have written about the conflicts that arise within shared rides as people try to optimize their own interests and comfort. It is also not uncommon globally to hear drivers complaining about wait times and dead miles involved in driving up to a waiting passenger. However, as I saw in my fieldwork rides, in Bengaluru, these conflicts as well as what constituted the demands of collaborative work in making ridehailing work, also incorporated a deep experiential understanding of the city as an infrastructural space. The city’s maps of (im)mobility, familiarity with what kind of people live in what neighbourhoods and where they might be going at a certain time of the day, were things that one just had to know to be able to save time.

Rain as Platform Data

Rain defines Bengaluru. Over and above the Indian monsoon, the city feels alive all over again when monsoons hit Bengaluru. There is a vast variety of fiction and non-fiction devoted to the ecological space that is Bengaluru. From the colonial times when the arid land was tilled and planted with Jacarandas, Delonix Regias and Pink Pouis (Nagendra, 2016), all brought over from other colonies and trade routes, till date, Bengaluru has been known by the ‘Garden City’ moniker. As joyful it is to take a stroll on orange-laden Bengaluru roads after a spell of showers, it is also equally difficult to find an auto rickshaw home. Historians and urban scholars have written extensively about the ‘long now’ of urban environments in Indian metropolises and their transformation and control as parts of government strategies in the colonial and post-colonial times. In her work on the stormwater drainage infrastructure in Bengaluru, Malini Ranganathan shows how rainfall materializes as a force of consequence in the city to flood certain resettled low-income neighbourhoods (2015). As Ranganathan and others (Coelho, 2018) have argued, rain water, sunlight and other natural elements necessarily materialize within the city as filtered through the sieve of capital-nature relationships – rain in this case, is always simultaneously producing

'qualculative' implications for flood control, ground water tables, infrastructural precarity as well as inter-species sensorial and affective exchanges. Specifically, for mobility cartographies, as I experienced in my fieldwork, even an overcast sky and rolling grey clouds *logically* drove up autorickshaw fares, made people start scurrying off to home early and made taxis scant on the ridehailing app's map. The anticipation[39] of rains and by extension, the possibility of potholes opening up, transformers bursting, overflowing drains and clogged engines created a different map of unfeasibility that one could also glimpse through the little app-based 'window' onto the world of Bengaluru.

As algorithmic app-based platforms entered these calculations and accounted for 'rain as data', a range of effects promulgated in the city. As I have described elsewhere as well, ridehailing drivers, food delivery persons and other app-based workers are incentivized to complete a certain number of work-orders every day. As time passed and app-based platforms entered into a fierce competition to provide services at the lowest price, these monetary incentives reduced, and it became much harder to earn them. App-based drivers would not only have to make a fixed number of daily trips, but they would also have to consistently achieve their targets for a number of days to be rewarded by app companies. Given that their actual earnings were not enough to turn a profit, drivers had no option but to chase these incentives. Similarly, for food delivery persons, who, in fact, are expected to become infrastructural especially at the times when people do not want to step out of their homes (bad weather, late nights, other events causing risk to life or health). Both the food delivery persons and drivers had to also weigh their possibility to earn against the damage that water clogging might cause to their vehicles, impairing their ability to work in the future. Further, if they remained online on the app but did not take orders, they would be disciplined with a pay cut and warning messages about deactivation through the app dashboard. These considerations, as I observed in my fieldwork, manifested in app-based workers' decisions constantly. Some drivers would simply switch off their apps, resulting in a sudden dip in supply across parts of the

[39] Although not in the same manner, Andrew Karvonen's work (2011) also frames rain and other ecological elements in urban spaces as simultaneously ecological and techno-political forces.

city. Others would sift through orders by calling up passengers, gauging the risk of water clogging associated with certain areas. Some others would also call passengers and ask for more money to ply to an area. Not just for drivers but for female passengers as well, the imminent arrival of rain or trying to hail a ride at night from a less busy area exacerbated the vulnerability that they already felt while navigating the city.

Finding Relief from Algorithms

Finally, the algorithmic awareness and its effects on people's infrastructural habits and practices, were not only visible in how algorithms produced new implications for navigating the city and interacting with one another. It also inspired a range of infrastructural actions directed at leveraging the disjuncture between algorithmic, physical, and social cartographies. I offer two vignettes to show how such a dwelling in-between the infrastructural gaps happened.

Reconfigured rest stops

One of the early concerns in the first phase of my fieldwork (2016) was to figure out *where* to find Uber and Ola drivers in Bengaluru to be able to talk to them, hang out with them and interview them if possible. Not wanting to disturb them while "at work" but also in trying to find a time when they would have the patience and attention to listen to my little ethnographer introduction, I kept searching for rest stops and parking lots where one might come across a group or individual ridehailing drivers taking a break. Anecdotally, I had heard of the infrastructural frictions that ridehailing drivers were facing. In some sense, despite ridehailing services having been around since 2014, two years later ridehailing still felt like "frontier work" – loosely defined, not entirely regulated, requiring a lot of personal discretion and reliance on or the testing of the generosity of existing material and social infrastructures to be able to complete a day's work. There was no designated map of public toilets, parking zones dedicated to ridehailing were yet to be established, a lot of the infrastructural knowledge to navigate the city as a ridehailing driver was yet to be built and shared among informal networks of drivers. Both, for the drivers as well as for the researcher, scripts were yet to be established for app-based ridehailing as a legally or at

least socially sanctioned form of mobility and presence in the city. Many of the white cab drivers who had switched over to Uber and Ola from regular taxi driving were already facing hostility from auto rickshaw drivers as well as nativist groups in Bengaluru who associate transport work and self-employment as a means to assert their presence within the city space.

Left with no sure way to trace and contact drivers ethically and be able to hold a conversation with them during their break times, I started taking long rides across the city, from my office location in central Bengaluru to Marathahalli and Whitefield, two IT hubs located to the east of the old city. Given the traffic congestion on weekdays, traveling about 15 kms would take us one hour or more when I would try to talk to drivers about their routines, motivations for getting into this work and later introduce myself and the research that I was trying to conduct. On one such ride, just before dropping me to my destination (one of the "tech parks"), the driver asked me if I had plans to return to the inner city. He said he would be waiting outside the tech park, under the giant flyover where we saw multiple food stalls and parked vehicles. In some sense that was my first moment of infrastructural reckoning not because I had not noticed parked cars and drivers hanging out under the flyovers but because I had not previously connected those spaces to leisure, relaxation, and *deliberate* waiting.

As the driver explained to me, "…there is no point in going back toward the centre of the city right away…it would mostly result in dead miles or an empty ride" What he meant was that we had just taken a long ride that mapped along the commute of white collar professionals who would now only return home in the evening. So, as the morning rush hour subsided at 11-11:30 am, the drivers wanted to make the most of it and get some food and rest before they had to jump back into the torturous traffic of the city. The drivers' rest stops under flyovers or the timing of their stops was not a sort of magical revelation but rather perhaps one of those first moments of reorientation in order to *see* like platform workers, to sense when the traffic dips, to know which areas might be affected, to look up and see what the time of the day means, who might be going where in the city and to compute these into viable work decisions.

Zones of Exception

In 2016-17, as Olacabs and Uber started expanding to non-metropolitan areas and started recruiting drivers aggressively to improve the supply of cabs beyond the commercial areas in Bengaluru, one of their major offerings was to provide 'airport rides' as a separate feature. The new Kempegowda International airport located at the northern outskirts of the city received a lot of criticism after its opening in 2008. As historians and urban planning scholars have comprehensively documented[40], during the drive to make Bangalore (then) a truly global node and the Silicon Valley of India, it was decided that the old HAL airport was unable to meet with growing aviation demands. Briefly, along with the annexation of villages surrounding Bengaluru and the expansion of its city limits, the new airport was planned and then built about 40 kms away from the city in the northern village of Devanahalli, anticipating that the city would eventually grow enough and mobility infrastructure would develop to enable easy access to the new airport. At the time of writing this chapter, the new airport still remains a focal point of infrastructural lament, it costs between INR 300-700 (bus or cab) to be able to reach the airport. It still remains poorly connected to neighbouring cities that don't have an international airport and are only serviced by state transport buses at specific times. Against this backdrop, following their general strategy of cash-burning for market expansion, Ola and Uber started offering heavily discounted rides to passengers and attractive incentives to drivers in order to populate the 'airport rides' category.

The airport rides are different to normal driving in ridehailing because inner city rides are shorter, quicker and allow for "shared rides", thus reducing dead miles, waiting time, ride allocation times and so on. Being sent to the airport by the app/company means being taken out of that pool for a ride that takes *at least* an hour to complete one-way. It also involves passing a toll booth since the airport is connected to the city by a national highway. As I started taking airport rides, to understand the differential implications

[40] There is a wealth of literature on the making and re-making of Bengaluru. I relied on Janaki Nair's 'Promise of the Metropolis', multiple works by Solomon Benjamin on urban planning as well as Simanti Dasgupta's book on IT and water infrastructure in Bengaluru to trace relevant technological and public works projects that enable platforms to function smoothly in the city.

they hold for drivers' work time, I started getting calls from the assigned drivers. As in many other cities, in Bengaluru as well, drivers heavily relied on pre-ride communication/calling in order to wrest back control and negotiate the terms of the ride with passengers to maximize their viability. In this case, the driver would first confirm if this was indeed an airport ride, how many pieces of luggage the passenger had and finally, if the passenger was willing to pay in cash. As I have noted in earlier chapters as well, cash transactions emerged as and continue to operate as an essential and exceptional feature of Indian platform living. In this case, drivers reasoned that the ever-reducing ride incentives were not enough to motivate them to drive to the airport. Further, once at the airport, they would be stuck waiting for customers to ply all the way back to the city. There was not much of dynamic algorithmic pricing at play here to make game lucrative.

So, in order to make the most of the 15-20 km stretch of land that created this zone of no-demand between the airport and the city (the villages that still fall within city limits but have no platform consumers), drivers started reworking this zone of exception and dead time by buying multiple SIM cards and two to three phones in order to simulate a market. Daily earning incentives still applied, the daily targets that platform companies imposed upon them still applied as well. So, what if they could all assemble within the 10-15 km radius and order rides from their customer accounts? One of their friends in the area would get assigned the ride and accept it. Then they would drive towards each other and complete the ride. Or even better, pick each other up for or from lunch or drive each other to do chores. Many drivers even reported *playing this game* with their family members to complete that one last ride or to begin their day with one ride completed even without leaving home.

Seeing like a Platform

For the sake of explanation, the chapter teases out blocks of infrastructural action so to speak. But in reality, all of the actions and events that I describe in the vignettes above are happening in tandem if not simultaneously. These infrastructural *happenings* and encounters also offer lessons for those who

navigate the city with platforms, through the apps, sitting inside their homes or ridehailing cabs. Knowing that the layer of Open Street Maps that Ola and Uber use as their in-app display maps (not the layer of maps they use to guide in-ride navigation), users become aware over time that the map is glitchy, it is not able to reliably guide cars to the correct entrance of a building. Drivers often arrive on the opposite side of a road and food delivery persons often have to ask many bystanders before they can find the address listed. While users may not entirely know why this happens technically, as with all other techno-social encounters, users develop a set of hacks and tips to anticipate infrastructural failure and draw cognitive boundaries around what platforms permit and what actions could result in a breakdown of service. A key ingredient of such an awareness is the commonality of goals, some sort of agreement as to the functions of platform infrastructures, a shared vision of platform processes. Such a shared vision is not the exact same as what platform developers might be able to see but it is still an embodied vision that informs and guides users, helping them *cooperate* with the platform assemblage and even compensate for platform failures in order to achieve their own goals (acquiring the service they already paid for, reaching places, eating food). This sort of embodied vision is different but connected to how citizens see the urban assemblage and determine what sorts of actions would contribute to its smooth functioning. Especially when thinking about the largely positive reception of platforms as urban intermediaries, we must account for the larger rhetoric of modernity that provide aesthetic indices as to what a global world class city must look and feel like. As Ghertner suggests, especially in postcolonial cities, in the absence of meticulous documentation and reliable statistics as well as the accelerated flows of urban development, powered by global developmental funding, sensorial and observational modalities become really important to judge whether a city is progressing (Ghertner, 2011). Questions of aesthetics pervade all the ‘scapes’ that we discussed earlier in the chapter. Local civic authorities invest extensively in landscape beautification, they go to great lengths to remove slums and houseless people in order to achieve visions of clean, clear and safe spaces. On the other hand, people too, both following from and in spite of their own social standing in the city, seem to have answers for what a good, smart, liveable global city must look like.

These notions, I argue, trickle into justifying the presence and enmeshment of platforms within infrastructural processes as well. But it's not just a question of viewership – it is not simply about what we want to collectively see in the city, although that is a very important aspect of why technological solutions find purchase. My argument here is that the viewership of platform users cuts both ways, it is as investigative as it is observational. People are looking at the city, dotted with young men rushing to delivery parcels and food, cars arriving at your doorstep to pick you up, but they are also looking for spots on that very infrastructural lens through which they see the city flow now. In some sense this is true of all infrastructural intimacy, living with water meters inspires a closer inspection of how they are calculating and computing us as consuming subjects, invoking occasional evaluations and contestations of the narratives that technologies produce about us.

While a lot has been written about the social and political consequences of platformization as well as the opacity of algorithmic assemblages, less has been said about the aesthetic engagement with platforms and the sensorial effects they produce. In the literature reviewed at the beginning of the chapter, I touched upon how infrastructures are dynamic (where and when) but also often only graspable as a relational property of things. I also highlighted how the collaborative actions of people as well as extant social, cultural, and political practices are crucial to making infrastructures functional, acceptable, and useful. Also, infrastructural work does not stop there, embodied understandings, habits, and norms; the ways in which people govern their own selves is a key ingredient as well. As I demonstrated through the vignettes above, navigating the city with apps, gaining a situated understanding of the exact roads and communities where apps fail to work and then developing a new shared, normative urban sociality that incorporates the arbitrariness and agentiality of platforms and knows when and how to push back against computational narratives – this ongoing process shows us how platforms are rendered into operational infrastructures. Platforms are very much assembled as "structures of feeling" that shape and are shaped by a "community of sense". Attending to the implicit community of sense is crucial to determining "who can have a share in what", what counts as nuisance or undesirable.

On the platform workers' side as well, relying on experiential and observational modalities is often the only way to *sense* how platforms are subjectifying and commodifying them. Especially in the absence of statistics or data that can be interrogated and the orientation of platform indices that are designed to obfuscate and control the movement of platform workers, not just immediately but also for the foreseeable future, seeing experimentally and critically *through* the platform is important to also subvert the oppressive agency of platform infrastructures. As documented in my own work and other research, there is a range of emergent resistance tactics within platform living but to conclude, I offer an example of one such loop of seeing, rearranging, and producing a counter-dashboard of sorts in platform work. This vignette draws from a shorter article where I discuss counter-enumeration techniques as well as the organizational form of an account book. Here I focus primarily on the ways in which seeing-as-sensing works as a recuperative infrastructural practice.

Hisaab Kitaab – persistence of the account book

Much like other Indian Uber and Ola drivers, Mr Jagdheesh, an Uber driver in Bangalore, was well versed in the ridehailing vocabulary - words like 'incentives', 'earnings', 'duty' and 'device' that dominate daily conversations among drivers and passengers within the Indian ridehailing space. While he drove me to my destination we talked about Uber and its rival Ola cabs, work prior to the arrival of these apps, how passengers behave, the work hours that drivers put in, monthly earnings and so on. As soon as we reached my destination and I proceeded to get out of the car, I noticed that Mr Jagdheesh reached for the small notebook atop his dashboard. I saw him add the exact amount of my trip to a list on the page. The notebook was half filled with several such lists, each page containing the date, number of trips and earnings from each trip on that day. When I asked him why he maintained an actual physical account book when the app already displayed his daily and weekly earnings on a dashboard, he told me it was for his "own record".

After that trip, I started noticing that almost all drivers had a similar notebook stashed away under the steering wheel or on the car's dashboard. The persistent presence of the physical account book made me curious since, as mentioned earlier, ridehailing apps such as Uber, Ola and others already display daily and weekly trip earnings as well as incentives on the app. Upon further probing it also became clear that drivers were well capable of reading the numbers and text, they knew these numbers represented their earnings. However, they continued to jot the same numbers down meticulously and habitually in their notebooks too. Often, they would rearrange and even split earning numbers into smaller figures to retain differences (such as cash vs digital wallet payments for instance) to make the app analytics "consumable" in way that the numbers made the most sense for their daily-life calculations.

Traditionally, the shared account book, in grocery stores, at the washer man's shop etc, acts as a two-way evidentiary object, an open shared surface that everyone is able to see. The store owner can see the book and see who is filling the book, the store owner can also re-look qualitatively and distinguish between clients (those who owe and those who pay on time). In the context of ridehailing, the account book served as an important artefact to which the infrastructural habits of drivers were yoked. Sitting beside the digital dashboard of the smartphone app as well as the dashboard of the car, the paper notebook produced another set of metrics that were implied in the other dashboards and could well be mentally calculated but needed to be made explicit in order to guide drivers' daily decisions about work. Some drivers also kept a cash versus digital payments column that would later help them determine weekly liquidity for household expenses. Enumerated and datafied geographies that networked platforms create sit atop physical and social infrastructure. However, as is evident from the vignette above, workers were doing a lot more than traipsing between the gaps of datafied geographies. The inculcated habits of maintaining personal account books, workers were also constantly engaging in documentary and enumerative work to produce counterfactual accounts of platform work. These accounts point to a 'platform-vision' that workers develop from the inside, an experimental vision nonetheless, that shifts, adjusts, and disrupts platform narratives in the service of self-preservation.

Conclusion

The chapter started with an exploration of where platform studies meet infrastructure studies. As I demonstrated, when thinking about algorithmic platforms that are not just online but actively embedded in mediating urban service delivery and mobility, the formal contributions of material infrastructures, social structures, interpersonal communicative and collaborative work as well as cultural norms are undertheorized. I showed two things in the chapter. One, how platforms percolate into the built infrastructure and by extension the cartographies and mobility logics of Bengaluru. Such a percolation changes the ways in which people are used to interacting with the city as a reproductive and productive machine. However, I do not just privilege the vitality, vibrancy and agentiality of platforms alone. Rather, following the more generative theorizations of 'urban assemblages', I show how algorithmic vibrancy affects *and* is affected by other meso, macro and micro forces that create and sustain life in the city such as rains, traffic congestion as well as urban density. As urban media infrastructures, platforms are also dynamic and highly contingent but also their relational property or their value as vital infrastructures is not a given and constant technical affordance. Nor does it simply emerge through the expropriation of human labour as surplus value as digital labour scholars have argued. Indeed, platforms, as I show are made functional through collaborative work. But what constitutes work is not just physical or communicative labour. For platforms to work, they also have to be incorporated into the shared sensorial and corporeal environments of cities. People have to develop experiential understandings of how platforms work and how they work on people. These understandings are different from but have some degree of overlap with the perspectives of those who build and regulate platforms. But at the same time, without such a shared vision and sensibility of the urban that includes algorithmic operations in the repertoire of infrastructural forces, both by those who actively use platforms but also by others who see and feel their pervasive effects in the city, platforms would not be able to act infrastructural. This is the process of how platforms are *worlded.* Urban algorithmic platforms then, must be studied as

infrastructural assemblages that are co-constituted by socio-material, historical, affective, and corporeal forces as much as by the workings of algorithms and venture capital.

Returning to the dominant focus on painting urban algorithmic platforms as oppressive, a final note is due. My move to call for studying platforms as urban assemblages is not to add to the never-ending multi-valence of infrastructures. There is a more concrete purpose to pushing for a direct engagement with urban geography as well as local social, politico-economic, and other relations at work. Returning to the question of instituting and ensuring distributive justice both within platform operations as well as the city, analyses that conclude at the oppressive powers of platforms and call for a fallback on workers' resistance at-large have limited use for guiding visions and actions of justice in daily practice. Dispossession is indeed real and exacerbated in many ways by platforms but social systems and material infrastructures surrounding platforms have a substantial role to play in the ways in which dispossession is created and maintained. At the least, such analyses must be inflected with a reckoning of the challenges that local political and social economies pose to realizing equity in mobility, access to work and so on. But as I have shown in this chapter, when we *world* platforms by attending to their percolation and circulation within the city, people are not thinking about distributive justice in the abstract. The quotidian as a perspective necessarily accounts for the self, the community, the ecological and other elements. The urban quotidian seeks to understand and grasp at platformization in intimate and socio-material ways. Approaching platform infrastructures as urban assemblages then, might change the questions that we ask of their operations at local levels. Simultaneously, seeing where they break, where they are subverted and appropriated can offer us ways of reading platformization to illuminate generative and actionable possibilities in and out of algorithmic living rather than painting it as an eternal strife in a world of machine takeover.

Chapter Four: Resistance/Responsibility

Part I: Resistance

The Silent Strike

One day during field work, my colleagues and I (at the Centre for Internet & Society, Bengaluru) received a screenshot from a food delivery worker. It was of a text message sent by one of the food delivery platforms demanding a short, immediate response. The message read as follows:

Dear _____ Partner, humney dekha hai ki aapne teen din se login nahi kiya. Apney _____ partner account ko active rakhney ke liye, login kijiye aur orders complete kijiye. Agar aapne login nahi kiya to aap ka account suspend ho jayega.

(Dear Partner, we have noticed that you have not logged in in the past three days. To keep your account active, please log in and complete orders. If you do not log in soon your account will be suspended)

In a few days, more messages followed, this time demanding action. The message directly asked the "partner" if he was still going to start work shortly. If he were going to, he would have to reply with a 'y' to the message or else it would be considered that he had stopped working and his deposit would not be returned. Rajendra asked Manish, the delivery worker, what he was going to do. Rajendra was my colleague overseeing one of our field studies of platform workers across two Indian cities: Delhi-NCR and Mumbai. Manish did not immediately reply, he said *dekhengey* (we will see). It had been going on for more than a week now. About eleven days before this message, delivery "partners" in the NOIDA area of the greater Delhi region had received a message saying their incentive structures had changed. They would get paid based on distance covered per order rather than a flat fee for each delivery.

This new structure was to incentivize partners to go farther; NOIDA was already the periphery of Delhi but as city limits have continued to expand and the metro lines have expanded to connect to 'Greater

NOIDA', the area once considered periphery has now shifted to the inner circle of what is considered Delhi. However, since the newer developing areas beyond NOIDA are mostly residential societies, their relationship to Delhi was still one of centre-periphery. While big and small restaurants, consumption and lifestyle services have already developed to some extent in these peripheries, they remain limited in scope. Not unlike Delhi's *Jamna-paar*[41], NOIDA and areas beyond are *not* hubs of young professionals or places of leisure but also as places where families live, they do not constitute typically high demand areas for app-based consumption. I remember, even during our field research meetings, Rajendra who was also a resident of 'Greater NOIDA' faced considerable difficulties in convincing Uber and Ola drivers to ply to those areas late at night, especially if they were not being paid in cash. Against this backdrop, the distance-based-remuneration model was clearly a play for companies to increase the supply of drivers in new areas in the hope of establishing their presence and delivering on their promise of 'just-in-time' delivery. But for drivers, this change translated to fewer orders completed and more fuel burnt with the additional risk of physical violence and police troubles.

So, the food delivery partners decided to strike in protest. They coordinated with fellow delivery boys in the area and decided to stage a mass log-off to mess with the delivery platforms' logics and bottom lines. The workers knew a few things to be true: most of them were young migrant men from the states of Uttar Pradesh and Bihar[42] that did not have ins with the local political leaders, union leaders or the police, they also did not fully understand the beasts that platform companies were – *who was in charge*, *whom do you*

[41]Jamna-paar literally means 'beyond the Yamuna', a term that has evolved to become a slightly pejorative description for the areas situated on the Eastern bank of the river Yamuna that cuts through Delhi. Within the socio-economic map of Delhi, areas of South and Central Delhi are the poshest, of high real-estate value and correspondingly serviced by a wider variety of consumption and lifestyle businesses. Areas such as NOIDA but also other areas in West and 'Old Delhi', though not completely segregated are serviced by more hyperlocal economies.

[42] Uttar Pradesh and Bihar, among the most populous states of India, have for decades since independence suffered from extreme underdevelopment and immiseration. They also domestically depend on agricultural income, which due to recurrent droughts as well as the fluctuations in demand-supply and State subsidies, has been an unreliable source of income. These conditions have now, for decades, turned these states into the domestic emigrant hubs, especially of seasonal farm workers who go out to other states to seek temporary work for sustenance.

complain to?. What they needed was a way to escalate their displeasure and complaints to someone who would listen, like a manager who was familiar with the realities of platform earnings. What they needed was a way to simply go back to the old model of work or a better reasonable arrangement that would allow them to break even. The local manifestations of platform companies, the area managers would simply tell them *yeh order upar se aaya hai, kaam nahi karna toh chhod do*: "this order has come from above, if you don't want to work, leave!" They had had these arguments before, they were convinced that the manager was not on their side, at best he (manager) was just doing his job, *he did not care* if it was not affecting his income. He had a salary after all.

"Tell me how does this make sense? We are the partners, we go out all day and night and make deliveries, we have to make sure the food is not spoilt, it is on time. We listen to the customer's gaali (insults) and we still get paid per order only. Now they are not going to pay us even that for nearby orders. But this manager, he was also a partner you know, now he sits in an office and eats all the rejected food and he still gets a salary!" (From an interview with a food-delivery partner)

They knew he would not listen, something bigger needed to happen for the company to listen to them. But they knew nobody else at the company. So, the only option left was to switch off their phones en masse and wait. And wait they did. For two, then three and a week like that. Manish, the man who had relayed the story to Rajendra chuckled in disbelief,

"It was all going well; I mean this work is alright. We have a lot of freedom…work according to your wish, make decent money. I have a bike and a phone. But when it stops working, we don't even have money to eat meat."

That was the state they were getting to, these young jobless men hanging around a street corner with their bikes parked. They had run out of videos to watch, gossip, stories. Some had already received phone calls from the area manager, demanding why they were not working. They had explained their problem, unsure whether it had reached upper management. Then came the text messages, no negotiations, no human

contact, no one willing to hear them out. Text messages that in some ways mimicked the bulk messages and push notifications that we all have gotten used to receiving regularly, that feel intrusive and impersonal simultaneously. When Rajendra first alerted me about this ongoing silent protest, we were not quite sure what would come of it. In the following week, many workers gave up and re-joined work. A few parted ways claiming they would never do this work again; they would find something else. A few including Manish continued to wait, logged off, hanging around, exploring other options. Eventually, after two weeks pretty much everyone had re-joined or logged in again. Some muttered, vowed to find other jobs and quit as soon as they can but for the time being the silent strike was over. Since the platform managers and other staff were quite used to gig workers leaving abruptly and then returning at some point, none of the "delivery boys" who participated in the silent strike were disciplined. Life went on, food delivery boys in NOIDA, started getting paid based on distance covered.

Platforms and Organized Collective Action

This silent strike was one speck, one flavour among the many types of responses mounted by platform workers to the changing conditions of platform work. One of the understudied aspects of platform work is the relationship of other extant forms of power to platform power. Specifically, while a lot has been written about algorithmic governance within and through the platform environment and, while typical forms of resistance such as organized strikes and spontaneous protests (including 'mass logoff') have also been documented globally, platforms enter milieux of political power. As evidenced through stages of friction: verbal and physical fights between traditional and app-based workers, regulatory challenges (as described in chapter one) and finally through formal and tactical physical *play* and mischief by workers, we can see how people recognize and place platform power. Organized collective action is perhaps the most publicized aspects of platform-resistance. But such collective action, especially for an emergent kind of worker class, was far from easy or organic. As discussed at length in chapter one, especially since an overwhelming number of platform workers are migrants or people with multiple jobs and self-employment, the connections between work, rights and identity are not as obviously established as say, in

factory or shop floor work. Even so, as I show below, the social and political infrastructures that allow, prohibit, embolden, and shape the groundwork for the specific permutations of collective action are not in any way informed by a common-sensical or shared ground of common suffering or solidarity.

As noted in chapter one, at the beginning of their growth, ridehailing companies resorted to offering huge monetary incentives to traditional taxi drivers and others in order to build a fleet of their own. The same incentive logic gradually pervaded all emergent platforms who were looking to grow fast and become big by pumping in venture capital in their early stages. Their rationale was that once customers became sufficiently dependent on their services and workers became dependent on platform jobs, companies would be able to maximize their cut from each transaction, by both lowering incentives to workers as well as by charging premium prices for enhanced services. Since I started my field visits in 2015 till the time I exited, in 2020, gig worker protests had become pretty regular, sometimes regional, or local and at other times, grounded in larger nationwide labour strikes. The motivations and composition of alliances changed over time. For instance, in 2015, two years after Uber and Ola started operations in India, *Swabhiman Union*, a powerful *kaali peeli* (black and yellow cabs) and auto rickshaw union in Mumbai organized one of the first strikes[43] responding to the rise of platforms. Their contention was that the state government had allowed these businesses to emerge and operate without the necessary permits. Although at the time there was no explicit policy or regulatory guidance naming or targeting the operation of app-based services, platform services were in the "grey zone" – not strictly illegal. Multiple strikes followed in the later years[44] in the cities of New Delhi, Bengaluru, Pune and subsequently in tandem with nationwide transport workers and 'All India Trade Union' members as well. Since the beginning of

[43] Mumbai taxis, autos go on strike against Ola, Uber etc. FirstPost. June 2015. https://www.firstpost.com/mumbai/mumbai-taxis-and-autos-go-on-strike-against-uber-ola-etc-2295814.html

[44] In February 2017, drivers in the Delhi-NCR region went on a 13-day strike to demand an increase in pay/km among other things. In 2018, there were scattered protests and strikes by Ola and Uber drivers across major Indian cities. https://inc42.com/buzz/delhi-ola-uber-strike-finish/#:~:text=The%20ongoing%20battle%20between%20Uber,SDAD)%20was%20finally%20called%20off.

strikes aimed at platforms, Uber and Ola representatives focused on highlighting the political interests of the transport unions that were choosing to take up the cause of platform drivers to begin with.

It was not entirely untrue: historically, organized trade unionism as well as other sector-based labour rights unions such as the railways, bank employees, transport workers, garment factory workers and others in India have had substantial overlaps with established political parties and their subsidiaries on the Left and the Right. Also, importantly, as witnessed in the Mumbai and Bengaluru strikes against platform companies, electoral considerations played an important role in determining the formation of alliances and the selection of demands that formed the plank of the protests. To clarify, *Swabhiman Union* in Mumbai did indeed have affiliations with local and state-level political actors who have typically seen blue-collar labour movements and groups as fertile avenues to build solidarities based on nativist, ethno-centric, antimigrant and religious grounds. On the other hand, as witnessed in Bengaluru, a local community leader and auto and taxi driver named Tanveer Pasha rose to popularity during my time in the field. Tanveer Pasha became the voice of app-based taxi drivers and a media representative for all the journalists who wanted to know the drivers' opinions on emergent rules, bans and conflicts as platforms rose. Although it remains officially unclear if Pasha was affiliated to any political party, he played a pivotal role in brokering power at the local municipal level in Bengaluru. As a news article reported in 2017, Tanveer Pasha's Ola and Uber Taxi Driver Association had already become a potential vote bank for the Janata Dal (Secular) political party in Karnataka State. The fact that former Karnataka chief minister and leader of the JDS was willing to meet with Pasha and take an interest in addressing the issues of app-based workers was in itself a fairly unique development. If previously and in other places, temporary migrant workers had been made invisible and disavowed due to their irrelevance as local political constituents, Pasha and the party leaders had recognized that these new migrant workers from within and outside the state were here to stay. It appeared as if they recognized the opportunity to nurture a political constituency for the future. As Pasha, a Muslim man, became the de facto face of app-based workers in Bengaluru, non-Muslim Kannadiga nativist voices sought their own representation away from

Pasha's camp. Somasekhara, another auto rickshaw union leader expanded the membership of his union, *Namma Chalakkara* ('Our Transport Workers') to app-based workers[45].

Over the years, not all protests and strikes were the same in purpose or alliance. The goals of strikes, who called for them and with/against whom they sought to collectivize – all of these things changed as it begun to dawn that platform businesses were not going to go away. Early protests such as the strike organized by *Swabhiman* in Mumbai were demonstrations *against* platform workers, taken as beneficiaries of platform companies. As app-based consumption increasingly became normative and as taxi and auto rickshaw drivers sensed this change, there was a large movement within traditional transport workers to at least download and maintain app accounts even if they were not fully reliant on app-based work. Simultaneously such a massive influx of workers into platforms also enabled companies to slash monetary incentives, citing a supply surplus and relying on drivers to battle it out amongst themselves. This further changed the dynamics, collapsing the divide between app-based and non app-based workers. This movement is what allowed, for instance, the platform workers to join the last nationwide trade worker strike in 2019[46]. Another important labour-organization change that has occurred since the rise of platform work in India is the fact that platform workers gradually found representation within the umbrella of the larger organized worker movement. Historically, informal workers at large including sanitation workers, domestic helpers and other forms of workers engaged in paid work outside of formal organizations have had difficulty gaining support from trade unions because of the absence of regulation, defined workplace areas, intermediaries, bosses, and managers etc.

[45] While auto rickshaw driving and transportation work has traditionally fallen along lines of social stratification such that non-upper caste and non-Hindu men form the bulk of transport workers across India, what I am implying here is that given the activation of the links between platform and political power in Bengaluru, the non-Muslim Kannadiga nativists further sought their own Hindu, Kannadiga "son of the soil" representation too. I do not in any way intend to imply that Pasha or Muslim Bengalureans are not considered natives of the city.

[46] Bus, auto and taxis on a two day national strike; other trade unions also in. Namita Singh, Medianama. January 2019. https://www.medianama.com/2019/01/223-bus-auto-taxis-strike-unions/

As discussed in chapter three, nativist movements in Mumbai and Bengaluru have for some time now, sought reservations in formal employment for local Marathi and Kannadiga workers, respectively. What is interesting is how the mobilization of collective action and responses to platform power did not necessarily fall along ideological or even strictly political lines. The aim was to wrest power back or at least cut the platform companies to size so as to regain a balance of political and economic power that traditional transport drivers and their patrons (political party leaders, union leaders, business heads) had typically enjoyed. Such an openness to tools and tactics became apparent almost since the beginning of licit collective action across states. For instance, particularly in Mumbai, the economic geography of mobility has long been divided whereby *kaali peelis* are allowed to ply within the old fort city of South Bombay and a few other suburbs of the old city but auto rickshaws have been limited to suburbs outside of the old city. Similarly, for long distance commute between areas of "greater Mumbai" and the main city as well, taxis are understood to be the acceptable mode of commute. In the beginning, given the regulatory vacuum, white cabs, or any car with a commercial (yellow) license plate could enrol with Uber and Ola and undertake intra-city as well as inter-city rides. So, the first set of complaints and protests emerged in the form of a particular demand by taxi drivers asking local politicians to force app-based platforms to *create* an entire category for *kaali peelis* within their apps, rather than asking for a ban on the apps themselves. As strands of nativist representation and trade protectionism got woven in, taxi and auto drivers started demanding that the State support and sponsor alternate app-making itself![47]

This was not a one-off move: in Bengaluru, Tanveer Pasha who had become the voice of rallying drivers announced his own ridehailing app called *Namma TYGR* in collaboration with the government[48]. Before

[47] Uber had already, to a certain extent, been portrayed as the outsider or foreigner company in the national media discourse. Later Ola would also be branded as "Chinese" because of Softbank and Didi Chuxing's investments in the company. These labels helped local taxi drivers and union leaders to establish their insider status as indigenous entrepreneurs compared to the large, foreign-funded corporations.

[48] A year on, cabbies who pinned hope on Namma TYGR left in the lurch. Chris Matthew Philip. 2018. Times of India https://timesofindia.indiatimes.com/city/bengaluru/a-year-on-cabbies-who-pinned-hopes-on-namma-tygr-left-in-the-lurch/articleshow/66111692.cms

his announcement, the then-chief minister of Karnataka and leader of the JD(S) party, Kumaraswamy had offered to invest around INR 50 crore (USD 6.6 million) to help various cab driver unions start their own company under the eponymous HDK Cabs, hoping to expand his base ahead of the upcoming assembly election[49]s. Since HDK Cabs was dead upon arrival due to the lack of any technological or business development expertise, Pasha's app appeared as an attractive alternative. In Mumbai, after the first attempt at app-development failed, the nativist party Shiv Sena announced in 2017[50] that it would revive efforts to develop alternate taxi aggregator apps. In the southern state of Kerala, long known as a strong hub of the CPI (M) or the Communist Party of India (Marxist), the party's trade union wing called Centre for Indian Trade Unions (CITU) announced in 2015 that it would launch its own cab aggregator app to rival Uber and Ola[51]. In 2016, a Kochi-based private firm announced a similar app-launch, calling its app 'QbrCabs' with 100 drivers. Up till 2019, the Qbr app seemed to remain operational and claimed to have expanded to four districts of Kerala. Since then it is not clear if the app survived.

In our field study of Uber and Ola drivers in Mumbai and its neighbouring city Pune in 2020, my colleague Anushree Gupta and I embedded ourselves in several online driver communities to understand how drivers were congregating[52]. Especially among the driver-run Facebook groups that were regional as well as pan-India in participation, it appeared that individuals who had started the groups and were most vocal and active on the groups often assumed an ad hoc, informal community leader position within that online driver community. Since Facebook groups were low stakes venues mostly used by drivers and

[49] Bengaluru: Finally, JD(S) backed aggregator's cabs to hit the road. Chris Matthew Philip. Times of India. 2017 https://timesofindia.indiatimes.com/city/bengaluru/bengaluru-finally-jds-backed-aggregators-cabs-to-hit-the-road/articleshow/61824342.cms

[50] Shiv Sena to launch taxi auto app. Shruti Ganpatye. Asian Age. 2017 https://www.asianage.com/mumbai/shiv-sena-launch-taxi-auto-app-591

[51] How some Kerala drivers took on Uber/Ola with their local taxi service app. Sreedevi Jayarajan. The News Minute. 2019 https://www.thenewsminute.com/article/how-some-kerala-drivers-took-uberola-their-local-taxi-service-app-100752

[52] We discussed recruitment and methodological issues in our platform studies on a roundtable podcast. The transcript of the discussion can be found here: http://blog.castac.org/2019/09/indias-gig-work-economy-roundtable/

others to vent and share relevant information and ask questions, they seemed to provide the nurturing space for workers who did not have union affiliations or any formal organizing experience but wanted to emerge as *more than just a worker.* Within these groups as well, one such vocal "super user" (Facebook terminology) Rajesh, announced that he was launching his own app soon. To every question and discussion on the group, Rajesh would find ways of pitching his alternate app *Saarthi cabs* as the solution to app-based work troubles. However, when my colleague Sarah Zia (leading the field study in Delhi) followed up on one such Facebook group post and attended an in-person meeting, only four people attended it. Vikas, the driver who organized it was disappointed but not surprised, he said that most drivers wanted to stay away from the politics.

A few realizations emerged from my individual and collaborative research in 2019. As time has passed, more unions and associations of app-based taxi and auto aggregators have been formed*, some have materialized as entirely new entities and others have been started as wings of existing unions and trade associations. There does not yet exist a union for food delivery workers and other types of platform workers although, food delivery workers especially have earned mentions from local politicians and Internet celebrities alike, acknowledging the challenges they face at work. Organized strikes and demonstrations against platform companies did not result in drastic or enduring changes as demanded by those protesting. At times, companies would agree to some demands only to backtrack later. However, this sustained back and forth between companies and workers, as well as the assimilation of platform-based drivers into the fold of unionized workers has resulted in visible representation as well as the recognition of app-based drivers as a veritable political base. So, in case of daily disputes, even the ones that turned violent, drivers had a range of sources to draw power on: their driver friends, drivers of their ethnic and religious communities, the entire pool of app-based drivers, local unions and trade associations, platform companies' 'conflict resolution teams' as well as local politicians. Depending on the nature of the conflict and its seriousness, drivers would draw upon the most relevant and accessible "backing" or authority to navigate the risky quotidian. Not only this, but as discussed above, rather than

operating from a place of class consciousness and class-based solidarity, platform workers and their vocal representatives operated dynamically, both accumulating power and recognizing avenues of power.

Some have explored the notion of entrepreneurship within the context of platform work (Barratt et al., 2020; Ravenelle, 2019; Ticona & Mateescu, 2018). Contesting the claim that 'enterprise' is just a discursively produced fake label slapped onto platform workers, these scholars have addressed the desire among working class and low-income individuals to enterprise as a way of breaking class (and caste) ceilings. On the other hand, scholars have paid attention to organic ways of congregating as developed by platform workers in the absence of platforms affording them places to congregate and communicate. A bulk of scholarship on resistance to and within platforms focuses on and celebrates instances of organized collective action. Widely cited digital labour scholarship, notwithstanding some, asserts that promised futures of self-employment, enterprise and empowerment through platform participation are bound to fail(Friedman, 2014; Kalleberg & Dunn, 2016); that there is a need to instead divert energies to generate awareness among workers about a 'common minimum program' and a shared ground among app-based and other workers. The hope there is that such a realization and embodiment of class will eventually result in *real change*. Perhaps a toppling of the system? A disrupting of platform capitalism? The nationalization of platforms, as some advocate[53]?

However, as I witnessed in interviews and through days and days of online conversations among platform workers, including those who wanted to build rival apps, their plans for empowerment did not always route through unionization. On the contrary, there were multiple routes to break out of the employee-employer relationship.[54] Becoming a "true" entrepreneur was one of these routes: by either becoming a

[53]Ben Fredericks, a member of the New York Taxi Worker Alliance wrote an op-ed responding to the passing of the AB5 amendment in California, calling for big tech, including major gig platforms to be nationalized https://www.leftvoice.org/california-gig-workers-win-historic-victory-now-its-time-to-nationalize-big-tech

[54] Just to be clear, for some who might argue that formalization of labor might address the precarity that platform workers feel within the contractor-platform relationship, most workers I spoke to, including those who had left their low-paying organized sector jobs in customer care, retail etc., were convinced that the experience of

fleet owner or by launching an app and thus becoming a 'digital fleet owner'. The desire and logical leap to develop one's own app springing up as a recurrent phenomenon across states, cities, driver groups fascinated me. The CPI(M) party also invests in businesses and party membership is one assured way to chart a path to enterprise that is also secured and sponsored through one's party membership. To be clear, collaborative app development and attempts to eat into Uber and Ola's market share through local collaborations cannot be called 'platform cooperativism', another digital labour and justice buzzword that has received a lot of attention within Western academic and activist circles. I am not suggesting that cooperativist and worked-owned equal ownership businesses do not or cannot exist in parts of India (they already do). Through the events I describe here I have attempted to demonstrate how in practice, action typically dubbed as platform-resistance is deeply attuned to and responsive to personal and communal interests. It is not oriented towards a higher future goal of workers' liberation from (platform) capitalist systems but rather in making platform power legible as situated within the larger fields of social and political power. And when read through these micro-practices that sought to shape, cut, place platforms in order to gain leverage over them, different shifting and entangled notions of personal, communal, political justice informed the alliances that various actors entered into.

Tactics of Relief: Playing the Platform

Insistence on the visible, recognizable, and organized forms of resistance also does not allow us to interrogate the practice of power along a spectrum of agentiality. In chapter one I mapped platform worker actions along a 'response continuum' to lifelong precarity. Borne of the same waxing and waning of precarity, of one's own movement into places, communities and alliances that afford more or less power, the tactics of refusal and resistance also fall along a continuum. W*hat do subversion and resistance look like if located as constantly opening and closing, dynamic possibilities and the taking of those opportunities to mess with one's own disciplining?* How, if at all, do platform workers *mess with* the

exploitation was inherent to private sector employee-employer relationship. The way out was not to enter another kind of employee position but to either find a government job or to become self-employed.

platform and generate unstable encounters on a daily basis? Generating stability, consistency, and predictability through repetition, through the generation of sameness is key to the operational smoothness of platforms (chapter three). Messing with the promise of platforms in small, daily ways, in ways that offer an apparent disavowal of politics, where one can claim to be *not*-political while engaging in disruptive acts that deliver instant material results – could those be read as resistance? What register of reading, what sorts of clues (linguistic, verbal, corporeal, technical) could we incorporate within our investigations of digital labour in order to grasp at such atypical kinds of resistance (if any)?

In chapter three, I described how, while following the flow of platform infrastructures, I came upon 'zones of exception', geographies engineered through urban planning that fell into the nowhere zones of connectivity and datafication, thus simultaneously making it really hard to hail a ride in such a zone and affording drivers the possibilities of play with platforms. In that earlier discussion I briefly touched upon the notion of enumerated and datafied geographies that networked platforms create atop physical and social infrastructure. However, workers were doing a lot more than traipsing between the gaps of datafied geographies. As I offered through the vignettes of *hisaab kitab* – the inculcated habits of maintaining personal account books, workers were also constantly engaging in documentary and enumerative work to produce counterfactual accounts of platform work. During our early research with Uber and Lyft drivers in the US (2016), drivers had just begun to realize the implications of driving minors and inebriated and intoxicated passengers. Through online forum discussions, drivers would often share their dilemmas: *if I refuse to ferry the passenger, they will rate me poorly; if I take a minor I am in violation of company policies and if something goes wrong with an intoxicated passenger, the police is bound to arrest me.* The optimal solution was to get a dashcam and put it in the front in a way that it would record the driver's body as well as those in the backseat. While not with dashcams, in India, drivers and food delivery workers started actively filming encounters with customers if they sensed an escalation. At times, they would even resort to a Facebook Live video, broadcasting it to the drivers' Facebook group, as a way to generate a community of witnesses.

Self-enumeration and other forms of digital, visual surveillance were not one-off instances. In platform communities across countries, workers invested heavily in developing new habits of accounting and self-surveillance in order to make visible the discrepancies of platforms' 'qualculative logics'(Thrift, 2008). Briefly, I offer two examples of self-disciplining prescribed by app-based drivers to each other in order to protect their interests within platforms. In the early phases of ridehailing when incentives and profits began to recede, but costs remained the same (or more), many drivers took it upon themselves to establish that app-based work was nowhere as profitable as the companies were advertising it to be. Both in India and the United States, platform companies were still advertising or passing off unique instances of profitability as real, possible opportunities to attract new drivers. In some sense, it was still possible to earn decent money through ridehailing platforms, but the amount of bodily and cognitive work required was going up. So, whenever a driver posted a screenshot of their earnings in order to prove that they had just earned phenomenal money ("*I made $1865 this week and still got two more days to go!"*), other drivers would chime in and force the original poster/driver to "do the math". Some would demand where the driver lived, what the fuel prices were, whether it was a college town, what his ratings were on the app and how many hours he put in. Others would present a revised set of numbers after deducting gas, maintenance costs and taxes from the earnings. When the driver in this one post said that he drove 80 hours/week, the whole community was outraged, many wondered how such hours were permitted or legal at all. Rosenblat, in her book *Uberland (2018)* has also provided other instances of 'Uber Math', a term that drivers regularly used within their discussions to refer to earning summaries on their dashboards that did not add up or made no sense to them. Then doing community math as I describe above, was their way of countering 'Uber Math', not so much aimed at the individual driver who boasted about his income but as a performative exercise to generate awareness among new drivers and build consensus on whether Ubering was decent work at all. In chapter three, I demonstrated how drivers deployed experiential and observational modalities to combat the self-evident facticity and opacity that platform dashboards wanted them to believe. Online discussions countering 'Uber Math' seldom ended in consensus. But if we

understand that in contrast to physical, collocated organizational settings where "showing and comparing the receipts" may be an effective way of building consensus and organizing, platform organization thrives on the 'dividuation' (Amoore & Piotukh, 2015; Appadurai, 2015b; Bergson, 1911) and isolation of workers' experiences. So, it was not surprising that in these networked communities of workers spread across cities or even countries, the accounts of truth presented by workers with different ratings, local market imperatives and differently datafied geographies, any single account (*with* evidence) rarely ever found complete agreement. Rather than jumping to offer this as a *new* kind of platform-inspired resistance tactic, I offer the vignette to ponder the nature of resistance within informated environments. Algorithmic platforms are inherently dynamic and speculative epistemic objects, they do not allow a neat, stable, and shared account of the 'real'. Through technical design and information asymmetry, algorithmic environments allow platforms to maintain control over workers. How then, do we read small acts of *undoing* as forms of 'little analytics' that perform the function of disentangling, prying apart digital traces to reveal the performative functions of profit-oriented analytics?

In chapter one, I touched upon contestations around employment (mis)classification within gig work platforms. Until the beginning of 2020, US platform workers still very much operated as '1099 workers' or independent contractors. As I observed in my early online research, many workers referred to '1099 living' as a lifestyle to separate it from conversations around self-employed or independent contractors. The latter is often used to refer to people who have been (mis)classified as *not* permanent employees but the former (1099) draws special attention to the logistical and tax liabilities incurred by self-employed people. Given the obscurity around 'Uber Math', a trickle effect was that platform workers faced incredible difficulty in reporting their expenses, costs and thus filing their taxes. Many things that were otherwise bunched together in the description of precarious platform work (such as absorbing material costs of the vehicle, paying tolls) became especially relevant when workers had to generate a narrative of costs and expenses for tax filing purposes. Keeping receipts was the first step but how would one demonstrate the cost of 'dead miles' (gas and wear and tear incurred while ferrying to rides and back)? As

such, the practice of filing taxes as a self-employed worker or a small business owner in order to get maximum tax relief has been one of expertise and has led to the professionalization of tax filing as a knowledge practice in the US. But given that there was little by way of precedent in terms of filing taxes (the 1099 form) as a platform worker, workers had to develop solutions through community discussions. Without going into much detail, I came across a 25 tab Excel sheet prepared by one such worker named Bill Tesauro that was engineered to track, capture, and translate different aspects of ridehailing work for tax purposes. In the guide accompanying his Excel sheet, Tesauro explained how drivers must tabulate 'surge pricing'. He also categorized different kinds of cleaning fees with the explanation that while Uber or Lyft pay for cleaning up vomit or spilled liquids (hence not warranting personal tax deduction), the fact that the smell of vomit would make one's car unusable for a day or multiple days, needed to be accounted for through the language of permissible deductions.

Amoore & Piotukh, in their book on datafication (2015), offer the concept of 'little analytics' as a valuable way to refer to the precise structuring of reality that happens minutely through the processes of data ingestion, partitioning and difference. They draw on Henri Bergman's conceptualization of 'ingestion' – the process through which real time big data analytics produce certain kinds of persons of interest. Elsewhere, in writing about the inherent coloniality of Artificial Intelligence powered applications, I have drawn on Mark Poster and others' writings on the epistemic and ontological implications of databases. Although responding to different objects of inquiry, media scholars such as Poster(1996), post-humanists such as Hayles (2007) and then geographers Amoore and Piotukh all draw attention to the flattening of multiple relationships of signification as well as the potentiality of the 'database pull' whereby fields within a database can be *pulled* into different relationalities depending on the demand or ask with which one approaches databases. To be clear, Amoore and Piotukh use 'little analytics' to refer to the rather paradoxical function that 'big data' perform in terms of processing and shaping perception; they operate at granular and minute scales. I propose that 'little analytics' akin to but slightly different from what others have called as 'small data' (Latzko-Toth, Bonneau, & Millette, 2017)

can be repurposed as an analytic to also attend to the intimacy of algorithmic subjectivities. As I showed in this section, algorithmic platform workers through their constant dwelling and surviving within platform environments, arrive at their own set of 'little analytics' that constitute forms of awareness as well as knowledge-sharing and material actions constituting tweaks, disruptions, play and mischief in order to deliberately create oases of incomputability. Both the awareness-building and action here are not just simply expressions of subversion. If the end goal is to make platforms listen and bend and give in to the demands posed by groups of workers, these updated interpretative strategies, and ways of messing with the system offer glimpses of resistance by other means.

The intent here is not to celebrate one tactic over another but to draw attention to the shifting grounds of organization and the role of media and information intermediaries within the future of resistance itself. Given how the intellectual legacy of industrial work permeates thinking about platform work (as shown in chapter one), it appears to logically flow that platform governance can be resisted through the tactics used by factory and shop floor workers. However, platforms as organizational environments are simultaneously globally distributed and operate through intimate and granular datafication. At best, platforms convene crowds and not communities. If so, more work needs to be done to explore the continuities as well as the utility of networked movements and techno-political tactics of resistance (such as hacktivism, anti-surveillance projects, flash mobs etc., also known together as 'tactical media (activism) (Garcia & Lovink, 1997; Raley, 2009; Ray & Sholette, 2008)) that do not operate on the assumption of a shared common humanitarian or class solidarity ground. Hopefully, the media-play tactics that I have offered in this chapter can inspire more conversations around tactics for networked and distributed resistance after the rise of algorithmic platforms. My contention is that these techno-tactics are in many ways attuned to, responsive to and hence effective in how they are able to mess with the system. Micro-practices that subvert platform logics and allow disruptions to flow through spontaneous and ephemeral algorithmic crowds offer us generative possibilities of thinking and developing pedagogies of resistance that do not rely on class formations or a presumptive desire for universal justice. The idea is not

for some methods to replace the other, older, and parallel methods but rather to see value in daily acts of play and refusal that are integral to platform survival.

Part II: Responsibility

Be Considerate

In December 2018, a video of a Zomato food delivery man surfaced on twitter and began to go viral[55]. In this video clicked by a customer, the food delivery guy was standing under her apartment and seemed to be eating food from what looked like a restaurant container. He then opened another container and ate something from it as well before he proceeded upstairs to deliver the woman's food. Some people responding to the video on twitter outraged against the platform, others started making jokes and memes about it. As the video got shared further, many more people shared their own stories where they had received half-eaten food as well, photos and videos where they had caught food delivery workers taking a sip of a milkshake or grabbing a few chips from what looked like a customer order. Cashing in on the viral outrage, an op-ed piece on *India Today*[56], a leading news portal exclaimed, "Yuck! Video of Zomato guy eating food before delivery shows food apps have a problem!" The article continued:

"Yuck! Think again. it's just one person who has been caught doing it on video. But there are thousands of delivery guys working with apps like Swiggy, Uber Eats, Zomato, Foodpanda and others and what if there are many more such delivery guys, who like to take a bite out of the food they are delivering."

As the outrage on twitter continued, leading platform companies Zomato and Swiggy both issued statements through their tweets, reassuring customers that they took 'food tampering' very seriously[57] and

[55] Zomato delivery boy eating food meant for delivery, video goes viral. The Economic Times. October 2018. https://www.youtube.com/watch?v=Spa7wUHoJeA

[56] Yuck! Video of Zomato guy eating food before delivery shows food apps have a problem! IndiaToday. December 2018. https://www.indiatoday.in/technology/news/story/zomato-video-of-guy-eating-food-before-delivering-shows-zomato-swiggy-food-apps-have-problem-1406904-2018-12-11

[57] Zomato to introduce tamper-proof tapes. The Economic Times. December 2018. https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/food-tampering-incident-zomato-to-introduce-tamper-proof-tapes/articleshow/67058211.cms

that this incident would not be forgiven. Within a day, the worker was identified and suspended, new guidelines for training and dealing with unprofessionalism were publicly issued and Zomato even announced the development of 'tamper proof packaging tape' to ensure this never happened again. As the pendulum swung the other way, the twitter discourse moved towards feeling bad for the suspended worker[58]. Some questioned whether it could be proven that the worker was not just eating his own food. Some challenged the elitist assumption that the worker could not have ordered restaurant food himself while on the job. Others loudly reminded the twitter-sphere how little time platform workers had during the day to procure their own nourishment. Increasingly, consensus formed over how morally unjustifiable it was to film a worker who was evidently less privileged than the customer, some even wondering what was so criminal about a hungry worker grabbing some food to merit his suspension. Yet others jumped in advising people to *be considerate*, offer their delivery workers water, biscuits, and snacks so that they (workers) would not have to reach inside customers' orders to survive.

Moral Norms in Platforms

This Zomato incident was the latest in a series of episodes within platform living that are not strictly marked by questions of economic exchange or labour but rather the social norms around justice, redistribution, fairness, deservingness etc. *What is the appropriate way to behave as a* **food** *delivery man? What is the appropriate response as a society to a misstep by a poor, hungry man?* Partly stemming from the fact of widespread informality and thus the inability of the norms of economic exchange to dictate what is right and wrong even within moneyed transactions, but also generally in my time in the field, there was a lot of concern and empathy among platform consumers for all the service workers they relied upon. Multiple things are worth noting here. Middle class entitlement and the mistreatment, berating and vilification of the poor who work in rich and middle-class people's homes are well documented social and cultural phenomena. Through cinema and popular culture, domestic helpers, drivers, cooks and others

[58] Internet is feeling bad for Zomato delivery man sacked for eating customers food. News18. December 2018. https://www.news18.com/news/buzz/internet-is-feeling-bad-for-the-zomato-delivery-man-sacked-for-eating-customers-food-1970981.html

have been cast into sharp stereotypical binaries: the dishonest thieving maid, the work shirker, the helpful selfless male driver who protects the family's female members…With the passage of time, liberalization, education and so on, these roles and scripts have definitely changed and tempered but they persist in popular representation as humorous tropes nonetheless. They also trickle into the normative social scripts that facilitate platform transactions. For instance, during our study of app-based beauty and wellness workers, a key way in which platform users were able to distinguish between the experiences of traditional salons and this new kind of service was by pointing to how the app-based beauticians were not as intrusive as the regular salon beauticians. What constitutes the socially acceptable and ideal normative is often key to understanding the a priori of the political: what kinds of *reasonable* political demands can be made, what demands might be accepted and thus in some sense, what, how and when progressive (or otherwise) political movement is possible. Barring one set of convened presentations specifically around the theme of 'moral economies and economic moralities' where a subset of paper addressed the function of moral norms within platforms, there has been no sustained exploration of the moral vector of platform ecosystems. While documenting and thinking through the emergent resistance in platform work, I often wondered what platform consumers thought of the various demands and collective action put forth by workers. Simultaneously, while interacting with workers across cities, in auto rickshaws, taxis, hanging out at restaurants in parking lots, I would ask them if they had considered unionizing or even resisting platform policies. For many workers, especially younger men, these questions felt esoteric; employing the analytic of perplexity they would pose questions back to me:

"*…do you think these strikes are going to work? What will our complaints do? The company is clear, if you don't like the work don't do it. There are so many others who will take up the work."*

One driver clarified:

"Look I don't want to join a union; I just want a few basic things…bhaada (fare) should be reasonable, the companies take a big cut, that's not okay. And customers should also be reasonable, na? They keep changing location, they complain about the gaadi (car)…"

What I am trying to get at is the demand for a normative, a reasonable that most workers were easily and confidently able to articulate even if they did not deem it necessary or useful to translate these expectations and desires for the reasonable-normal into visible political action. These desirous expressions were everywhere: in twitter commentary on platforms, in workers' conversations amongst each other, sometimes in the workers' conversations with customers to pacify them or reason with them, between the traffic police personnel and the worker he had just fined for jumping a red light. Importantly, the expressions of ideal inter-actions between different stakeholders of platforms nested within them a commentary on the changing societal notions around care, empathy, and justice. Although such everyday talk almost never directly affected the economic or legal outcomes of platform transactions, it provided a communal moral and affective compass for workers, consumers, and others. Some digital labour work including our paper (2016) has examined and highlighted the role of emotive, communicative, and affective work in contributing to value-production in gig work. However, outside of individual platform exchanges, notions of right, wrong, good treatment, humane behaviour, forgiveness, and empathy perform the crucial work of setting expectations for the more codified and regulated notions such as safety (of women), good quality, professionalism. Importantly, unlike the work that connects affect and emotive work as directly beneficial to platform economics, my attempt here is not to establish any such causal links. In this speculative uncharted territory, I try my hardest to de-centre platforms and to instead read through them the upheavals and the unearthing of what is otherwise taken as the normative ground of how people must relate to each other and how they must treat each other. Just as seismic activity can offer analytical inversion to momentarily examine the grounds on which we stand but also inheres within itself *new movement* or a new form of vitality that invigorates the examination, I concur that watching a somewhat familiar world shaken up through algorithmic platforms inspired me to look at the shifting ground of acceptable ways of feeling, relating and acting in the world after platforms. In the following section, I offer two phenomena that might get described in a typical HCI paper as "behavioural insights" or a common behavioural pattern observed by researchers among platform stakeholders in this case. My

interest is in exploring these shared behaviours and "motivations" for those behaviours from an ethical perspective to *re*place these actions and behaviours within the worlds that they emerge from.

"Please be Kind"

In chapter two, while discussing the study of app-based beauticians, I challenged the widely held assumption that platforms do not care about their workers and the related belief that platforms thrive in a world where *nobody has the time to care (2018)*. I called for rethinking ontologies, expressions, and ethics of care *not* as only genuinely attainable outside of market relations. In fact, given the reach of globalized financial markets in shaping our most intimate and banal exchanges, *how to inculcate care ethics* within platform living must necessarily be routed through the pegs and corners of neoliberal life(Bear, Ho, Tsing, & Yanagisako, 2015; Ong, 2010; Raval & Pal, 2019). Even so, sustainable performances of care are not based on total refusals of capitalism. Personal trajectories of being someone who cares and seeks to build a society that cares, often go through the heart of giving, not in the forms of merit or need-based public-facing charity or donations but as filtered through the unequal terrain of empathy. When I began fieldwork, it was personally unbearable to morally justify the life choices of many platform consumers that I would meet on a daily basis. These people were closer to my socio-economic standing, they were young, upwardly mobile professionals with expendable income. When I would ask them why they ordered a majority of their meals from food delivery apps, day-in and day-out, unaware of my personal judgment, they offered several explanations.

Again, as discussed in chapter two, consuming through apps and having services arrive at your own home rather than go out to places and people can be read both as a luxury that many can afford but also perhaps a solution that improved the lives of people who spent most of their days commuting, working and then doing chores at home. As time went by and I experienced the struggle to reclaim my time of leisure in between the traffic congestion and working across time zones, I found myself leaning into app-based consumption. Further, when I entered the field, I used to take cab rides only for research. Otherwise I took

auto rickshaws or biked to work. I am fully aware now as I was then that I was making a statement, that I was saying something about myself, my beliefs of the world and how it should be. I was practicing my principles even as I was studying people who participated in a consumption economy that my academic peers denounced as excessive and exploitative. In the last phase of my fieldwork, after having spent close to four years trying to understand and support the amelioration of platform workers' circumstances, I just became intensely curious. I had done everything in my power as an academic/activist: I had written news op-eds informing Indian readers about the plight of platform workers, I had participated in activist and union meetings as well as solutionist design sprees, at the end I had collaboratively convened a gathering of 150+ people who had travelled far and wide to attend mine and my colleagues presentations on the social and economic implications of platform work. These were all eager, politically engaged, and *well-meaning* people who had showed up to know what was going on with platform workers and how they could contribute to our larger goals of worker justice. But through all of these experiences, the designers, activists, journalists, and my socially engaged audiences also admitted to being heavily reliant on app-based consumption to get by in life. We all knew of this dependence by now, whatever the reasons maybe. After every strike, there would be news reports detailing how the city was brought to a 'grinding halt' by the Uber and Ola driver strikes.

So, then I started asking these well-meaning yet heavily dependent platform consumers how they reconciled their knowledge of unfair platform policies and practices with the fact that they interfaced with and still expected good service from Uber drivers and Zomato food delivery personnel. By this time, it was not a political question, it was a moral one at least for me. I genuinely wanted to know if their intimacy with daily and repetitive platform consumption made them feel a certain way about platform companies, capitalism, workers etc. A lot of this discourse around platforms happened within online public fora – on Facebook groups, on the brand pages of companies as well as through viral twitter posts and media content. One such strong moral response that emerged in between calls for boycotts and others who abdicated all personal responsibility was that of tipping. While tipping is not a part of the normative service culture in India, customers usually tip their servers to appreciate exceptional service. With the

emergence of platforms and the newfound intimacy and knowledge of platform workers' conditions, especially with food delivery platforms, tipping as a "good thing", as a moral and interpersonal response rather than a personal political stance gained a lot of traction. In a short survey conducted by me and my colleagues of platform consumers across India, a majority of the respondents claimed that they tipped their workers on a regular basis. Interestingly, the amount of tipping that most considered appropriate was the equivalent of the change they were owed in transactions.

Apart from tipping, other ways in which customers expressed themselves as empathetic subjects was by offering water, food, shelter during the rains and by providing financial help to workers in need. Similar to those asking for the internet publics to forgive the errant Zomato worker (who might have eaten from his delivery), many would jump into online conversations about the quality of service or unpleasant experiences with Uber drivers and remind others that they were in fact dealing with severely overworked and underpaid workers, asking them to be understanding and kind. On posts where customers complained about the food being cold or the wrong order being delivered or the driver not speaking the customer's language, again many concerned customers would jump in and try to offer a different perspective on the episode. At times when platform workers did good deeds such as return a lost wallet or go out of their way to help a sick customer, those episodes were highlighted and celebrated by companies and consumers alike. Just as I demonstrated in part I about resistance through communal counting practices, on the other side of the platform, customers would engage in empathetic acts and advocate for making platform work more bearable on a daily basis.

Reciprocal Morality

In earlier chapters, I described workers' use of multiple SIM cards and other creative ways to trick the algorithmic system. When I asked individual workers about these tactics, all of them refused having done so. For instance, Siddaiah, one of the drivers I interviewed in a parking lot near the Bengaluru airport said, "I know people who do that. Many drivers, especially younger drivers who have joined this profession to make lots of money use these shortcuts. But I don't do that." As also mentioned in the

earlier chapters, some workers emphasized the value of hard work and toil as the right path to make a living. However, on the whole, what constituted as justifiable and appropriate behaviour on the customer and worker side was also determined within individual interactions based on the actions of the other. Two instances come to mind. After the Zomato worker's suspension, the discussion about that episode went on for a while within groups of workers. When I was interviewing a group of such workers waiting outside a restaurant in Bengaluru, I asked them what they thought of the episode. While most of them agreed that eating food from the delivery parcel was the wrong thing to do, one added that sometimes a worker had no other option but to do so. He explained that on hot busy days, sometimes he ended up doing over 30 deliveries. It was not just his greed but the fact that the company had lined up deliveries one after another automatically. He went on,

"*What are you supposed to do then? I will also lose my mind, right? I am a human being and I need to eat as well. What if I faint or die? Nobody will care about me. It was just food in any case…he should not have eaten it but how can you just kick a poor man out of work because of one mistake? Everyone does it, so many orders that don't get delivered, they go back to the area warehouse. What do you think the area manager is doing? We have been told by the company that if food is not delivered then you can eat it."*

The other workers agreed, it was just food after all. An apology and a warning should have sufficed. Maybe a pay cut. But was it fair to film the guy and put the video online? Who would employ him now? It is these shifting lines in sand that I want to point to as the dynamic and responsive contours of (im)morality in platform exchanges. Stealing and other kinds of malpractice were not okay but when located within the context of work conditions and customer actions, they seemed like the weapons of the weak.

Affective responses are tied to ethical feelings, if not causally related in all cases. The flow of empathy – *feeling for the other* is then dependent on our moral judgments of a situation, a person as well. In our early research on platform workers (Raval & Dourish, 2016), we highlighted the *work* that affective responses perform in the service of value-creation within daily platform work. In this chapter I looked

back at what makes that empathetic work effective: what is the moral scaffolding that allows for inter-subjectification ("putting oneself in the shoes of the other") to happen within platform work? However, the flow of such empathy is not always predictable. Nor is it always based on recognizing the good within the other. An incident that stood out to me goes as follows. During our collaborative field studies in Delhi, Mumbai, and Bengaluru, we started to pay close attention to the changing relationship between taxi drivers and police personnel. Historically, drivers and other formal and informal workers who have to navigate the city for work are often enrolled in ad hoc relationships with the traffic and police personnel. They (workers, residents) serve as local informants, beneficiaries, and patron-subjects in conjunction with the figures of authority in their areas as a way of establishing nearness to State power. Especially since auto and taxi drivers ply the roads through day and night, they both rely on and are relied upon by the police for information in criminal investigations, sources and so on. As major Indian metropoles grow to become large amorphous sprawls (such as "greater Delhi" or "greater Bengaluru"), logistics workers including taxi drivers and food delivery workers get entangled into the changing administrative boundaries. As we learned from respondents in Delhi, although clear administrative boundaries and rules were in place to separate Delhi as a territory from its neighbouring states, while ferrying in the liminal zones of "greater Delhi", in areas of overlap such as NOIDA, drivers were always worried of being fined for not having the appropriate permits. Hence, they would enter into arrangements of understanding and pay a fixed weekly or monthly bribe to *grease* the understanding.

Given that now workers were not interacting with the police as individuals but as representatives of powerful, fast growing companies who were known to have vast lobbying powers, we were curious as to how this might change the dynamic between local policemen and logistics workers. While that remains an open and evolving question for future research to address, I was fascinated with the manner in which workers displayed a matter-of-factly disposition while explaining to *us* (researchers) why policemen chose to fine Uber and Ola drivers. Similarly, with absolute nonchalance, food delivery workers in Bengaluru would admit to being aware of the policemen who zealously policed them and fined them for

traffic violations. They spoke of their area managers as greedy, wealth-amassing "fat cats" with a mix of admiration, envy, and hatred. Moral positions and feelings towards the other (often the adversarial other in power) were constantly being sieved through and folded into market relations. As some rose in power and others exerted power, the boundaries of what was allowed, acceptable, overlooked and tolerated also shrunk and expanded. As one food delivery worker explained to me,

"*Think about it, we have to travel fast to make deliveries. We take shortcuts, sometimes we ride on footpaths. Normally, nobody would care, so many other people do it as well. But since we are required to wear company t-shirts people can identify us, look this is a Swiggy guy, he is breaking the rules! The police also notice us. Earlier the cops would fill their daily quota* [of bribe earnings] *by fining people without helmets, now they have found easy targets. It's okay, we also just slow down and stop. Yeh toh roz ka hai (this is an everyday thing!), we just keep the receipts and pass them on to the company people. The cops also have to earn, na…"*

It is not just the customers, workers, and police that resort to moral valuations and appeals in order to temper, modify, subvert, or lubricate the operations of what is legally and economically unchangeable. Platform companies have gone to great lengths to humanize themselves as well. They engage in playful, friendly language, their social media posts and in-app notifications are always trying to ride the wave of "cool" in order to appear friendly and helpful. Not just this, in a bid to build trust and reliability, till date most platform apps provide a full refund to every customer within minutes of disputing a transaction or filing a complaint. Once, a bigoted Hindu customer publicly tweeted at the food delivery company, Zomato, complaining that his food had been delivered by a Muslim man and declared that he would not be consuming such polluted food. Zomato very swiftly replied to him and sided with their Muslim worker and subsequently issued a statement denouncing any form of bigotry. People quickly descended on those statements and tweets, reminding Zomato, Swiggy, Uber and others how, outside of such liberal secular posturing, the platforms were still exploiting workers, refusing to pay them health or vehicle insurance or

even incorporate a tipping feature in their apps. Those comments received no response from the platforms.

The Utility of Morality

Given the scope of this chapter, it is not possible for me to comprehensively engage with scholarship on morals and markets. However, it bears mentioning that morality and markets are no longer perceived as mutually exclusive forces. Inspiring academic work has sought to explore markets *as* cultural forces albeit *not* in the way that earlier work by Hirshmann (1992) and other economists that portrayed markets as *civilizing forces.* Economic sociologist Viviana Zelizer's work (Fourcade, 2012; V. A. Zelizer, 1978; V. A. R. Zelizer, 2017) has constantly emphasized how markets and moral boundaries are constantly shifting and recombining in practice. As I have explored chapter after chapter, the high level view of platform labour, especially one held by its critics is also a profoundly moral one. It asks what kind of moral effects platforms (as markets) are having on societies at large and more often than not, the answer appears: a profoundly immoral one. My goal with Part II (on responsibility) was dual fold: 1) to move away from the behaviourist language that dominates the analysis of platform work wherein categories such as 'motivations' and demographics become causal explanations in themselves and, 2) find the epistemics and analytics that can adequately attend to the spontaneity and messiness of moralized markets without having to be selective in their sampling of authentic representative experiences. The question that still remains is how algorithmic affordances contribute to the recombinant market moralities. Not within digital labour studies but in the context of high frequency trading and the automation of stock markets, Juan Pablo Pardo-Guerra (2015) has explored the moral, political and organizational struggles that were central to the automation of modern stock markets. Sociologists Marion Fourcade and Kieran Healy who have written extensively on morality and markets as well argue that market exchange is always saturated with moral meaning in that,

"it involves more or less conscious efforts to categorize, normalize and naturalize behaviours and rules that are not natural in any way, whether in the name of economic principles (e.g., efficiency, productivity) or more social ones (e.g., justice, social responsibility)(Fourcade & Healy, 2007)"

They emphasize the centrality of these "made up" classifications and norms that pervade social and economic exchanges and also establish unspoken limits of what is *too much* (such as eating food from a delivery or being punished for simply having eaten food). Fourcade and Healy, drawing on the legacies of Zelizer and Polanyi (Block & Somers, 1984; Bolton & Laaser, 2013) further remind us of the "cultural and technical work" that morality performs in order to produce, sustain or conversely, constrain the market. Further, they argue that social scientists actively participate in the definition of the market's moral categories and the construction of competing moralizing instruments and techniques. In a field such as digital labour studies, depending on the disciplinary investments of those leading intellectual work, I perceive that such moralizing instruments that revile and call for the dismantling of platform capitalism, perform the work of framing distributive justice in certain terms. Outside of analysis, among the people I met, studied and questioned, the daily work of moral classifications and actions seemed to perform the valuable work of keeping platform consumption palatable and perceptibly humane, at least within the limited fields that platform consumers, techno-solutionist designers and entrepreneurs had drawn. In the absence of established linkages and social networks that could *home,* and anchor organized political actions for workers, especially younger disaffected workers, retaining and appealing to the assumptive shared moral norms appeared to be an effective daily strategy to question unbridled market logics.

Conclusion

My exploration of the utility of morality in thinking through platforms as worldly objects is far from empirically comprehensive. I have experimented and attempted to push myself to think through the daily utterances, gestures of kindness and cruelty, the function of dialog between different platform stakeholders as valuable empirical materials as much as I have treated hard infrastructure or temporal management in other places. The same holds for my attempts to unpack what constitutes 'resistance' on

the ground while talking about platform work. At the risk of sounding cliché, like a good transmitter of signals back and forth, I would ask my interlocutors whether they had feelings or opinions about unbridled platform capitalism or what they thought of platform companies' very obvious race to maximize their profits. After taking in a moment to configure if I were indeed so naïve, workers would sit me down and explain to me in clear steps how each strike or organized action or boycott would likely play out in terms of making companies budge. They kept close tabs on news coming out of the Silicon Valley – of Uber's founder Travis Kalanick's firing, of the institution of a new CEO, of Uber's IPO on the day of which they organized a tactical nationwide strike. Some described themselves not as workers or entrepreneurs but as shareholders of these companies, watching them closely to ride waves of opportunity.

I find hope and liberatory promise in sociologizing precarity (as in chapter one) and in moralizing markets (as in chapter four) since both these approaches helped me get the closest to all the convergent and divergent practices I tried to gather and make sense of in my field research. I suppose that if one enters the field wanting to ask and answer economic questions (it is after all, called the 'platform economy' and not 'platform society'), one could arrange the social, political, technological, cultural and spiritual pieces to understand how they contribute to the desired agenda of economic justice for instance. It still remains to be acknowledged that critical moral valuations of platforms also engender fantasies of solutionism (of the good kind). However, my investment is not that and as time passed by, I realized that some of the most comfortable and equal-feeling conversations in the field happened when my respondents, collaborators and I were co-reflecting on life, discovering the common minimum acceptable. Without doing so, it would be impossible to talk to someone about their life as if it were an instance of abjection and exploitation. In that sense, questions of responsibility and of ethical inter-action never quite left any of our conversations since they were decidedly marked by the inequality between the researcher/citizen/woman and the informant/worker/man. Throughout this chapter, I have consciously tried to resist making connections or offering utopic solutions within my analysis by saying something

like, “if we locate resistance or responsibility as manifest in micro practices and daily actions then we can incorporate them into our designs for platform justice”. This is simply not possible. A researcher embedded within Global North academia, an activist or a journalist embedded within migrant labour networks in Bengaluru, a typical platform consumer wanting to be a reasonable person and an Uber driver or a Zomato delivery person aspiring for self-sufficient futures – are all operating at different scales and responsive to different worlds. If so, how can platform studies start engaging with culture, society, and morality, not as given bounded categories that characterize places and populations but rather as lenses and prisms for thinking through our ethical fantasies and the utility of our designs per se?

Conclusion

As I began to write this dissertation, the whole world came to a standstill as a pandemic ripped through countries and their economies. For India, the "curve" of the pandemic started to rise later than some other countries, including the United States where I am writing. The pandemic has manifested itself in different forms in different countries. Writing at the height of a resurgence of infections, hospitalizations, and overwhelmed hospitals in the United States, it feels bizarre that the country's president and many other top busines and political leaders pushed for the economy to reopen in the middle of the pandemic. America would soon be "open for business", said President Donald Trump[59]. He emphasized that the COVID-19 pandemic was a medical problem and that "we're not going to let it turn into a financial problem"[60]. Reflecting on this moment where some politicians even asked the elderly to consider "martyring" their lives to help reopen the economy, anthropologist Sibel Kusimba asks if the value of human life is at odds with the market or with what makes "market sense" (Kusimba, 2020). In India, the first national lockdown was announced by prime minister Narendra Modi on 24th March for 21 days. A country of 1.5 billion people was given approximately four hours to get things done before everything except for essential services would be shut down. Since that day, the biggest pandemic story in India has been that of the suffering of more than 54 million migrant labourers who cross state borders in order to get work[61]. As was bound to happen, while a limited number of trains and buses were allowed to ferry these labourers back to their home states, a theatre of brutality ensued: from policing and beating people up on the highways to individual migrant workers traveling hundreds of kilometres on foot to panicked rushes to fill trains to their home states refusing to take these workers back. What this moment did was to

[59] 'As coronavirus cases soar, Trump continues cheerleading for reopening the economy'. Los Angeles Times. July 2, 2020. https://www.latimes.com/politics/story/2020-07-02/coronavirus-cases-soar-trump-cheerleading-reopening-economy

[60] Caitlin Owens. 'Trump's huge coronavirus gamble' Axios.com. March 24, 2020 https://www.axios.com/trump-coronavirus-economy-2020-d1a5615a-5443-4e4c-92d2-6747309ea2cd.html

[61] Harsimran Julka. '3 ways India could solve its migrant crisis amidst a pandemic' Times of India. May 27, 2020. https://timesofindia.indiatimes.com/blogs/the-adroit-human/3-ways-india-could-solve-its-migrant-crisis-amidst-a-pandemic/

illuminate the centrality of migrant labourers to the informal sector as well as to the entire productive economy of the country. Rural agrarian scholar and social scientist, P. Sainath compared the current plague to another one that broke out in Western India in 1994, writing how migrant labourers suffered a similar plight back then as well. Reflecting on the moral economy of the Indian elite, he wrote angrily:

"The compassion for the poor ebbed as the plague and its memories receded. Sounds so much like today, and tomorrow. We discovered the migrants' miserable conditions this March when we suddenly lost a lot of taken-for-granted services. Compassion has this annoying habit of evaporating when comfort returns[62]*"*

What Sainath wants us to remember from these exceptional times is not only how integral migrant workers are to the urban metropolitan economy but also how *we* – their patrons, consumers and privileged others are essential to their survival. The compassion he is calling for is a call for recognizing that relationship of mutual dependence that otherwise sustains the productive and reproductive economies of urban India. In the conclusion, I begin by summarizing the key contributions of the dissertation. From there I offer a broader theorization of platform-living and explore what it might mean to see platforms as worlded objects. As might be evident to the readers by now, this dissertation appears to intervene somewhere in a space between topics addressed in digital and media anthropology (networked cultures, materiality of the digital, sociality in digital worlds) and topics familiar to communications and media studies scholarship (digital labour, interfaces, commoditization within platforms). In carving out a space for the dissertation I liberally borrow from a range of disciplines, especially from socio-cultural and economic anthropology. Through a brief discussion in the conclusion, I connect my dissertation's contributions to some prominent approaches in anthropology that have influenced and inspired not only my arguments but also my philosophical approach to scholarship. Finally, the dissertation has been informed not by a straightforward ethnographic account by an external observer but by someone (me)

[62] P. Sainath. 'The migrant and the moral economy of the elite' India Today. May 30, 2020 https://www.indiatoday.in/magazine/cover-story/story/20200608-the-migrant-and-the-moral-economy-of-the-elite-1683242-2020-05-30

engaged in what Maurer calls 'method ethnography'(2018): a subjective and immersed ethnographic account that engages various actors and positions in the field and simultaneously recognizes the things that escape ethnography's grasp. Not just because of my personal ethnographic journey but also by virtue of my disciplinary point of entry into platform studies i.e. through HCI, I was compelled to approach the social and economic phenomenon of platforms also as a problem-space, something where a good HCI practitioner is expected to formulate solutions or at least offer a future-oriented diagnosis. Although I engaged with the HCI format in individual empirical studies, over here I end with a reflection on the challenges of translational/transnational research and how they shaped my thinking on resistance and global solidarity while doing an ethnographic study of technological participation.

Key Contributions

The dissertation offers conceptual insights that are based on multiple years of ethnography of different platform stakeholders across countries. These insights draw on empirical insights some of which have already been reported in published papers as well as other vignettes and stories from the field not published elsewhere. Ethnographic insights are not limited to interview quotes or overheard conversations. In my descriptions I reflect from the space between me and my interlocutors – their gestures, their affect, their spatial and cultural boundaries that defined what or how much I could learn about them. Also since the scale of these studies was not macro or from above, nor was it bounded to what only happens inside platform atmospheres but rather from adjacent and navigational perspectives: moving along with people, weaving in and out of bounded worlds, waiting and watching as people did things, each chapter deliberately samples limited and pertinent amount of literature that is directly relevant to the arguments I make.

In the introduction I set up the broader social and economic context within which gig platforms appear and proliferate in the world. I addressed the emergent fields of platform studies and digital labour studies to show how gig (work) platforms have been conceptualized differently to earlier thinking on gaming

platforms. Summarizing the key directions and concerns in these fields helped me demonstrate how this dissertation enters the gap between several disciplines where little work has been done to understand the social lives of intimate urban service platforms such as gig platforms. Gig platforms gained special attention within policy thinking with the rise of the 'future of work' discourse. It remains to be traced how the ascendant discourse of 'future of work' has contributed to what we collectively consider as important questions and human problems. The introduction offered a brief yet thorough genealogy of how concerns around gig work regulation coalesced with future of work discussions, hoping that my work provides a foundational basis for more critical attention to the thing that 'future of work' has come to signify. Finally, the introduction made a case for why we need to study service platforms such as Uber, Ola, Airbnb, Zomato and others through the lens of "life, taken as whole" and not just as developments in the world of work. The bracket of life here sought to rake up the human, non-human, inter-actant actions that do not readily appear when approaching gig platforms exclusively through the work of platform workers, for instance the role of infrastructure, climate, election cycles, structural barriers to women's work and more.

Chapter one directly addresses the dominant analytic of platform work thus far: precarity. Speaking to the prevalent claim that gig platforms are exacerbating precarity in the world, the chapter asks: *whose world and what does increase in precarity mean?* Platform work discourse borrows from an intellectual moment in the sociology of labour when some claimed the rise of a new (global) precariat class. Especially Marxist and neo-Marxist platform scholars argue that platforms advance and contribute to that new global precariat class. In both of these groups, precarity, largely theorized as a negative, pathologized condition has been posited as a dystopic future for those in the Global North where a limited period of welfarism solidified the idea of full-time, permanent, salaried work as *the* key to a good life. Joining calls to de-pathologize precarity and to attend to the worlds of peoples especially in the Global South, I argue that platform studies could learn a lot from the pedagogies of the already precarious such as the platform workers in India who operate within a historically informal labour landscape. I also attempt to muddy the

analysis of absolute (economic) precarity by tracking how platform workers take on economic risks and hardship as "circuitous investments" towards their collective and generational futures in *other places* (the village, not the city). It is surprising that the critiques of precarity discourse which emerged against moments of economic crises in the West, have not already travelled to platform studies since platforms operate at "planetary scales". My hope is that the chapter provides the necessary revision to presumptive global precarity talk and shows why we need place-based, historically informed understandings of platform effects.

Chapter two dives into another widely debated claim about the platform economy: that platforms have gained popularity because they offer work flexibility. Flexibility here specifically refers to platform workers' perceived control over their time and the autonomy to schedule work in tandem with other life events. As I show, the academic debate over flexibility as a have/-not misses the biopolitical neoliberal world within which considerations of time take shape. Interestingly, as I locate in the writings of anthropologist Sarah Sharma, the notion of time is directly linked to the capacity to care. The chapter challenges the notion that platform economies' success furthers a society where people don't care. Drawing on my empirical work with women who juggle platform work with household duties, family expectations as well as the gendered world of work and by pointing to their others: platform consumers who struggle to reclaim leisure time by delegating their reproductive needs to platforms, I explore the 'chronometry of care': time-related calculations and their materialization into capacities to care. Both in the dissertation and in published work I have challenged the naïve idea that more and alternate care-full worlds can only emerge through a refusal and dismantling of neoliberal capitalism. Rather, as I show in the chapter, if we manage to interrogate the limits of economistic analyses and attend to how people *soften* contractual and social obligations by resorting to one or the other among a plurality of relationships they share, they *do* manage to invoke and infuse care (towards the self and others). The second part of the chapter explores futurity as manifested in temporal, cognitive, aspirational, and material movements between one's past and future. Untethered from the corporate discourse of work futures, I instead offer

India's temporal place as a country of young people in the global economy as a beginning to think about the blip that is platform work within the anxious and aspiring young people in India. The zeitgeist of the country captured through the cinematic idiom: *apna time aayega* (our time will come) aptly captures the larger temporal mood and its anxious affect. While not in a directly causal manner, these affects of time were key for me to understand why and how platform work appeared attractive to hundreds of local and migrant young men in Bengaluru and Delhi. To my mind such an articulation of futurity is vital to thinking about platform-living because it resists the already pathologized position from where scholars approach materially poor people engaged in hard work to conclude that such work can by no means be good, humane or beneficial.

Chapter three titled 'Platform Infrastructures as Urban Assemblages' builds on emerging calls to study platforms as (media) infrastructures. Earlier in the conclusion, I expounded on the necessity to take platform studies in a direction where it is attendant to the heterogeneity of capitalisms and the role of non-capital as well as pluralistic and divergent life projects in shaping particular capitalist formations. This chapter demonstrates how platform capitalism is made functional through the welding and weaving of algorithmic activity into the processes that constitute the shared experience of urbanity. Showing how media infrastructures especially are central to observing and understanding the materialization of discourses, histories, capital-nature relationships and more, the chapter makes a case for why platforms should be studied *as* media infrastructures since they also constitute "the matters of politics" in our contemporary world. I then explore what kinds of media infrastructures platforms are: multivalent and hybrid digital objects. There has been sustained scholarly interest and writing on infrastructure across disciplines. In sampling infrastructural writings that could help us understand how platforms are worlded in daily urban life, I also bring together approaches to infrastructure that may not have previously been in direct conversation. To that effect, I introduce the notions of *peopling* infrastructure as well as the call to attend to how urban infrastructures operate as technologies of differential provisioning within urban assemblages. Combining these two approaches, I not only call attention to the role of individuals and

community relations in making typically hard infrastructures *functional*, but I also explore how these peopled networks are far from benign or democratic. In that sense, both physical infrastructures and now algorithmic ones sit atop and percolate into these unequal arrangements. Having shown what kinds of new media infrastructures platforms are and how they might be enrolled into inter-action with other infrastructuring forces, I offer peopled algorithmic views of the platform city. How people navigate the new algorithmic city and how they find glitches, holes and zones of exception between the layers of the informated and non-informated pockets. Finally, shifting from infrastructural processes the chapter returns to the new infrastructural subjectivities borne of platformization, showing how people develop sensorial modalities to *see like a platform* in order to successfully navigate it.

Returning to an earlier statement in the conclusion, this dissertation is *not* interested in offering more solutions to make platform economies better or equitable. This dissertation's aim is to specifically to attend to the ongoing transformations in infrastructural, social and political practice in the wake of platformization and then to show how they produce implications for desires of ethical living within urban spaces. Chapter four is divided into two connected themes: resistance and responsibility. The first addressing resistance looks at the nature of resistance and refusal as mounted by platform workers in India. Adding to what are considered familiar and effective forms of organized resistance such as mass protests, boycotts, issue-based strikes and longer processes of formal collectivization such as unionizing, I offer examples of new media tactics such as "silent strikes" as well as instances of play and mischief that workers engage in, in order to find relief from their own platformization. Traditional modes of collectivization and resistance have been celebrated and encouraged within academic writing looking for ways to counter the growing power of platforms. However, political tactics are far from benign. Nor are they entirely and only based on the commonly shared experience of work in order to build solidarities. As I discovered in my field sites, depending on the groups being mobilized as well as the authorities they were appealing to, the path to political mobilization for platform workers often wove in and out of nativist movements, groups advocating for ethno-linguistic, religious and caste-based interests. From the strong

presence of migrant South Asian and Middle Eastern workers in taxi-driving in New York City and London to the affinities among Latina care workers in the US to the substantial numbers of non-upper caste and Muslim auto rickshaw drivers, historical factors have contributed to such group formations along different affinities. By showing how the path to platform power goes through local political constellations as well as electoral interests, the chapter calls for greater attention to the cultural, social and political contexts in which platform mobilizations are made. Illuminating the political potential of play and subversive media use within platforms as well as attention to platform workers as political and electoral constituents are two specific contributions that the first part makes. Given the rapidly changing and inherently emergent nature of platforms as media environments, I make no attempt to offer a theorization of platform resistance that might endure. I point to already extant possibilities.

Part two looks at how platform consumers perceive their role in the platform economy especially in the face of information about the unfair treatment of workers and low wages while relying on the same workers to meet many of their daily needs and requirements. Barring one conference on economic sociology where the presenters considered the moral aspects of the platform economy, there is yet to be any discussion of the social, cultural, and moral norms that sustain platform economy exchanges. Some work including my own has pointed to the centrality of communicative and empathetic work in lubricating daily platform interactions without which the *feelings* of safety, good service and "professional quality" would not exist. Many customers argue online that these normative expectations of kindness, generosity, helpfulness, fairness, and overall humane behaviour should be reciprocal: *we can only get the services we want efficiently on a daily basis if we support the workers and treat them well*.

Drawing on the work of economic sociologists who have studied 'moralized markets' I look at the articulation of moral stances as a pre-political response. Moral behaviours in the platform economy as I argue both set the grounds for what is acceptable and expected in daily platform exchanges but also contain what could become antagonistic class relationships between workers and consumers. Further, moral explanations are not limited to consumers, they also help workers decide the course of their daily

behaviour – how much to extend oneself, where to cut corners, where is cheating okay? The answers to these questions change on a daily basis as the questions in which these contexts are asked change as well. A large part of the struggle to secure labour dignity for blue collar and informal workers is the fact that the expectations of respect as well as more basic moral demands of humane treatment cannot simply be realized through law enforcement or punitive measures. So many workers that we spoke to across platforms in India, juxtaposed platform work against manual labour and physically demanding forms of work. They explained that the reason for transitioning to app-based work was not just to escape taxing manual labour but also to be in the proximity of clean, respectable work. I still remember watching a television ad promoting the *Skill India* mission where a young man expressed his motivation for joining a computer repair course. He literally said, "nobody wants to marry a carpenter, but if I work with computers, it earns me some respect in my community."

My argument is not for reinforcing the hierarchy of work along which the scale of good treatment is drawn. My contention is that as I have shown through the entire dissertation, since the "matters of concern" within current platform scholarship are so narrowly economistic and driven towards a kind of labour-tech solutionism, there is not much space to meet platformization as a wider ongoing life transformation. Algorithmic encounters also produce considerations for how we must treat each other within such systems. It is not enough to say that commercial algorithmic management causes the mistreatment of workers and privileges all the demands of consumers. The algorithmic intermediary also brings these two apparently antagonistic and co-dependent groups in close proximity every single day and what happens between them is constitutive of the new normal of platform societies. This new constitutive is far from stabilized and constantly produces new dynamics, pointing to a space of ontological and epistemic uncertainty (de Reuver, van Wynsberghe, Janssen, & van de Poel, 2020), one where the social, cultural, political, and economic functions of platforms are in the process of appearing. Their corresponding inter-actions and responses, the process whereby algorithmic platforms get *worlded* and

assimilated into known and familiar worldly actors, are also in the process of unfolding. I have attempted to map out those processes of becoming and unfolding.

Theorizing Platform-Living

Susan Leigh Star reminds us that infrastructures are not visible or invisible by default (1999). Elements of what we consider infrastructural or our critical support systems, rise up and sink in at different moments in history. Things and people also assume infrastructural roles at certain times such as the food delivery workers that have become an indispensable node of the pandemic economy. If platform-based consumption was considered an elite habit before the outbreak of COVID-19, consuming, and interacting at a distance has become the norm of these times. In India, ridehailing and food delivery platforms conduct mandatory temperature checks and report those temperatures back to the customers[63]. Similarly, they have come up with several ways to facilitate contactless exchanges within platform transactions as well. Simultaneously, platforms have started nudging customers to offer larger tips to their workers, even offering small profiles of each worker and the goal or need that the said worker is saving up for. These changes were quickly introduced to platform interfaces to appease customers who might be scared for their health and safety while availing of platform services. But at the same time, the medico-surveillance of platforms such as temperature-taking, providing hand sanitizers and protective equipment as well as mandating plexiglass dividers and masks for car and auto drivers also help the enrolled workers get access to these basic health measures, something that the rest of the informal workers do not have access to at all. Simultaneously, these measures are in equal parts a performance for the local civic and State authorities looking to catch and fine platforms that they perceive as disruptive and obscenely rich entities. Much more could be done; platform companies could insure their workers to prepare for such times of crisis, and they could be nudged into redistributing the profits they make off workers' backs in a more equitable fashion. Speaking of the compassion that Sainath wants us to have, there needs to be a broader

[63] Madhav Chanchani. 'Food Delivery companies share staff temperature readings' Times of India. April 10, 2020 https://timesofindia.indiatimes.com/business/india-business/food-delivery-cos-share-staffs-temp-readings/articleshow/75075207.cms

reflection on how platforms enter an already chequered terrain of responsibility between the privileged and those who serve them.

As many have asked in different contexts, if the market theologies of our present day and the existing formal productive economy are unable to or unwilling to deliver a 'better life' or 'upward mobility' to people who spend their entire lives doing "petty work for the penny economy", then we need to extend our gaze to the alternate avenues outside of and adjacent to the productive economy that provide growth and security even temporarily so. Some argue that the State-market nexus, especially for "developing countries" in a global economy, has little incentive to improve the lives of the labouring poor because it is precisely the dispossession of the Global South poor that fuels cheap and efficient capitalist production in the rest of the world (Motta & Nilsen, 2011). In that sense, keeping the Global South poor within the subsistence economy through welfarist schemes as well as global developmental frameworks allows for a spectral, psychological precarity for workers in the Global North (Cheah & Robbins, 1998; Scully, 2016). And as others argue, given capital's need to find new avenues for accumulation, if labour rates increase in one country, production will simply move to another. Many have pushed back against assigning autonomous agency, rationality, and primacy to the logics of capitalism. Even if we accept these logics, especially when trying to make sense of global labour transformations, there is little by way of anchoring these discussions to the ethics of daily life – the question of what keeps daily life going, provides purpose to people and prevents a complete breakdown of various social contracts as new arrangements such as platformization arise. Narrated through a political economy approach, the main characters of global capitalism are multinational corporations and swathes of nameless workers organized by their occupations. The state, consumer/citizens, the law, religion and spirituality, cultural norms as well as technological objects appear as minor and derivate characters of this story – either obstructed or inducted into capitalist logics. Daily life and its encounter with capitalism are inflected by these institutions, relationships, and norms. The same applies to platform life or life after platforms, as I have attempted to

show through the dissertation and hence, the framing of 'platform-living' and not just platform work or platform consumption.

Through a focus on the changes that platforms introduce in our experiences of urban living, I have attempted to pose questions of ethics, futurity, and responsibility to scholarship (mine and others') on platforms as media infrastructures and as labour markets. This dissertation predominantly approaches gig economy platforms as logistical media with profound ethical implications for social inter-action. In parts, the dissertation also switches to an auto-ethnographic mode since I studied them as they were being assembled in different parts of the world, often exclusively with the imperative to affect them, nudge them in the 'right direction'. This right direction changed depending on the contexts of inquiry (academic research, action research with communities, corporate research). For a while I was unable to understand why I found myself constantly gravitating towards the periphery: *why complicate the view of platform labour management and resultant work conditions by highlighting the contingencies of social, economic, and political life that shape work trajectories? Whom might it benefit? Is it not taking us away from an unequivocal path to better work in the present and the future?* In writing the dissertation, I have come to understand that based on the contexts of unfolding, platforms can have a variety of effects on social and economic life, they are not only "dark media" or emancipatory tools.

Contrary to the futuristic images of entirely wired and chipped sentient smart cities, as many have pointed out, the proliferation of intimate digital media (personal and home devices, the basic digitization of urban environments) has already inundated urban life, subjectivity and social relations with algorithmic uncertainties, software glitches, interfaces, network signals and more. These media objects and their rhythms, their consequences are far from occasional or fully controllable by individuals who use them. In that sense algorithms are already a veritable social, political, and moral force. This might seem like an obvious conclusion when thinking about social media platforms and their role in shaping electoral outcomes, but I argue that other platforms, such as gig work platforms, are equally integral to our politics.

They function at planetary, infrastructural, communal, and intimate scales. Perhaps because the platforms I have discussed are not typically viewed as communicative media or the realm of "talk" and are rather seen as marketplaces of exchange and actions, scholarship has mostly focused on the productive monetary exchanges within gig platforms and less on the normalization of platforms within our imagination of the daily city, how we interact with it, what we think is possible to do in the city and how we must interact with others. If platforms are indeed mediating and hence reshaping social practice, then a "ground level view" of platforms within their communities of practice is key to comprehending the new worlds they will shape going forward.

The other motivation for attempting a theorization of platform-living beyond how gig platforms are shaping the futures of work is to decentre the capitalocentric explanations about platforms. Given the interdisciplinary congregation that is platform and digital labour studies, it remains to be asked what disciplinary, intellectual, and ideological legacies inform the concerns of (gig) platform scholars. For the time being, the dominant political economy approach advances a narrative where gig *economy* platforms are unsustainable and exploitative entrepreneurial vehicles for venture capital to reshape work, wages, and the value of human life for worse. However, an exclusive focus on the "real" economy(Maurer, 2018) that draws boundaries around visible productive activity and monetized platform exchanges solely in economic terms props up what Gibson-Graham has called a 'capitalocentric'(2016; 2001; 1997) view of the world: where the economy and the market are enrolled in a causal relationship with the social, political and cultural power. The economy primarily *does* and then revised social norms emerge as a result. The platform economy in this case is portrayed as the driving force, an embodiment of the structural logics of capitalism and of "capital's need for self-maximization".

I have tried to challenge this hegemonic view of the platform economy by privileging a view of the platform society through my interpretive ethnographic work. Especially while thinking about which actors of the platform drama and which dialogs to illuminate, I found it necessary to point to both: a

certain moral striving on the part of platform company workers, who believed in the power of technologies for social good within a capitalist society and, the fact that platform enterprises much like other corporations are highly reactive and responsive entities (Benson, 2011; Golub, 2014) in the face of critique. Whose critique matters and gets absorbed is a different matter. Finally, there is not a directly causal explanation between platform economy and platform society. That corporations power platform design and seek to manage platform activity for profit-maximization does not automatically imply or translate that they create the worlds that emerge in the wake of platforms. This relationship is already being investigated (Gupta, 2016; Narayan, 2019) and needs to be explored further. People of all kinds including workers, consumers, political leaders, unionists, elders in families, traffic personnel, design researchers within and outside of companies contribute to the shaping of the platform society. Again, this is a necessary clarification because the dissertation is less interested in contributing to the discourse of better economic work futures and rather in thinking through the ethics of everyday life in a platform society. The configuration of such everyday ethics necessarily demands a consideration of the value of platform work, but it does not reinstall the researcher as a labour-union activist or adjacent. This distinction is important not because there is anything wrong with taking up an academic-activist role, especially where one adheres to certain methods of resistance but if we really want to displace the privileged position of capital as the driver of all social relations then we also have to look outside of the marketplace. To attend to economic plurality as well as non-capitalist relations that surround us, we have to pay attention to things not *as if* they flow from capital. As I have demonstrated in the chapters on infrastructure and time, such an inverted view also tells us how economic plurality and the life journeys flowing from them shape and distort platform capitalism.

Finally, a third point is worth reflecting on: the role of platforms as technological objects in society and their role in social practice. I have shown and summarized in different parts of the dissertation how the algorithmic component of platforms has been (over)theorized, even with special attention to gig/service platforms. Algorithms as embedded in the discovery of people, goods and services as well as mediating

the chronology, temporality, and speed of the interactions within platforms, have been framed as speculative, dynamic, and at least partially black boxed media objects. For the purpose of understanding platform effects, algorithms appear to obfuscate attempts at finding the truth or the real reasons for why platforms produce the results they do. In chapter three where I reconceptualize platforms as peopled media infrastructures, I join the calls by others to study 'algorithms in culture' without necessarily fixating on revealing their truths. Algorithms, in social practice, as capitalist actants are ontologically unstable and epistemically uncertain. Ethnographers of religion, spirituality, mysticism, charisma, magic, finance, and politics alike deal with partially knowable objects and the pedagogy that uncertainty inspires on the regular. Global anthropologies of uncertainty, positions of unknowability and contexts of enduring crisis and precarity have much to offer as we think through *our* (human, global) ethical frameworks as filtered through platform-living. Also, all kinds of user-facing platforms are more than just algorithms. They are conceived and built and hence materialize very differently for the people who make them: understood from within as hundreds of metal boxes of servers or hundreds of computer screens where they are visually iterated upon or in the form of hundreds of focus groups or thousands of individuals upon which the UX researcher tests the platform's functionality. Future work needs to attend to these adjacent, agnostic, and antagonistic positions from where platforms are built.

Simultaneously, in the "real" world, platforms materialize through a combination of smartphones with varying capability, local internet infrastructures, the area one lives in and so on. I have drawn special attention in chapter three but also elsewhere to how platforms materialize because for the purpose of my understanding, platforms are both made functional and substantially scoped in their "real" world use by these factors that I just listed. This also has implications for thinking through platform work. An episode comes to mind. A substantial amount of ridehailing cars are owned by fleet owners or people who used to run interstate taxi companies and now, with the shift in rules about commercial cab licensing due to ridehailing, have also started offering intra-city rides through Uber and Ola apps. In that sense, these small business owners already had cars with commercial permits and seeing the opportunity that app-

based booking offers, they decided to attach their cars to Uber and Ola. For drivers who could not afford their own cars or renting cars from Uber and Ola's third-party associates, these fleet owners became the de facto way to enter the platform economy. When we interviewed drivers working with fleets through apps, they knew or paid attention to very little of the app's interface. They had a fixed target set by the fleet owner and a cut that needed to be paid to the owner. Irrespective of the dynamic pricing fluctuations, these drivers would get paid a fixed amount every day and hence a fixed monthly amount as well. In this case the app's function was reduced to just the discovery and booking part, with the economics managed outside of the platform. Recognizing the ease of doing business with fleets, platform companies legitimized this practice by even allotting special customer service agents to service fleet owners. Another such instance is the case of offline bookings, a responsive design feature that platforms built to support SMS-based bookings by people without smartphones (including older users). It is impossible to conceive of platform transformations without accounting for the ways in which people use them.

Anthropological turn in Platform Studies

What is the intellectual legacy of Platform studies as well as digital labour studies? What concerns are animated and what questions are yet to be asked of platform studies? Why might it be, for instance, that even as platform studies takes the 'infrastructural turn', the questions foregrounded are those of power, inequality, platforms as media *economies* and their functions as distributive technologies? While those are all valid and important analytical questions to bring into the fold of platform studies, as someone trained in the Humanities as well as in Anthropology, I found myself asking where these emergent analyses of platforms might meet the actions that happen between people and the spontaneous events that occur as platforms get embedded in daily life. How might we incorporate the resultant understandings and social practices that people deploy in order to *not* fall out of favour, to stay relevant, to adjust their planned life journeys to the changing modes of work and mobility as well as the changing notions of social capital? The rise of the platform industry touches different class, caste and gendered expectations of a good life differently: for middle class parents whose tech worker son or daughter works for a platform start-up, the

idea of platforms signals to a heady mixture of nationalist pride as reflected in indigenous innovation as well as the pride of the family whose members are keeping up with the times – *riding the wave* of innovation and enterprise.

For those who work in platform companies, the mantra of "move fast and break things" is far from outdated as I wove in and out of highly surveilled platform company offices and got snubbed by most employees that I wished to interview the feeling was palpable. Barring a few employees, especially those who worked in daily operations teams, the other managers, coders, designers were undoubtedly proud of the product they were building, not for a second doubting the positive impact of their work on the people who interacted through their platforms. Simultaneously, especially for the Ola, Uber, Swiggy and Zomato teams in India, the pride was not that of simply running a successful domestic operation, and they repeatedly emphasized the scale of their operations to me: to be able to serve hundreds of millions of people (as workers and consumers). As Uber's CEO often acknowledged in his interviews as well, the company's success in a market as big as India (especially after its failure in China) was more than just capturing a market, it meant having access to an unprecedented base of users if the respective companies wanted to establish *global* domination. As also discussed in the first and fourth chapters, workers were keenly plugged into the venture capital story powering platform companies and what powered their incentives. Every new billion-dollar funding round trickled down into local Facebook and WhatsApp groups of drivers and delivery workers because after all, they were riding a wave as well. Often when I asked workers if they felt betrayed by the constant slashing of platform incentives, they sought to separate their own fortunes from that of the company's: *I always knew this was going to happen but just like the share market, this is about riding the wave. Today it is Uber, tomorrow maybe Ola, we are also hearing that Reliance is going to launch a new taxi app. Take your chances, earn money and get out, bass (that's all).* The fact that my ethnography of platform work is solidly informed by how life goes on, has been going on in urban India, is definitely one reason why I found it most useful to enter platform discussions from the opening of (everyday) life.

In this section, I want to situate my work within some relevant conversations in anthropology that have profoundly shaped my approach to platforms, including the decision to expand my analytical framework beyond the category of 'work'. In an illuminating article on 'Dark Anthropology', Sherry Ortner (2016) provides a succinct history of anthropological research trends since the 1980s with and after the rise of neoliberalism. As Ortner explains, "dark anthropology" rose in response to anthropology's earlier exclusive focus only on all things 'culture' and 'society' as well as to the real world events such as the demise of welfarist states and the assembling of a global financial order. She describes "dark anthropology" as that which focuses on the "harsh dimensions of social life" such as power, domination, inequality, and oppression as well as the related subjective experiences as a result of these structural conditions in the form of depression, hopelessness and precarity[64]. This trend also heralded the return of Marx and later Foucault, especially Foucault's work on governmentality and surveillance as the theoretical bases for understanding the so-called dark phenomena. In response to this trend, there was also a "good turn", that not only emphasized on looking at the "positive developments" or projects of "good life" but also resulted in studies of happiness, well-being, morality, and ethics. While not celebrating all the work that could fall under the rubric of the "good turn", Ortner applauds the reasoning for such a turn. Ortner agrees (and so do I) that it is important to "inquire closely into what gives a sense of purpose or direction, or how people search for the best way to live – even in dire and hostile circumstances". Didier Fassin (2010, 2011, 2014), Michael Lambek (2010) and Veena Das (2018) among others whose work I draw upon in chapter four to expound upon the moral economy of platform-living fall within the group of anthropologists who have not only ushered the "moral turn" in anthropology but have also furthered the 'everyday' (and the daily) as a fertile site for understanding ethical practices. As Lambek notes,

[64] Ortner herself does not list precarity but Ritu Vij whose critique of 'global precarity talk' I have discussed in chapter one, extends Ortner's formulation to include precarity as a part of dark anthropology's preoccupations.

"Ethnographers commonly find that the people they encounter are trying to do what they consider right or good, are being evaluated according to criteria of what is right and good or are in some debate about what constitutes the human good. Yet anthropological theory tends to overlook all this in favour of analyses that emphasize structure, power, and interest (2010)"

While this is not entirely the case in anthropology anymore, those thinking conceptually about platforms could certainly benefit from their recontextualization within the intimate and ordinary projects of good life – a renewed attention not to the "interests" and "motivations" of users but in some sense, taking people more seriously for the things they say about themselves. In 'Gens: A Feminist Manifesto for the Study of Capitalism', feminist anthropologists Laura Bear, Karen Ho, Anna Tsing and Sylvia Yanagisako (2015) lay out an alternate approach to study the "full range of productive powers and practices through which people constitute diverse livelihoods (and from which capitalist inequalities are captured and generated)". The manifesto challenges the boundedness of the domain of "the economic" and argues not only for the re-centring of so-called non-capitalist institutions such as the household or kinship but also because such approach will allow us to develop a "generating capitalism" approach in our studies of the inequalities of capitalist social relations. Neiburg, Guyer, Maurer and colleagues at the 'Real Economy' conference (2017) broadly share the goals of the Gens manifesto as well. Taken together, the approaches that Ortner, Lambek, Das, Fassin and others adopt towards the anthropology of daily ethics as well as the Gens manifesto and the 'real economy' approach to studying capitalism through the site of everyday social relations preceded by other such as Viviana Zelizer and Elinor Ostrom have profoundly informed my attempt at deepening the theorization of platform capitalism with an unflinching eye to everyday social relations. This is a debt I acknowledge and hope to work into my future scholarship on the topic as well.

Translational/Transnational Challenges

As mentioned in the introduction, I did not set out to do my research in India as a Global South setting. I was and remain sceptical of the ICTD approach across disciplines where the justification given for

studying global phenomena outside of the West is often that "these places have not been studied before" or that studying places and peoples in the Global South may "enrich" existing design knowledge by adding materially poor and textually illiterate people's 'user behaviours'. To that extent I grappled with the prospect of studying platform participation in parts of India both because it is home, too familiar *and* because I would necessarily have to undertake some of the work required to make the case for how my interlocutors' life and work experiences could be instructive to all scholars of platforms, irrespective of their location. I would witness this time and again as a panel participant in conferences where I (the Indian researcher, the researcher of India) would be placed next to the researcher of China. We would make our respective presentations; I would carefully *never* make a claim about "India" although I would provide some context as to the dynamics that informed the research. There would always be at least one question asking me to explain something about India. The China researcher would eventually be asked about the social credit scoring system, no matter the topic. It was not so much that I did not want to talk about the Indian context but the fact these questions drew all energy away from an already global phenomenon (platform work) and channelled it into a certain spirit of discovery, a Columbus-like path to knowledge-sharing that simultaneously allowed *and* foreclosed any space for comparative reflections.

These struggles to keep a hold on my narrative intention while resisting any easy representational authority (me reporting on Indian platform workers) have definitely informed the way in which I talk about 'informality' as an economic feature of life in India and the Global South. The implicit challenge is how to acknowledge the effects of informality as a material, political and (anti)judicial force without drawing causal economistic connections between dispossession, material poverty and people's choices, actions, or "behaviours". Sinah Kloß reminds us that the Global South is not an entity that exists *per se*, it has to be imagined, drawn, invented, maintained and recreated through a set of ever-changing set of actors within and adjacent to academia for the sake of knowledge-production about the majority of the world (Kloß, 2017). To that end, my research journey embodied the problems that "Global South" researchers experience while working within Global North institutions but studying the "field" that is also

"home". Simultaneously, none of these positions were fixed or stable places either: not all of India is home, I occupied *very* different class, caste, and hence gendered comforts than those whose lives I studied. Nor does the anthropological gaze offer easy solutions for those too proximate to their field sites. I offer two instances when these tensions caused a breakdown or at least a pause in my traveling and translational ethnographic practice.

In early 2019, while I was residing in Bengaluru to begin the last phase of my field research, I was offered a 'desk-research' consultant position by two British researchers on a project where they were attempting to enumerate 'fairness' in the platform economy. They had devised a fairness-rating scale on which various platform companies would be rated across different verticals (such as wage fairness, legibility of contracts etc.) and after having tested this 'fair work' index in a few other countries, they were now looking to conduct the same exercise in India. Their methodology involved collecting news reports and other documents in public domain that could inform the ratings for each company. Additionally, with the help of India-based research assistants (including myself), they would interview platform workers as well as company representatives to ask specific questions and request materials proving (or challenging) public knowledge about the platform company's treatment of its workers. When I met them, they admitted that conducting this exercise and especially convincing platform executives in India had been particularly challenging compared to South Africa from where they had just arrived. I also accompanied these researchers to two closed door meetings: one with the policy head of Uber India and another with a local taxi fleet owner who had his own scheduling app to manage his workers. When we reached the fleet owner's office, located in a nook in Marathahalli, one of the tech hubs of Bengaluru, the fifty-something man was very intrigued as to why we wanted to speak with him. While my role was not to ask the questions, I would jump in whenever the British researchers lacked context to some of the fleet owner's answers or if they did not understand the words he spoke (in English). It was palpable that the fleet owner wanted the recognition or any visibility that might come from being documented in an elite research study but was not sure if the study was going to be critical or appreciative of his enterprise.

After a few preliminary questions about his business model, we learned that he had been operating and expanding his taxi fleet for over ten years. Most of the drivers who worked with him were part-time although contractually they were engaged in no relationship at all. He explained, most of these drivers were also door-to-door insurance salesmen on the side and they relied on driving as a "filler" job whenever they did not have enough insurance work or the particular days when they did not have to do insurance work. Then we reached the question of minimum wage; one of the researchers pressed on: "do you pay a minimum wage to your drivers?"

The fleet owner looked confused.

The researcher clarified, *"do you know how much minimum wage in Karnataka is?"*

The fleet owner answered, *"yes, I know that, but we don't go by those standards, I just told you I pay a minimum amount of 300 rupees for every ride. Even if someone hires my driver for one hour, they have to pay 300 and then it goes up."*

Researcher: "yes but our calculations suggest that after deducting petrol costs, that does not amount to minimum wage…"

Fleet owner: *"yes but it is a decent amount for one hour of driving, also I bear the maintenance cost of the car and any accident related costs as well, so how can I pay more to my drivers? Plus, this is not their main job, they have other work as well"*

The researcher moved on, visibly frustrated at what he perceived the fleet owner's deliberate evasion of the minimum wage question. We continued and went around in similar circles on questions of vehicle and medical insurance, on the (shocking) absence of contracts, but most importantly because my colleagues were baffled at the fleet owner's matter-of-fact refusal to agree to the validity of the norms around fair work that he was already flouting. Admittedly, there were moments in the discussion where the fleet owner would look at me, the fellow Indian in the room, expecting me to chime in, support and confirm

that what he was doing and saying was perfectly appropriate, acceptable, and ethical. Sympathetic to the fact that he was indeed the norm and not the exception but also to the break in the registers that the researchers and the fleet owner were speaking in, I would jump in and contextualize their disagreements. I would remind the researchers that not only was minimum wage enforcement very limited but also the fact that a remuneration of INR300 (USD4)/hour was much higher than what many other jobs paid. By the beginning of 2020, a Bengaluru Uber/Ola driver's average daily earnings were approximately 1500-1800 INR (without deducting costs) and food delivery workers earned even less. After the hourlong discussion when we stepped out, the junior researcher was visibly frustrated and unhappy because from their project's vantage point of "action research", they had not been able to leverage their academic reputation and the legal information around labour regulation to "scare" this man into the possibility of (poor) ratings on their scale and hence at least a vague promise to pay his drivers better in the future. Somehow, their tactic of using their social capital as well-connected elite Oxbridge researchers had not managed to bring platform company executives to the table in India unlike their experience in South Africa. Based on the "evidence" collected during this meeting, the fleet company received 3 out of 10 on their scale.

In contrast, at another meeting where we finally met the policy head of Uber India for a similar discussion, something really interesting happened. The discussion started as per usual, with the researchers demanding details on pay and minimum wage. The policy executive who by now was used to handling Uber's critics started challenging the researchers' methodology. "If you are going to give us ratings for the Indian market based on the market realities of Bengaluru, then this is a totally unfair representation!", she (Uber executive) started out. The researchers agreed, only one city's earnings could not be representative of Uber's economic realities in a country where Uber operated fairly differently across 40 cities. They said this index was the start of an effort and the ratings would be revised annually with caveats. It was still no excuse for not paying minimum wages to Bengaluru drivers! In response the executive started rattling off a rehearsed speech that I had heard her deliver multiple times at local multi-stakeholder meetings, policy discussions hosted by non-profits etc. She started with a factoid, "Did you

know that Bengaluru is one of the worst ridehailing markets globally? Did you know that Uber and Ola lose the most money in this city, the so-called Silicon Valley of India?" The researchers were puzzled, they shook their heads, "why?" She smiled and replied,

"Uber actually wants its drivers to make more money, we realize that we can only succeed if our partners are happy! We even have a 'driver at heart' team that exclusively addresses drivers' issues. But the Karnataka government is in the pocket of the transport unions who resent Uber and Ola because they are bypassing unions to offer better earning opportunities to drivers. It is precisely because of this that the government has come up with reactionary and shoddy bylaws for on-demand cab aggregators that cap dynamic surge pricing so that drivers cannot earn more than a certain amount irrespective of the time of the day, traffic congestion etc. It is not us, but the government that you should question!"

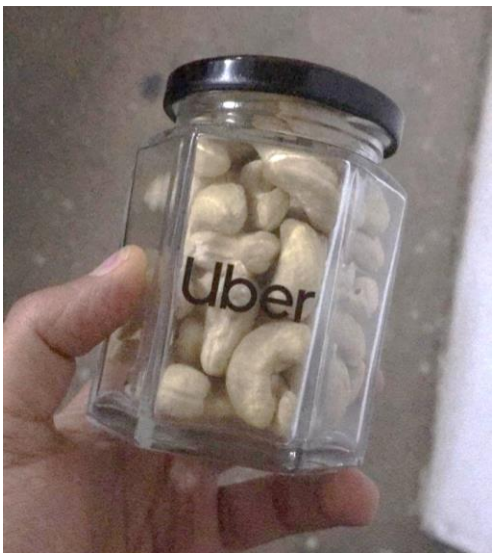
By the end of the conversation, everyone in the room agreed that legally, since Uber did not hire drivers as employees, it had no contractual obligation to pay a minimum wage but also that Uber could not entirely be held culpable for the reduced earnings or the low pay-outs in Bengaluru because it was operating under new constraints enforced by the government. Provisionally, Uber received 7 out of 10 points on the fairness index. Since the fairness index went live these ratings have substantially changed and the fleet company does not feature on the website. But these incidents stayed with me as concrete reminders of the active role that academics and other knowledge producers play in shaping and assembling discourses, such as that of 'fairness' in this case. It is not so much that the British researchers were wrong or inadequately informed. They were certainly not ill-intentioned. But the fairness index as well as much of contemporary digital labour research rely both on the epistemological and ontological grounds of a common shared experience of platformization and consequently seek to devise ethical responses to this problem of the commons. Reflecting and comparing those two incidents (the meeting with the fleet owner and the executive) helped me put my finger on one such cosmopolitan seam where what constitutes the common – shared experiences, understandings, and thus shared ideas of reasonable politics, seemed incommensurate. What is established as a fact is never divorced from what follows as

ethical action. What we know and what we do about it – matters of fact and matters of concern are always co-present in any project. To that effect, especially for an emergent world of platform-living, the facticity of platforms – their agentiality, their ethical status cannot so quickly be foreclosed, especially not as only profoundly immoral. The fleet owner approached the question of fairness as providing a mutually agreeable compensation while keeping in mind his customers' purchasing powers. The fleet owner was a reasonable man, he happily obliged to his drivers' spontaneous cancelations due to family emergencies or demands for small loans. His proof of his fairness or at least his reasonableness was the fact that these drivers kept working with him through the years. These calculations and interjections by the fleet owner did not make their way into the numbers of the fairness index. On the other hand, the policy executive's prior experience with non-Indian researchers and critics of her company generally (a skill required for her job) enabled her to mount a ready defence of her company's payment policies.

I was an insider/outsider translator in both these instances and was able to read many of these meta clues informing what emerged as the final fairness numbers. My interest here is not to make a case for fairness in representation. For all we know, the fleet owner was completely making things up. And Uber (and Ola) drivers are veritably affected by the cap on dynamic pricing. My question is: where does this leave the fantasy of participatory research in the pursuit of just representation, especially across one's own borders? I have asked myself this question many a times now, I wonder if the designer/ethnographer, by looking at the problem from a different perspective – from that of the fleet owner's view or an operation manager's view within a platform company or from the driver's perspective might not come up with an equitable and viable solution for all who share that world. Even as I ponder that I am reminded of the overlapping yet different projects that these different stakeholders are pursuing through platform ecosystems. These are questions that I have just begun to ask and do not have ready answers for. Having said that, this transnational-translational encounter, hopefully only my first foray of many, served as a deeply fulfilling exercise of constant questioning, of digging into the power of academic knowledge-production (almost as powerful as techno-innovation and enterprise). These journeys that I began in the form of discomfort with

dominant analysis (the production of facticity about platform-worlds) led me to find peers and communities invested in what Elizabeth Grosz calls an onto-ethical exploration (2017) of platform-living that simultaneously asks not just what is but also what it could and should be.

Epilogue: Fruits of labour



In the final weeks of my stay in Bengaluru in 2020, I was yet again pulled into a platform event: this time, a public event in a five-star hotel to sign a memorandum of understanding between Uber and a handful of state authorities responsible for transport and infrastructure services. The event was opulent, there were photographers from every leading news publication documenting this exchange, a few concerned citizens who raised relevant questions, local leaders who made predictably humorous and outrageous claims about the city and so on. A few union leaders had been invited but no drivers. I speculate here but given the opulence of the setting, a driver in his uniform or even regular clothes would be a suspect presence and might not have been let into the banquet hall. It was a sobering moment because I realized that there was a whole *world* of concern – responsible citizens, task forces and collectives that mediate the political discourse in Bengaluru as well as officials answerable for train, metro and bus projects as well as Uber representatives. This conversation, from the perspective of the city's middle-class inhabitants and elites was *not at all* about labour rights, it was about deliberating on Uber's role as a responsible local business

that would supplement rather than displace the state's politico-infrastructural plans. I ate my fancy dinner, greeted all the familiar policy and non-profit friends, and stepped out of the event only to receive three boxes full of dried fruit (cashews, pistachios, and almonds) in little mason jars with logo of Uber. At the risk of sounding sentimental, I chuckled at my own co-option within the knowledge economy that accompanied and provided the necessary dramaturgical tension to the story's main hero i.e. tech enterprise.

Keenly and painfully aware of my self-awareness folding unto itself, I boarded an Ola auto to go home. Somewhere in the middle of the silent auto ride, I could simply not bear being complicit. These little jars full of literal and metaphorical Uber fruit were undoing any assurance that I had given myself of ethicality amidst ontological uncertainty – a typical yet plagued feeling that accompanies inter-world travels. I knew I was going to regret it and I *well knew* that it was going to appear patronizing, but I offered the jars to my auto driver. He was immediately offended, I expected nothing less from a man whose auto rickshaw visor had a Karnataka flag sticker on it. We fell into silence again until we reached my home. As I began to pay and leave the auto, the driver softened. He asked me in Kannada why I did not want the gifts. I explained that there was nothing wrong with the gifts. I wanted to say that I did not deserve them, or that he deserved them more than me. It would have been a complicated conversation to lay out my ethical stakes to him. So, I simply lied, I said I was allergic to them. He thought for a moment and then when it mutually felt like he was the one doing me a favour, he agreed to take them off me. I thanked him and we parted ways. I was grateful for the pauses between our conversation where what I intended to do, to correct, to reallocate, to extend of myself had managed to make its way while my words constantly failed to reach for equitable sharing, not in a political sense but the desire to share something good. Often, perplexity is the only available response to how we find ourselves enrolled in inter-relation. Far from fully articulated action, I value moments that have generated perplexity in my research journey because they point to the *new,* the 'generative' part of social life under global capitalism. As an emergent condition, platform-living produces a lot of perplexity and anxiety for how we must live with platforms

and with others in ways that we can maintain our own images as moral, responsible, careful good people. I hope that more thought and writing follow how this perplexity is managed in daily life.

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