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Amazon's distribution space: constructing a 'labour fix' through digital Taylorism and corporate Keynesianism

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Abstract: Amazon is one of the largest e-commerce corporations in the world and has built a reputation for fast, low-cost service. To rapidly and efficiently move goods from production to consumption, however, Amazon relies on a logistics network that entails significant investments in infrastructure (physical and human) and these investments present a challenge for capital accumulation. In this paper, I examine the labour practices that Amazon employs within its distribution work spaces to address this challenge. The analysis is based on a case study of Amazon's distribution facilities (fulfilment centres and delivery stations) in Montreal, Quebec. It draws on ethnographic research as a community organizer and semi-structured interviews with workers (present and former), trade union representatives and public policy experts to identify Amazon's key strategies. Building on past studies on the platform economy, I illustrate how Amazon relies on 'digital Taylorism' (Staab & Nachtwey, 2016), involving the use of digital technologies to structure and control the labour process and surveil workers, as a key strategy. However, I further illustrate how Amazon seeks to balance the harmful effects of digital Taylorism with what I term 'corporate keynesianism' (i.e., social welfare benefits) to attain a 'labour fix', i.e., the steady supply of precarious, compliant labour needed to sustain the logistics machine.

Keywords: logistics, Amazon, digital Taylorism, Montreal, e-commerce, labour process

1 Introduction

Amazon is the world's leading online retailer. By the end of 2022 it is expected to surpass Walmart as the largest retailer in the US. In 2020, Amazon became the fifth largest

private employer internationally, employing over 1.5 million workers, excluding its seasonal temporary workforce (World Economic Forum, 2020). Amazon is now the second corporation to surpass a market capitalization above the trillion-dollar mark and the COVID-19 pandemic has only solidified Amazon's reach across the world. Amazon's influence over the world economy goes beyond its own markets. As a leading e-commerce firm, it has spurred a global race to make e-commerce a key dimension of the global economy. According to Forbes, e-commerce now accounts for 4.2 trillion USD of sales globally making it the next frontier of global capitalism (Verdon, 2021). And while Amazon has now expanded well beyond e-commerce to a range of activities with its over 40 subsidiary companies, e.g. Amazon Web Services (cloud computing), the purchase of Whole Foods in 2018, ventures into digital streaming (Amazon Prime Video) and digital hardware manufacturing, these activities support the ongoing expansion of e-commerce as the central component by creating a larger eco-system where cross-subsidization and cross-marketing occur (Coveri, et al., 2021).

Amazon's strategy, as articulated since the first annual report, has been about prioritizing long term market control over short term profitability. This has meant constant reinvestment of revenue into its logistics network and digital infrastructure. In fact, Jeff Bezos is famed for constantly telling investors "one day Amazon will generate profit". Amazon has retained its investors due to its ongoing expansion and ability to dominate markets. This in turn enhances its stock price, enabling further rounds of investment into its logistics infrastructure and further extension of its market control (Massimo, 2022).

To capture markets, Amazon needs a rapid delivery system and thus its control over space is paramount. For instance, according to Good Jobs First, a United States trade union coalition, Amazon Prime (a next-day delivery service) prompts the need for an expanded logistics footprint: "To execute rapid delivery, Amazon couldn't get away with only a handful of warehouses. It had to locate warehouses in many markets where the greatest number of Prime households are located" (2021). As a global corporation, Amazon's activities would appear to transcend space, but its logistics operations – both physical infrastructure and labour – are critical to its market dominance and entail significant outlay

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of both fixed and variable capital (Moody, 2020). According to Amazon's annual investor report, its corporate strategy has been reliant on the constant lowering of its variable costs (i.e., labour within its logistics network) while leveraging their fixed costs in order to "improve process efficiencies and maintain a lean culture" (Amazon, 2022: 18).

For Amazon this raises a key challenge at the core of its business model of "fast, and free shipping"; that is, how to recoup the expenses needed to sustain its logistics network by increasing its capacity for ever more speedy delivery. Thus my research asks what kinds of 'distribution work spaces' Amazon is constructing in order to contain costs and increase productivity while simultaneously ensuring a steady supply of labourers? Specifically, I examine the workplace strategies that Amazon employs in the context of Montreal, Canada to resolve these contradictions embedded within the logistics imperative.

To date, studies on Amazon and logistics have emphasized that the control of labour through 'digital Taylorism' at the local scale is critical for the company to function at the global scale (Cattero & D'Onofrio, 2018; Briken & Taylor, 2020; Fuchs et al., 2021; Chesta 2021). Digital Taylorism is defined as the application of digital technologies by firms to modes of Taylorist methods of workplace organization (Altenried, 2019). Such technologies work to efficiently break down and manage tasks along an assembly line, thereby increasing productivity through an extreme division of labour. As an extension of what Zuboff (2019) calls 'surveillance capitalism', data on workplace practices is extracted, utilized and managed through the technologies to ensure control over the labour process and the continuous flow of goods needed for the accumulation of capital (Liu, 2022; Fuchs et al., 2021; Delfanti, 2021; Gautié et al., 2020; Hesse, 2020).

The case of Amazon's logistics operations in Montreal demonstrates how Amazon resolves a critical research puzzle: namely, how to overcome the limitations and threats posed to Amazon's model of digital Taylorism while sustaining its capacity to circulate goods across space with speed and efficiency. More specifically, the paper illustrates that the company seeks to marry digital Taylorism with a form of what I am calling 'corporate Keynesian', i.e., when a company seeks to sustain its labour power by providing social welfare benefits akin to what was previously provided by the state under a Keynesian regime. In other words, Amazon's efforts to resolve the cost contradictions associated with logistics involves not just digital Taylorism as a mechanism of control and exploitation but also a strategy to secure a level of consent and loyalty in order to reproduce its labour power at the local level I illustrate these dynamics through an examination of Amazon's logistics operations in Montreal, Quebec, Canada, which were established in

2020. According to Delfanti, workers across different settings "experience standardized processes and managerial techniques relentlessly imported from the United States, as Amazon replicates them everywhere in its global network of warehouses" (2021: 28). While Amazon's adoption of the tactics of coercion and consent are indeed a universal management strategy, an examination of a context outside of Amazon's home country (the US) provides insights into how such a strategy is mobilized to overcome place-based challenges and produce a 'labour fix', i.e. the supply of a steady stream of workers as cogs in the platform wheel to ensure the rapid turnover of goods that can generate revenue and global competitiveness (Reese & Alimahomed-Wilson, 2020).

The remainder of the paper is organized as follows. The next section contextualizes the analysis with a review of the literature on the rise of e-commerce logistics, the links between logistics and digital Taylorism, and the contradictory effects these links are having on the labour process. Then, in the third section, the methodology is outlined. The fourth section seeks to bring key concepts into conversation with the empirical case by showing how Amazon constructs its 'distribution work space' in Montreal, Quebec as a site of both coercion and consent. This section first illustrates the strategic importance of digital Taylorism as a key mechanism of control, as well as the internal techniques and policies that prop up this mechanism. I then examine how Amazon seeks to promote loyalty through a corporate Keynesian approach, offering workers added welfare benefits in an increasingly neoliberal labour market in Quebec. The final section concludes with a summary of the key contributions of this study for both theory and practice.

2 The e-commerce logistics revolution and the reconfiguration of labour

E-commerce is an outgrowth of the retail revolution of the 1980s, where a just-in-time provision of products through enhanced management of supply chain connections was facilitated by new information and communications technologies (Hesse, 2020; Bensman, 2008). As Vallas states, major corporations, such as Walmart, have generated real-time data through (b)ar-code technology, computerized inventory systems, and satellite technology "to link production processes with consumer transactions, in effect "pulling" production upstream from the consumer end—an innovation that set the stage for the on-demand economy" (Vallas, 2019: 52). However, just-in-time (on-demand) deliv-

ery is contingent on innovations in logistics, as corporations must rely on the flow of goods through ports, warehouses, and distribution centres in order to valorize their profits. Therefore, logistics becomes a critical component for e-commerce platforms – it shifts from “being a mere service input to occupying an integral and strategic role within many global industries” (Coe, 2014: 224).

Indeed, many of the major corporations are now in the business of distribution to control the circulation of goods; according to Cowen, “Walmart may be widely known as a mammoth retailer, but in the world of business management it is known as a logistics company” (2014: 192). In practice, this translates into significant investments in global logistics infrastructure (i. e. distribution centres, warehouses, transport and supply management technology) to link consumers to commodities. In addition to these fixed costs, there is significant investment in labour at these sites. Despite technological innovations, logistics remains a labour-intensive sector; from the handling to the packaging to the transport of goods, human labour is still required (Moody, 2017).

Logistics thus provides the means to accelerate the movement of goods across space, but it does so through the contradictory process of grounding distribution infrastructure in space. As the competition to provide low-cost goods in a fast and flexible manner intensifies, so does the investment in physical infrastructure and labour. But this raises the challenge of how to control costs. Since physical infrastructure represents a fixed cost, reductions need to be found elsewhere. Labour, as a variable cost, therefore presents a key target for price control and the enhancement of productivity. And the application of new technologies plays a central role in this process.

3 Digital Taylorism and the labour process

By building on the retail and logistics revolution, e-commerce platforms utilize new technologies to accelerate the dynamics of just-in-time distribution, including an intensification of distribution-related work (Vallas, 2019). Contrary to popular accounts, the revolution in digital technology has not led to job upgrading, re-skilling, or job loss from automation. Instead, digital capitalism has given rise to a new form of digital control over the labour process, or what Staab and Nachtwey term digital Taylorism (2016: 470). Scholars have drawn parallels to the early days of Fordism and the widespread proliferation of Taylorist scientific management methods to increase productivity through a

division of labour and the construction of precisely defined, repetitive tasks that are managed through the assembly line (Braverman, 1974: 86). As Hirsch-Kreinsen argues, “digital technologies permit a level of optimization of Taylor’s principle of simplification and control of the work process that had hitherto been unattainable” (Hirsch-Kreinsen, 2016: 12).

Amazon presents an influential model of the impacts of digital Taylorism on the labour process. As Struna and Reese (2020: 120) contend, digital Taylorism within Amazon places workers under what Woodcock (2017) calls “algorithmic management”, where technology is used to control and discipline workers. As Braverman had previously noted, central to Taylorism and scientific management methods is the ability to access data in order to perfect the “human factor” in labour:

The data derived from all these systems, from the crudest to the most refined, are used as the basis for engineering the “human factor” in work design. Since the accumulation of data does away with the need to time each operation, management is spared the friction that arises in such a procedure, and the worker is spared the knowledge that the motions, time, and labor cost for his or her job have been precalculated, with “humane” allowances for rest, toilet, and coffee time, before anyone was hired and perhaps even before the building was erected (Braverman, 1974: 123).

A central pillar of Amazon’s managerial practices is to extend control by acquiring ever more finely grained data to engineer every aspect of work, or as Bezos calls it, a “culture of metrics” (Forbes, 2012). For Amazon, this accumulation of data is driven by surveillance technology to accumulate, process, and utilize data (Zuboff, 2019). Amazon’s unique use of algorithms, and artificial intelligence, is to analyze the data that arises from the labour process in order to “further exploit, discipline, and control workers, increase labour efficiency, and inform the development of workplace automation and other business investments” (Alimohamed-Wilson and Reese, 2020: 23). Amazon’s capacity to apply both digital surveillance along with the use of algorithms to analyze and direct workflows has led to the creation of an “algocratic” mode of workplace organization (Reese, 2020: 120). Amazon’s application allows for an extreme form of the technical division of labour monitored in real-time (Delfanti, 2021; Fuchs et al., 2021). Due to the standardization of the labour process, little training is required and contingent labour can be utilized (Staab & Nachtwey, 2016). Amazon’s work process is broken down into small repetitive tasks, from packing, picking, labelling, and stowing. The tasks are simple enough that only a few hours of training are needed. Consequently, management has the ability to allocate tasks in arbitrary format, which opens up the possibility of nepotism and favouritism towards certain workers over others

and of creating a divided workforce (Massimo 2020: 130). Supervision through algorithms and surveillance masks the power dynamics of this technical division of labour. Yet, such forms of digital surveillance dictate the pace of work and who will do it (Briazeilli, 2018).

Technology is thus critical to the intensification of work. In the period of Fordism, the principal tool was the development of the assembly line, which dictated and managed the pace of labour, as each worker was interconnected in repetitive tasks along the moving assembly line (Gramsci, 2011). In the era of digital Taylorism, the platform is the assembly line and humans are integrated into this new machinery (Delfanti, 2021). Braverman asserts the role of machinery inside the labour process: “The capacity of humans to control the labour process through machinery is seized upon by management from the beginning of capitalism as the prime means whereby production may be controlled not by the direct producer but by the owners and representatives of capital” (Braverman, 1974: 133).

The access to a constant pool of cheap and disposable labour remains a vital mechanism for firms in the logistics and warehousing sector to realize such intensification of work. Part of the reason for this is the labour-intensive nature of logistics; another part is the high turn-over in labour generated by the highly exploitative conditions of lean distribution (Peck & Theodore, 2002; Gonos & Martino, 2011; Ness, & Alimahomed-Wilson, 2017; Benvegnù & Cuppini, 2018). Studies have documented how Amazon has relied upon a ‘reserve army of labour’ to fulfill its unending need for labour. The Inland Empire in Southern California, which is home to nearly one billion square feet of warehouse space, is one of the largest logistics hubs in North America. Much of the work is done through temporary labour agencies and often by Black and Latinx workers (De Lara et al., 2016). In the UK, in places such as Swansea with high unemployment, Amazon has become the dominant employer, relying on the placement of workfare recipients to fulfill its labour needs (Briken & Taylor, 2018). In Italy, Amazon utilized mass unemployment in rural areas of the region of Piancaza to recruit precarious labour. Precarious labour, which is deemed disposable and can be flexibly integrated into the labour process, is thus a key determinant of the Amazon model and the logistics revolution, as well a product of it (Briken & Taylor, 2018).

4 Corporate forms of welfare as an antidote to digital Taylorism?

While Fordism had embodied elements of Taylorism, in particular the fragmentation of labour through de-skilling and the standardization of the labour process to incorporate workers into the moving assembly line and exert full control over production, this control also led to high levels of dissatisfaction among workers and employee turn-over (Gramsci, 2011). And the turnover led to disruptions, presenting an obstacle to selling cars at a low cost. Over time, Ford sought to rectify this by balancing mechanisms of control with incentives that would motivate existing workers and attract new ones. Thus, the technological transformations under Ford which underpinned the transition towards mass production were paired with Ford’s innovative approach to wage increases. Famously, Ford introduced a wage of five dollars a day, generous at the time, with the goal of securing worker buy-in. In addition, Ford provided other incentives, such as benefits and job security, to encourage worker loyalty. For Fordism to function, Ford also needed to produce a new type of worker (Gramsci, 2011). Loyalty was measured by intrusive surveillance within and outside the workplace (Clark, 1992). Ford was willing to make concessions in the realm of consumption in order to retain control over the production process, since control over the nature and pace of tasks along the assembly line – keeping the line moving – was essential to firm profitability.

Embedded within digital Taylorist modes of work, logistics and warehousing today face parallel constraints to that of Ford – the need to sustain the necessary labour power in a context of work intensification and consequent worker dissatisfaction and turnover. There is a need therefore for a ‘labour fix’. The case study that follows examines the kind of ‘distribution work space’ that Amazon constructs to attain this labour fix. It analyzes the mechanisms that are employed in distribution centres in the greater Montreal region of Quebec, highlighting the modes of management and surveillance as well as incentives.

5 Methodology

An examination of Amazon’s strategy through a case study research design is valuable as it provides an in-depth understanding of a contemporary phenomenon through the use of multiple data sources (Yin 2009). For this study, the author draws upon multiple qualitative methods to examine distribution centers in the Montreal region. In particular, the fieldwork focuses on Amazon’s fulfillment

centre called YUL2 in the Lachine district of Montreal and two delivery stations, DXT4 and DXT6, in the outskirts of Montreal. This study draws upon the author's participation as a community organizer at the Immigrant Workers Centre in Montreal. The Centre, which organizes among precarious immigrant workers, has been defending the rights and providing legal information to Amazon workers since 2021. In this capacity, the author has been able to engage in a Participatory Action Research (PAR) study of the logistics labour process by acquiring first-hand accounts from workers (current and former) at these facilities about the challenges they face (Hall 1981; Cornwell and Jewkes, 1995). As well, through their involvement in the Centre, the author was able to access the participation of workers in formal interviews. Thus, the study draws on 12 semi-structured interviews (ranging from 1 to 2 hours) with current and former Amazon associates, where workers were asked about work conditions, the labour process, the organization of work inside Amazon, health and safety issues, issues pertaining to management practices, work intensity, and basic labour standards.¹ The analysis further draws upon six semi-structured interviews (also 1 to 2 hours in length) with trade unionists, Quebec labour lawyers, and a representative of the Department of Public Health, all of whom advocate for labour standards and rights on behalf of precarious workers and have a strong command of the key challenges that Amazon workers are facing. The advantage of the semi-structured interview is that it includes open-ended questions that will be loosely structured in order to allow for a deeper investigation of key themes and for new directions and questions to be developed both by the respondent and researcher (Leavy & Hesse-Biber, 2010; Schoenberger 2001).

The data from the interviews and the field notes from observation were coded by themes related to the labour process and employment conditions in order to identify commonalities across the interview transcripts and notes as well as any striking divergences. I also supplemented the findings with a review of Amazon's company reports and a review of relevant news articles pertaining to Amazon's distribution centres in Quebec, which allowed for a cross-checking of the data collected from the other methods as well as providing a context for their approach to logistics outside of their home market. Before providing an in-depth examination of Amazon's 'distribution work spaces', a brief discussion is provided to situate Amazon in Montreal, Quebec.

6 Amazon's foothold in Quebec

Amazon's presence in Quebec is a relatively recent phenomenon. Amazon's first facility opened up in July of 2020. According to Amazon Canada,

Amazon is tremendously proud to open our first fulfillment centre in Quebec, creating over 300 jobs in a safe, inclusive and innovative work environment that has competitive pay and benefits starting on day one. This milestone will also allow us to better serve our local customers, along with the thousands of local small businesses that work with Amazon to bring their products to customers across the province and around the world (Amazon, 2020).

While Amazon's entry into Quebec was already underway, the COVID-19 pandemic fueled its rapid expansion. As one financial commentator put it: "This goes to show that Amazon has not only the foresight to build e-commerce to what it is today, but it has earth-shaking events paving the road to its retail shopping domination ever smoother" (Jay, 2022). Amazon's presence in Quebec is a case in point. Since the opening of their fulfillment centre, YUL2, in Lachine industrial park, Amazon has opened three additional delivery stations in Laval and Lachine, and its first sortation centre in Longueuil in 2021. And now, it is opening a central 720,000-square-foot facility — about the size of six Canadian football fields — 60 kilometres west of Montreal. Amazon has also just constructed a more significant, more technologically advanced Sortation centre in the western part of the metropolitan region (Jedah, 2021).

Amazon currently employs 2,000 workers in Quebec. According to *La Presse*, "48% of all online purchases are made on Amazon in Quebec. Of online purchases totalling \$16 billion, \$7.7 billion went into the pockets of the Seattle giant last year" (Fournier, 2022). Now one in three Quebec residents are Amazon Prime subscribers. This advantage was made possible by the construction of its extensive network of distribution centres and logistics infrastructure, which has allowed Amazon to drop the minimum \$25 purchase for Amazon Prime free one-day delivery in Canada.

Amazon and its unique business model and corporate strategy must be contextualized in the local political economy and institutional frameworks. Quebec, like other jurisdictions in which Amazon operates, such as Italy, Germany and France, has a distinct labour regime, distinct set of industrial relations laws, and a greater role of the state in social wage provision (pension, parental leave, employment insurance) when compared to Amazon's home context of the United States. As Haddow (2015) suggests, the Canadian political economy comprises diverse sub-state or provincial regulatory frameworks producing varied political economies at the provincial level, and when compared

¹ A request for an interview with an Amazon manager went unanswered.

to other provinces, Quebec's industrial relations are marked by a history of nationalism, which has contributed to a more interventionist model of industrial relations. Quebec's history of labour militancy and multiple union federations has led to a much higher degree of trade union density in Quebec, which stands at 40 %, the highest in North America (Collombat, 2014). And the relative strength of trade unions and a social-partnership model has allowed Quebec to implement some progressive labour policies. In 1977, for instance, the National Assembly passed legislation such as union dues check-off, one of the most generous occupational health and safety compensation programs (Gagnon, 1994). Also, one of the most comprehensive systems of paid parental leave in North America was instituted in 2006 (Tremblay 2010).

Non-unionized workers in Quebec fall under the Quebec Labour Standards Act within the Quebec Labour Code, which sets out the minimum standards for conditions of employment and “covers wages, holidays and leaves, notices of termination and remedies available to an employee” (CNESST, 2021: 4). As a result of its unique institutional frameworks and higher union density, Quebec's labour standards contribute to limiting attempts to produce a neoliberal, flexible labour market (CNESST, 2021). Thus, to a large degree, employment conditions diverge from the more neoliberal context of Amazon's home country, the U.S., where there is greater flexibility in work hours, notice of termination, and holidays and leaves. Within the last couple of decades, however, Quebec has witnessed a rise in precarious employment. Precarious employment is defined as forms of non-standard employment relations such as temporary, part-time, and misclassified work (i. e., gig work) (Vosko, 2006). The province has become increasingly reliant on migrant workers to fill labour shortages, yet many are not provided with permanent immigration status or protection and thus not covered by the same labour standards. This trend, coupled with a more general rise in temporary, part-time and contract employment, is leading to a growing contingent of ‘flexible (‘precarious’) labour’ (Choudry and Henaway, 2014). In Quebec, research has shown the levels of employment insecurity was 35.8 % among workers by 2010 (Vezina et al., 2011).

Corresponding to the growth of contingent labour has been the growth of the logistics and warehouse sector in the Greater Montreal Region. Montreal is the location of one of Canada's largest ports, owing to its strategic location on the St. Lawrence seaway, and the largest in Eastern Canada. As a consequence of this and other significant infrastructure (e. g., the airport), the city of Montreal is considered an inter-modal hub (comprising air, rail, maritime, and road infrastructure) and logistics has become a vital sector in

the city's economy (CargoM, 2014). The transition towards just-in-time or flexible logistics has meant the warehouse and logistics sector has become an increasingly low-wage and low road sector reliant on contingent and temporary labour. And Montreal has promoted its logistics hub as having competitive operating costs in comparison to other logistics hubs in North America. For example, the average warehouse wage in Montreal in 2021 is 31,444 CAD dollars, while in Chicago, the average wage is 39,917 CAD dollars (Montreal International, 2022). This has enabled the nearly doubling of employment in the warehousing and storage sector over the past 10 years (Ibid). In greater Montreal, 120,000 people work for some 6,000 companies in logistics and distribution, from driving trucks and providing last-mile delivery to working in warehouses and ports (Ibid), making it one of the largest sectors in the Montreal region in terms of employment. Given the *saturation* of logistics firms and warehouses, coupled with an acute labour shortage, part of Amazon's ‘labour fix’ therefore necessitates that it sets itself apart within the sector to ensure a steady labour supply.

To date, Amazon's labour force in Quebec is smaller than other locations, as its entry has taken place just within the last two years. Currently, there are no Amazon facilities in Quebec which are represented by trade unions. As the empirical case will show, Amazon is implementing its universal management system within the new facilities – a system that consists of a three-pronged, inter-related strategy of digital Taylorism, surveillance capitalism and ‘corporate Keynesianism’. Each of these will be examined in turn in the sections that follow.

7 The labour process and digital Taylorism inside Amazon

While Amazon has been touted as cutting edge in applying technology and automation in its logistics infrastructure, warehouse work is challenging to automate because it requires deliberation, troubleshooting and the handling of varied sizes of boxes and packages. Logistics is therefore extremely labour intensive, and as noted above, Amazon has sought mechanisms in order to maximize productivity and ensure near 100-percent efficiency among its workers (Alimohamed-Wilson and Resse, 2020; Kassem, 2022). The division of labour inside the Amazon facility is premised on the form of an assembly line to control the pace of workers' tasks and coordinate the flow of goods (Delfanti, 2021). Delays in one part of the ‘assembly line’ cause delays at the other end, so the labour process in its totality – from opera-

tions managers to warehouse workers – must be closely and intricately managed.

Amazon's solution in the absence of automation has been the meshing of human labour with technology (Fuchs et al., 2021). This human-technological configuration has enabled Amazon to apply an extreme division of labour and its unique form of digital Taylorism. Inside Amazon, this takes place through a series of devices and technologies that manage the labour process in order to intensify work and productivity levels (Fuch et al, 2021; Delfanti, 2021). For the logistics end, this applies to the two key segments: the delivery stations (that service last mile delivery) and the fulfillment centers (the warehouses that supply the delivery stations). For example, a delivery station employing nearly 100 workers ensures that anywhere between 25,000 to 35,000 orders are prepared by 9 am each day to reach their final delivery (personal interview, delivery station worker). Inside the fulfillment centre, similar targets of 20,000 packages per shift are the collective quotas for each plant. Each worker also has their own individual quotas or rates that they must achieve (personal interview, fulfillment center worker). The objective is to attain the continuous circulation of goods and the human-technology configuration to realize this occurs through an intricate division of labour (Kassem, 2022; Delfanti, 2021).

To facilitate this, individual jobs are broken up into simple tasks which are merged with a digital device in a format that mirrors the organization of the labour process in Amazon's facilities in other settings, such as the U.S. and Italy (see Vallas et al., 2022 and Delfanti, 2021). In the delivery station, there are four key tasks. First, there are workers – which Amazon calls 'water spiders' – who unload and prepare packages for the conveyor belt. Then, as packages enter the conveyor belt, a worker is responsible for labelling each item – ranging from 400 to 500 items per hour – with the location for stowing by using a scanner. The third task is that of a picker, the person who knows where to place the item on a rack. Once on a rack, a stower scans each article and begins to play "high-speed Tetris" – arranging differently sized and shaped items – to ensure they can fit into a bag before it leaves the warehouse (personal interviews, warehouse workers). The scanning device determines the workflow. And it also can detect if a worker has placed a package in the wrong tote bag. If a mistake is made, the device will not allow workers to move on to their next task until it is rectified.

Inside the fulfillment centre, there are 300 workers divided into inbound and outbound departments. Each facility functions 24 hours a day, seven days a week. In addition, the fulfillment centre has nearly 500 Kiva robotic systems which outnumber the amount of living labour in the ware-

house. Fulfillment centre tasks involve the 'water-spiders', the labellers, the pickers who pick the individual "full-fulfillments," the packers preparing the fulfillment for outbound delivery, and the ship dock workers, who prepare the pallets for delivery to the delivery stations (Amazon worker, Interview01, October, 2021). Labellers or pickers have their work pace controlled by the long conveyor belt, which snakes through the delivery station. The slower a worker picks or labels packages, the more that boxes can pile up, bringing unwanted attention to the worker from supervisors (Amazon worker 08, Interview, March, 2022). And every worker is expected to maintain a benchmark of 300 items per hour for the entirety of the shift. Working at such speed with various items—ranging from books, cat litter, BBQs, and even oversized ergonomic chairs—contributes to the work intensification of 'just-in-time' imperative (Vallas, 2019). In addition to seeking efficiency and tight deadlines through a strict division of labour, Amazon also aims to attain these goals through longer work shifts. In 2021, Amazon introduced a new workshift – 10.5 hours – for a 4-day work week across its North American facilities. The use of such shift scheduling – referred to as a 'mega cycle' is unique to Amazon within the warehousing sector and in particular in Montreal, where the warehousing standard is 3 shifts per day and the shift is 7.5 hours a day for a 5-day work week. In contrast to the U.S., where such cycles are not prohibited in Quebec, the 'mega cycle' shift violates basic labour standards². Nonetheless, Amazon is utilizing 'mega-cycles' in the Montreal facilities to procure overtime from full-time workers. And the 4 day work week provides the possibility of requiring a fifth day of overtime. While overtime occurs regularly within the logistics or warehousing sector, in the Montreal region it is unique for a company to outright demand mandatory overtime within its contract. Yet, Amazon's worker contract claims: "You agree, when required, to work in excess of your regular daily and weekly hours of work up to the maximum hours prescribed by and in accordance with an Act Respecting Labour Standards (the "ARLS") (Amazon, 2021: 19). Amazon's long work hours, and mandatory overtime are a key element of the labour process; however, its strategy to increase productivity and control costs (e. g., the number of workers needed) by maximizing the hours and the pace of work as part of its digital Taylorist has had detrimental effects on workers.

The digital Taylorist practices inside Amazon's warehouses exacerbate workplace injuries and produce significant rates of illness due to the repetitive nature of the tasks Amazon workers perform. Research in the US has

² Quebec's labour standards refer to the labour laws which set the minimum standards in Quebec.

demonstrated how Amazon workers are twice as likely to be injured in comparison to other warehouses (Tung and Berkowitz, 2021). Such analysis resembles the conditions inside Amazon's logistics facilities in Montreal, Quebec. A report by Quebec's labour standards commission states that 79 workers in two Amazon facilities in Montreal were on occupational health and safety leave between 2020 and 2021, a staggering number as the two facilities employ only 800 workers (CNESST, 2021). This was corroborated in the interviews. According to one worker at the fulfillment centre, 20 % of the workers had been injured in the past year (Amazon worker 07, Interview, March, 2022). Of course, workers are constantly reminded to move things safely, that health is a priority. Each facility has a Health and Safety inspector employed by Amazon and an 'Amcare' (internal healthcare service) staff for health-related issues. However, these recommendations by supervisors, choreographed stretches at the 'stand-up' meetings (ritual meetings of all workers at the beginning of every shift), and advice by Amcare do little to alleviate the pain and pressure for workers³. Workers reported the bodily aches and sores increased as the pressure went up during the shift.

The fundamental responsibility for operations managers at the fulfillment centre is to make sure trucks are loaded to go to the respective facilities on time. dWorkers recall being pressured by managers, supervisors and assistants to stow faster, lift heavier and heavier bags, i. e., find any way to meet quotas within required delivery times (Amazon worker 05, Interview, January, 2022). It did not matter that the work was unsafe, as testified by the workers interviewed.

As a current Amazon worker explained: "There is always more pressure, to move faster, to keep up rates ... The pressure was too much, one worker tried to kill himself at the ship dock two weeks ago. Now instead of changing anything, Amazon places pamphlets on suicide prevention" (Amazon worker 05, Interview, January, 2022).

The pressure placed on the workforce is not only a result of the demands of the assembly line internal to each facility. Algorithms ensure a synchronized flow of goods across sites – from the fulfillment center to the delivery center to the final consumer. For this fragile network to

come together as a larger 'assembly line', workers must meet their daily quotas. Thus, the networked nature of Amazon's digitized logistics system creates additional stress for workers who are captive to the endless cycle of 'just-in-time' distribution (Amazon worker 06, Interview, January 2022; see also Moody, 2020).

The pressures faced by workers under such a labour regime has produced both discontent at the individual level s, as witnessed by high turnover rates in Quebec, and in the form of collective action over Amazon's labour regime, as in the case of Germany (Apicella, 2020; Fuchs et al., 2021).

As shown, the use of digital technology has been central to the de-skilling of labour, and control over the nature and pace of such a regime. Amazon's 'assembly line' presents the digital Taylorist work space where goods can be moved with maximum efficiency. The next section illustrates how Amazon's effort to turn their workers into what they term 'industrial athletes' further relies on the merging of digital Taylorist practices with digital forms of surveillance.

8 Surveillance Capitalism on the shop floor

In order for Amazon to achieve high levels of efficiency from its workers, it employs technology in all aspects of its warehouse – what Altenried describes as the "digital factory" (2022). And technologies that capture and utilize data to measure metrics, supervise, and discipline workers are a critical part of its labour regime.

Workers begin the in-person training with an overview of the use of this technology – particularly a TCI (target-controlled infusion) device. This device, resembling a large smart-phone, is constantly connected to a finger scanner. "It becomes your boss," noted one interviewed worker (Amazon worker 02, Interview, October 2021). Workers thus face constant pressure from both the technological tools and management to meet their targets. Amazon utilizes digital technology to not only monitor productivity directly, but allows supervisors to have greater control in every aspect of their workers tasks (Delfanti, 2021: 10). The TCI device determines every move of the stowers, pickers and packers at Amazon. According to Amazon general manager in the UK, Henry Low, digital technologies in the warehouses directs workers to the items thus they do not need to be trained as to where items are stored be placed (Baranuik, 2015). Each worker has a username and password that gives access to specific instructions, the completion of which are monitored by management and Processing Assistants. It instructs

³ A recent investigation by the Occupational Health and Safety Administration (OHSA) in the US has highlighted the role of Amcare in contributing to workers not accessing proper medical attention. Rather than simply providing first aid and directing workers to outside medical professionals, Amcare staff act as healthcare providers. And their assessments have violated the rights of workers through a misdiagnosis of workplace injuries. For further reading, see the report by the US Department of Labour (2015).

which box goes into which tote bag. It tells workers from which rack an item needs to be picked up. The device can then track the package. If a parcel is scanned and then labelled, it becomes part of the broader platform in which its flow can be traced. The program records to which aisle a given package was sent. This level of detail allows managers to know which packages have gone missing in warehouses that routinely process tens of thousands of packages per day.

The device is not merely guiding workers—it becomes their supervisor. And not only are workers monitored during the work tasks, but the periods taken up by Time Off Tasks are a metric that affects productivity rates. Pickers inside fulfillment centres in the US have detailed how their devices will commence a countdown to induce them to finish their task (Mac, 2021). This level of supervision is in line with workers' accounts inside the fulfillment centre in Montreal, Quebec (Amazon workers, Interviews, 2021; 2022). The longer that workers are not signed in or logged off, the poorer the workers' standing is with supervisors. This can lead to audits and meetings, making workers anxious and insecure.

Workers have described how supervisors are constantly ensuring productivity is up through “audits,” where supervisors watch the worker on their laptop and in-person to monitor their rates for a certain period. On top of this, once a worker's numbers are flagged to the Operations Manager, the worker is invited for “retraining” or “re-coaching”, making the pressure on workers immense. One older worker who remains a picker described this experience: “Controlling people and manipulating people through permanent coaching, it is a new way of doing things. If workers don't get those rates you are pressured. I was crying in the ship dock. I am 50. They tell us to use our AtoZ [an employee information] app to seek help” (Amazon worker 05, Interview, January 2022). He continues on about the pressure faced by work quotas: “For us, we don't have time, we're just getting our rates. But (they) want us to smile, they are making me cry” (Amazon worker 06, Interview, February 2022).

The use of technology inside Amazon is thus not a neutral process, but works to in fact maintain and constitute and maintain the power relations within the warehouse (Reese, 2020; Delfanti, 2021). The extraction of data from workers is constantly manipulated by supervisors. As workers' rates are not given or seen by workers, it is hard for workers to gauge their productivity levels. Digital technology and the constant access to data allows supervisors to motivate workers to maintain productivity through fear (Struna and Reese, 2020). Indeed, workers have observed the clear demarcation between workers and supervisors inside the

warehouse. Supervisors are often seen on laptops, which are placed on rolling carts. In the field, supervisors' main task is to monitor the metrics in real-time. These metrics are then analyzed by the operations manager. If workers are too slow and audits or re-training is not sufficient, workers are given other tasks. As one worker detailed, it is a way of pushing workers out of the company (Amazon worker 04, Interview January 2022).

The most insidious form of surveillance inside the warehouse comes from artificial intelligence cameras (Struna and Reese, 2020). Amazon has deployed these cameras to surveil workers not only the US, but also in Montreal (Kaoosji, 2020). S(. Amazon managers in the delivery station claimed the cameras' functions are to ensure the respect of COVID-19 protocols. The cameras would capture and analyze workers' movements every six minutes. Then the software at the end of every shift analyzes each worker's movements and location for the entire shift (personal interviews, workers). The program then produces a report for the Operations Manager. In one instance, a worker was given a warning for violating the two metre rule based on the data captured by the camera. At the beginning of the shift, the supervisors would announce the results of the previous day's summary from the AI cameras with regards to how much the workers were respecting the COVID-19 protocols. Furthermore, the cameras are not only employed to ensure workers' obedience. The use of big data artificial intelligence shows that even management is not in control—they are there to enforce algorithms and predetermined tasks. Control through new technologies of surveillance – the ability to extract, capture and utilize data to discipline workers (at all levels) – becomes paramount to how Amazon integrates labour into the lean distribution space. Richardson refers to this regime as “coerced flexibility” (2020), which is made possible by broader structures of precarious work and growing labour market flexibility.

Amazon's model of digital Taylorism coupled with pervasive digital surveillance has allowed for the standardization, and intensification of the labour process; however, it also engenders high turnover, as it is a regime designed to discard workers (Alimohamed-Wilson and Reese, 2020; Delfanti, 2021). Thus, such forms of digital Taylorism and surveillance are not stable and Amazon must incorporate other mechanisms to reproduce its logistics workspace, and meet the continuous need for living labour.

9 Amazon's corporate Keynesianism

To prop up its model of digital Taylorism, Amazon needs to go beyond the construction of a repressive space. A key tool unique to Amazon's distribution space has been to marry digital Taylorism to its own form of corporate Keynesianism to produce consent. Amazon's form of corporate Keynesianism is premised on the provision of benefits, upward mobility opportunities, job stability and decent wages for permanent workers.

Amazon's model of corporate Keynesianism begins from day one. Amazon offers workers a \$100 voucher to purchase safety boots, regardless of how long you will work for Amazon. Safety equipment is usually denied to workers in warehouses and becomes an individual responsibility (IWC, 2019). Permanent Amazon associates are also entitled to a range of benefits and according to Amazon, these benefits span its operations from Europe, the US, and Canada: "Employees who work more than 20 hours per week receive life and disability insurance, dental and vision insurance with premiums paid in full by Amazon, partial funding of medical insurance, a 401(k) plan, paid time off and an employee discount, and 20 week parental leave" (Amazon 2022). Amazon has also introduced a program called 'Career Choice' to pay for the tuition for courses for workers, regardless if career advancement occurs inside Amazon (Amazon 2022). With such benefits, Amazon stands out from the rest of Montreal's non-unionized sector in warehousing and logistics.

While certain Amazon benefits, such as Amazon's sign on bonus, may differ slightly from country to country, the overall package of supports is significant. And certain aspects of Amazon's corporate Keynesianism have a certain lure based on the local context. In the case in the US, for instance, where welfare provisions have been slashed in the last few decades and key social supports – ranging from parental leave, medicare, and pensions – are contingent upon one's employer rather than guaranteed by the state, the provision of such support is significant (DeSilver, 2018). This is demonstrated, for instance, in an Amazon Employees Network Facebook post, where an American worker who had just had his first child is thanking Amazon for a 20-week parental leave – a benefit regularly denied to low-wage workers. As well, in the US, Amazon's starting wage of 18 U.S. dollars per hour is more than double the US federal minimum wage of 7.50 U.S. dollars. These wages help satisfy Amazon's need to attract a significant volume of labour to maintain its market share and size in the US.

In Quebec, Amazon's benefits work to differentiate the company within the logistics hub, as noted above. In terms of wages, Amazon's starting hourly wage is 18.00 CAD, compared to the minimum wage in Quebec of 14.50 CAD in 2021. While it is not necessarily a living wage, it is a significant starting wage within a neoliberal labour context, marked by heightened levels of income precarity. And the prospects of job security contribute more significantly than some of the other elements of Amazon's buy-in strategy (e.g., parental leave), since the state still provides some of those benefits (Haddow 2015, Tremblay 10). Indeed, a key finding in the research interviews and organizing work was that workers were drawn to Amazon because it offers permanent and stable work and the ability to move up the ladder. As multiple workers have pointed out, they were attracted to Amazon since it is an international company with possibilities for advancement. It is an important company, workers claim. Most respondents believed it would help them improve their future careers. This feature becomes a key factor in drawing labour in a context of labour market insecurity and the further erosion of full-time, stable work (Vosko, 2006).

In fact, many younger workers saw Amazon not as a temporary endeavour but as a permanent career. One interviewee described how such opportunities affect Amazon's associate's aspirations:

While I am older, I do not care to become Level-3 or become a PA[Processing Assistant]. I am happy as a packer. But for young people, they want to become Level-3, or even a Level-5 manager. But if you start at the bottom, you can't be a Level-5[operations manager]. They rotate them every six months and are usually [hired] from the outside (Personnel interview, worker 05).

For workers, such mobility becomes a road towards two distinct aims. The first is to escape the gruelling work of an associate; the other is to move up the corporate ladder. A former worker who had applied to become a Level-3 Processing Assistant recalls her logic:

Amazon was my first job in Canada. I came as a refugee in 2019. I was so excited to work for an international company like Amazon. Though after three or four months, I started having pain in my back. I was a good employee, so I asked my supervisor if I can apply for another position. As an assistant, or PA(Processing Assistant). At that time my supervisor encouraged me to apply. I did and was accepted, but there was no PA positions available, so instead they asked me to be a seasonal PA during the holidays until January., I was glad to accept (Amazon worker 01, Interview, October 2021).

Workers are constantly told stories of heroism by their supervisors, of how workers pulled themselves up by their

bootstraps and went from being a temporary to full-time employee. Such stories of hope are used as incentives to push workers to model the 'industrial athlete'. As Delfanti elaborates, "(t)he cultural construction of Amazon as a special workplace" perpetuates the discipline of workers (2021: 51).

A key technique of governance within Amazon's distribution space, for instance, is the promotion of 'inclusion' by accommodating workers' needs (as long it does not hinder its profitability), and creating the myth of family. As workers are reminded every morning along the walls: "We work hard, We have fun, We make history". A former worker at a delivery station asserted "Amazon is like a state. When you have a blue badge, you are a citizen, and this is like a passport. You have the benefits, you have all the privileges of citizenship" (Amazon worker 09, Interview, April 2022).

Amazon's system of benefits however is not awarded to all workers. In order to gain consent and buy-in, Amazon created a two-tiered workforce consisting of "white badges" and "blue badges." White badges are seasonal associates or temps hired on specific time contracts from three to six months during the busy season from October to January. Their contracts can be renewed, or workers can be hired as permanent. Workers often take on these contracts with the hopes of becoming 'blue badges', i. e., permanent workers, especially since blue badge workers are awarded job security, all the benefits that Amazon offers and the ability to apply for positions above a Level 1 associate. Those who become blue badges will often attribute their success in advancement or even becoming blue badges as a product of hard work, i. e. their role as the model 'flexible worker' (Amazon worker 01, Interview, October 2021).

By and large, Amazon uses its corporate Keynesianism as a tool to continuously lure in new workers as opposed to retaining existing workers, which marks a fundamental divergence from Fordist practices. Under Fordism, worker turnover was a burden to profitability, thus higher wages were meant to keep workers integrated into the Fordist production line. For Amazon, however, turnover is not necessarily a barrier, unless they are operating in a tight labour market, as workers are interchangeable. In fact, for Amazon, such outcomes are desired. According to former Amazon HR executive David Niekerk, Jeff Bezos deemed long term employment as a "march to mediocracy" (Cramer, 2021). Researchers have demonstrated that Amazon's unachievable quota expectations, and labour process produce high worker turnover by design. As a result, Amazon in the US has a 150 % worker turnover rate annually. Furthermore, research shows that Amazon makes it remarkably easy for workers to quit, sometimes with a click on a digital appli-

cation (O'Neil et al., 2021). Allowing workers to quit allows newer, more productive and loyal workers to replace them. Thus central to the Amazon model is an ability to maintain market dominance by accessing and managing increasing pools of exploitable labour (Struna & Reese, 2020)

Amazon's model of corporate Keynesianism is part of the evolution of Amazon's corporate strategy and urgent attempt to deal with both a tightening labour market and increased pressure from workers and trade unions (Massimo, 2022). In the Italian logistics sector, for instance, workers were not paid on time or at all, faced unannounced overtime and worked in non-air-conditioned distribution centers; as well, work processes were less well-organized (Massimo 2022). Amazon thus takes advantage of the harsh situation of the Italian labor market, which permits its own working conditions and wages to be perceived as less bad. In the case of the US, Amazon faced walk outs in 2018 in Shakopee, Minnesota over accommodations for its predominantly Muslim workforce. The protests led Amazon to give multi-faith prayer rooms in all of its facilities (Jaffe, 2021). In Chicago, workers organized a walk out and a series of disruptions which led Amazon to make universal changes across its facilities from paid time off to water stations (Amazonians United, 2020). Despite the recent victory at the Staten Island fulfillment centre, JFK8, which voted to form a union on April 1st, 2022, such measures are part of Amazon's strategy to keep unions at bay. While Amazon's shift to become what Jeff Bezo describes as "Earth's best employer" is a result of the challenges posed by worker resistance and the need to secure more labour in a tightening labour market, the benefits that are offered are often low-cost fixes (e. g., paid time off) rather than significant concessions, e. g., secure, full-time employment and seniority for all workers).

Thus, while Amazon's promotion of job stability, upward mobility, and the inclusion of workers' voices appear laudable, such benefits are more myth than reality. In practice, the incentives represent another form of discipline, albeit indirect, and work to prop up the distribution work space as a site for further labour power extraction (Gramsci 2011). In this way, corporate Keynesianism contributes to the 'labour fix' as it works to motivate and compel existing workers and continuously attract new ones, sustaining a steady stream of flexible labour for the platform wheel.

10 Conclusion

The rapid and efficient circulation of goods has become a new frontier of capitalist competition (Cowen, 2014; Hesse, 2020). Logistics organization and worker exploitation is

used by Amazon as a primary means to reduce costs, and achieve its model of fast and free shipping. As it dominates online retail and has to increase its capital investment in the physical world, it is confronted with both the need for capital outlay in logistics infrastructure and a relentless appetite for labour power, to secure its market dominance. I show that Amazon addresses the costs associated with these spatial challenges through a 'labour fix': the strategic coupling of digital Taylorism with corporate Keynesianism within its distribution work space. This distribution work space is vital to propping up its model of 'fast and free shipping'. By extending Gramsci's invaluable insights into early Fordism to the current Amazon paradigm, it is possible to elucidate why Amazon merges both techniques of coercion and consent. As Gramsci (2011) highlighted, force was not sufficient in compelling labour to be absorbed in such production systems; high wages and other benefits were vital supports for securing workers' consent to such exploitation, thus enabling the Fordist assembly line to keep moving.

In the case of Amazon, the company's digitization of logistics has accelerated its capacity to circulate goods and refined Taylorist methods in order to extract and exploit living labour (Delfanti, 2021). By examining Amazon's labour strategies at the local scale, I build on past studies related to workers' exploitation at Amazon (Briken & Taylor, 2018; Alimahomed-Wilson & Reese, 2020; Massimo, 2020; Fuchs et al., 2021) and unearth the precise ways in which Amazon produces 'industrial athletes' inside its warehouses, through an extreme division of labour and a meshing of human labour with digital technology (Fuchs et al., 2021). Digital surveillance through artificial intelligence and real-time metrics proves instrumental to maximizing productivity through these Taylorists practices. However, the case highlights how worker dissatisfaction and high injury rates within the new digital assembly line present challenges; while workers are interchangeable they are not replaceable by machinery. The case study of Amazon's logistics operations in Quebec demonstrates how Amazon resolves its central problematique of how to ensure the reproduction of a digital Taylorist labour regime characterized by the extreme intensification of work. Amazon's solution to such an obstacle is the use of 'corporate Keynesianism', i. e., living wages, supplemental benefits, parental leave, the possibilities of job security and a rhetoric of inclusion, to secure a continuous – if not long-term – supply of labour. The study shows how these strategies enable Amazon to create distribution work spaces that simultaneously secure labour power through consent and intensify work through coercion, thus attaining its labour fix. An examination of this fix in the context of Montreal, Quebec is particularly insightful. While Amazon pursues these strategies universally, in contrast to the US, where cor-

porate Keynesian provides a social safety net, in a predominantly social democratic yet increasingly neoliberal setting, such incentives work to differentiate the company within an ever-expanding logistics sector.

Situating how Amazon implements and merges such seemingly contradictory strategies to secure its labour fix has implications beyond offering a nuanced analysis of Amazon's operations. As the world's largest online retailer, Amazon is restructuring labour in profound ways, by both relying upon and producing a growing precarious workforce. Amazon's evolution is redefining the terms of how other firms – with and beyond digital-based companies – effectively exploit and render disposable growing segments of labour.

For trade unions and civil society organizations that seek to combat precarity, Amazon's use of corporate Keynesianism to prop up digital Taylorist practices presents challenges to how to effectively contest the devastating impacts of Amazon's model. Both popular accounts and trade union narratives have been focused narrowly on the tyranny inside Amazon's warehouses. Yet such a focus has limits, as we are witnessing in relation to the challenges that various union campaigns in North America have faced. Despite the level of surveillance and work intensity, there has been no overwhelming union victory in North America. Expanding our view allows for room to conceptualize the demands and strategies needed to constrain the impacts of Amazon's labour regime on workers. For Amazon, the power to dictate the speed of work at any cost remains the key fault line between capital and labour and corporate Keynesianism is essential to overcome the barriers that this fault line poses. Highlighting this under-researched aspect of Amazon therefore allows for greater understanding of how Amazon remains at the forefront of producing and modelling precarious work in Quebec. Comparative research could further illuminate how the distribution work space is constituted in other settings and further our understanding of the possibilities and challenges for counteracting Amazon's 'labour fix'.

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