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The Racial Labour Geographies of Amazon in Canada's Greater Toronto Area

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ABSTRACT: Drawing on the framework of racial capitalism, this paper highlights two distinct but related dynamics of racial differentiation in relation to Amazon in Greater Toronto Area (GTA): at the level of the region's broader political economy and within Amazon's warehouses. I outline the ways in which the e-commerce giant both exploits and (re)makes the racialized geography of the GTA. Amazon's capitalization on neoliberal austerity and corporate welfare perpetuates class and racialized inequalities. These processes adversely affect these suburban localities and negatively impact employment in both quantitative and qualitative ways. In this context, I argue that Amazon's success has been, in no small part, due to its exploitation of Canada's racially stratified labour market. Within the warehouse, the notion that digital Taylorism produces an undifferentiated workforce and a uniform labour process is interrogated. Instead, workers' own accounts point to the ways digital technologies enable management to generate racial/ethnic differentiation and further squeeze value from workers. By situating Amazon within this specific socio-historical and political economic context, I demonstrate that the GTA offers a case study through which to examine the racial dynamics of digital capitalism and show that racialized and gendered social relations inflect the uneven experiences of algorithmic management.

KEYWORDS: Amazon; Racial Capitalism; Race/Ethnicity; Gender, Digital Labour

Introduction

Deborah Cowen (2014, 2) argues that "[c]ommodities today are manufactured *across logistics space* rather than in a singular place," unsettling notions about a single site of production and underscoring the central role of logistics in today's just-in-time production regimes (Chua & Cox, 2023; Moody, 2019; Delfanti, 2021). Amazon's rise to becoming a goliath in e-commerce business underlines some of the transformations wrought by the making of its logistics spaces and the role it plays in contemporary capitalist accumulation strategies, its impact on the geographies in which it operates, and their implications on the expansion of precarious work.

This paper seeks to outline the role that Amazon plays on the political economy of work in the Greater Toronto Area (GTA). By drawing on the framework of racial capitalism, I highlight two distinct but related dynamics of racial differentiation: at the level of the region's broader political economy *and* within Amazon's warehouses. First, I outline the ways in which the e-commerce giant both exploits and (re)makes the racialized geography of the GTA. Amazon's capitalization on neoliberal austerity and corporate welfare perpetuates class and racialized inequalities. These policies and processes adversely affect these suburban localities and negatively impact employment in both quantitative and qualitative ways. I argue that Amazon's success has been, in no small part, due to its exploitation of Canada's racially stratified labour market. Within the warehouse, I advance workers' own accounts to trouble the notion that technology and algorithms lead to an undifferentiated workforce and a uniform labour process. Instead, I point to the ways that technology enables management to produce racial/ethnic differentiation to further squeeze value from workers. Thus, I show that the use of technology in the workplace does not

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neutralize nor transcend existing racial/ethnic social relations. Digitalized labour – the use of algorithms and digital technologies to manage the labour process – is a socially grounded phenomenon. Work performed under digital Taylorist regimes is constituted by racialized and gendered divisions of labour where digital surveillance, managerial discipline, and job precarity are unevenly distributed. By situating Amazon within this specific socio-historical and political economic context, I demonstrate that the GTA offers us a case study through which to examine the racial dynamics of digital capitalism and show that racialized and gendered social relations inflect the uneven experiences of algorithmic management.

The findings and analysis presented here are drawn from semi-structured interviews with Amazon workers, Amazon corporate reports, government and civil society reports, as well as media sources. Research participants were recruited through snowball sampling. The interviews were transcribed and coded by the author. The statistical analysis presented below was generated from the Census 2021 data through a cross-tabulation of race/ethnicity and immigration status with labour market and income variables on SPSS.

The Racial Geographies of Labour in the Greater Toronto Area (GTA)

In Canada, the key geographical peripheries in which Amazon sets up its "new retail factories" (Chua & Cox, 2023) are suburbs characterized by racially and ethnically segmented labour markets. The arduous work of circulating and distributing commodities across Amazon's logistical space, which includes stowing, packing, shipping, labelling, and delivery, is performed by a predominantly racialized immigrant workforce living and working in suburban regions.

Racialized people represent 54.6% of the GTA. Immigrants comprise nearly half of the GTA population (44.8%), with 47.8% in the York Region, 46.6% in the City of Toronto, and 51.8% in the Region of Peel (Census 2021); roughly 86% of those immigrants are visible minorities (TRIEC, 2018). Despite the region's diversity, racialized immigrants' inclusion in the economic sphere points to a different material reality (Dinca-Panaitescu et al., 2019). The liberalization of Canadian immigration policies between the late 1960s and early 1970s entailed the removal of explicit racial exclusion and a shift from race-based to class-based selection criteria. This change occurred in a neoliberal industrial relations context defined by a withering away of the post-war compromise – the gradual retrenchment of the welfare state, and the weakening of labour unions. The fruits of this bygone 'golden era' of labour were never fully realized by racialized immigrants, for whom the union advantage of better wages, among other benefits, remains elusive (Verma et al., 2016, Thomas, 2010).

In this neoliberal policy context, a plethora of research has established that immigrants often experience downward occupational mobility, professional displacement, and deskilling (Guo, 2015; Bauder, 2003). Despite the emphasis on skill and education that is enshrined in both immigration policy and public discourse, reports on labour market trends have time and again showed that many educated and skilled immigrants continue to 'lag' behind white Canadian-born workers. As Himani Bannerji (1995, 134) poignantly notes, "[I]n a society based on the ethics of upward mobility, the non-white population will be mainly expected to reproduce the working class, making class formation a 'raced' affair."

Although all groups of workers saw a deterioration in the labour market conditions between 2006 and 2016 (Block & Galabuzi, 2019), immigrants are also much more likely to be unemployed and underemployed, which adversely affects their long-term professional trajectories. It is important to note, nonetheless, that the impact of racialization is an uneven process and does not affect all non-racialized people to the same degree. The data also point to wage disparities as a key

indicator of economic integration, as well as immigrants' overrepresentation in non-standard and precarious, low-wage employment (TRIEC, 2018, Dinca-Panaitescu et al., 2019; Block & Galabuzi, 2019; Banerjee, 2023). Using the 2021 Census data, a cross-tabulation of race/ethnicity and immigration status with labour market and income variables showed the following:

- 67.6% of those in the bottom decile of incomes were racialized, while 32.4% were not. 53.4% of those in the bottom decile of incomes were racialized immigrants and permanent residents. 62.8% of those in the top decile of incomes were non-racialized, while 37.2% were racialized.
- Immigrant and racialized Canadians are more likely to be in precarious work arrangements. 62.8% of those working in temporary or precarious work (i.e., fixed term of 1 year or more, and casual, seasonal or short-term position of less than 1 year) were racialized. 44% of those working in temporary or precarious work were racialized immigrants and permanent residents.
- 68.7% of those in poverty (i.e., fell below the 2018 market-basket-measure (MBM) poverty line) were racialized. 53.5% of those in poverty were racialized immigrants and permanent residents.

Importantly, while the narrative that newcomers are expected to struggle as part of the immigrant experience, there are differences between racialized and non-racialized immigrants, a trend that is also reflected in generational patterns of inequality. For example, racialized men earn 71 cents for every dollar that immigrant men earn, while immigrant women earned 79 cents for every dollar that non-racialized women earned, with similar outcomes for second-generation racialized immigrants (Block & Galabuzi, 2019, 14; Banerjee et al., 2024). Thus, while "migration is often seen as – and can be – a means of moving out of the precariat, migrants often find themselves stuck in it in host countries […] In effect they move out of one section of the global precariat in their homeland to another part in host countries, sometimes indefinitely" (Van Hear, 2014, S115).

The COVID-19 pandemic further exacerbated immigrants' experiences of labour market precarity. Recent immigrants in particular were more likely to experience job loss as a result of the impact of COVID-19 on economic activity since they were mostly employed in frontline service sector work (Statistics Canada – The Daily). In fact, data shows that racialized groups and immigrants are more vulnerable to layoffs and protracted periods of unemployment, especially during economic crises, that have detrimental long-term effects (Shields & Alrob, 2021; Hou & Picot, 2022). As one worker I interviewed observed: "Especially with COVID and stuff, so many people lost their other jobs and people are coming from all over. It's like bees to honey" (Interview). Another worker describes Amazon's ability to exploit and feast on the generalized and prevailing milieu of labour precarity: "I don't wanna stay here but jobs elsewhere are pretty shit too. There aren't too many good jobs out there nowadays" (Interview).

Meanwhile, people turned to e-retailing businesses amid pandemic lockdowns as a primary site of consumption, and Amazon saw a boom in demand for its goods and services. Amazon's ability to seize market share in the context of a pandemic was made possible by recruiting and exploiting this now augmented reserve army of labour of predominantly racialized immigrants.

The concept of racial capitalism is useful here as it underscores the relationship between capitalism and racism, or the racial dynamics of capitalist accumulation (Knox & Kumar, 2023;

Bhattacharya, 2018; Hall et al., 1978; Levenson & Paret, 2023).[2] It helps to describe and explain the relationship between racialization and class formation in capitalist societies. Canada's establishment as a settler colonial, racial capitalist state was and continues to be predicated upon practices of race-making, including Indigenous confinement, evictions, and genocide (Walia, 2021), alongside policies of "differential inclusion" of migrants that "create different degrees of precarity, vulnerability and freedom by granting and closing access to resources and rights according to economic, individualizing, and racist rationales" (Casas-Cortes et al., 2015, 79). These race- and class-making practices take place at multiple scales, both at and beyond the nation-state border, to create and reproduce racialized social boundaries (De Genova, 2023; Lamont & Molnár, 2022). As Kundnani (2021, 53) rightly posits: "race provides a means of coding and managing the material boundaries between different forms of labour under neoliberalism." Linking the "stickiness"[3] (Ahmed, 2004) of precarity to racialized labouring bodies, Gargi Bhattacharya (2018, 109) maintains, "[m]uch if not all of what we describe as instances of racial capitalism as it is enacted in the workplace overlaps with a more wide-ranging erosion of working conditions and a growing insecurity and deregulation of employment. In regions where there remains some memory of workplace regulation, this process of loss may be termed precaritisation."

Such processes of precariatization can be observed in changes to basic legislative labour protections, such as minimum wage, minimum hours of work, and vacation and overtime pay. Mark Thomas's (2010, 68) analysis of the amendments to the Ontario's *Employment Standards Act* (ESA) between 1995 and 2001 suggests that "racialized inequality in the labour market and the regulation of minimum employment standards […] are intricately linked." Under the auspices of making Ontario 'Open for Business,' the neoliberal reforms enacted by Mike Harris's Progressive Conservative government both weakened minimum standards and their enforcement in the service sector, where a vast majority of immigrants work, while altogether exempting certain forms of employment (like domestic and temporary/contract work) from labour protection. These processes (whose ramifications are further discussed below) are part of what Burawoy (1983, 587) termed the "politics of production" which he advances to "undo the compartmentalization of production and politics by linking the organization of work to the state."

Given these historical and contemporary social policies and dynamics, I argue that Amazon's success has been, in no small part, due to its exploitation of Canada's racially stratified labour market, where its expansion is made possible through the recruitment and exploitation of a predominantly racialized immigrant workforce. Amazon has been successful in subsuming the relative surplus populations produced in the course of the COVID-19 pandemic, organizing these labouring bodies into a cheap disposable workforce (see also Gebrial, 2022). Further, I suggest

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[2] The term 'racial capitalism' has been the subject of much academic debate (Go, 2021). Although the term is frequently attributed to Cedric Robinson, it first appeared in a 1976 pamphlet written by Lagessick and Hensen to describe the significance of racism in the ascent of South African capitalism (Levenson & Paret, 2023; Okoth, 2023). Robinson's (1983) thesis in 'Black Marxism' is that 'racialism' had already existed within feudal Europe, subsequently shaping capitalist class formation along ethnic lines, both in Europe and as it expanded globally; that is, capitalism was and is always racialized. While a full review of these important debates is beyond the scope of this paper, the primary caution that social scientists "must demonstrate how it is that racism continues to enshrine inequality, and how this distinctly capitalist mode of differentiation works to augment profitability" (Levenson & Paret, 2023, 15) animates the analysis offered in this study.

[3] Sara Ahmed uses the term "sticky objects" to describe the ways in which certain ideas, concepts, and practices can become ingrained or "sticky" within social and cultural contexts. Sticky objects are symbolic entities that adhere to people and structures, shaping their experiences and interactions. They can be restrictive, exclusionary, and oppressive, enforcing conformity and maintaining power structures.

that the concept of racial capitalism helps to explain both the racialized and racializing processes underpinning the making of this reserve army of labour and the precariatization of work where "accrued histories of racialised belief influence what can be tolerated in terms of disposability" (Bhattacharya, 2018, 122). The racialized geography of the GTA offers us a case study through which to examine the racial dynamics of digital capitalism. In what follows, I outline the political economy of Amazon, its presence in the GTA, and explore its impact on work and the broader socio-economic context in which it operates.

The Political Economy of Amazon

Amazon Inc. was founded by Jeff Bezos in 1994 as an electronic bookstore at the zenith of the dotcom era of the 1990s and the rise of finance capitalism when venture capital was cheap, and investors sought innovative start-ups (Moody, 2020). By 2001, Amazon had already attracted $2.1 billion in investments, far surpassing other tech start-ups at that time (ibid.). The market fundamentalism of neoliberal politics allowed Amazon to avoid U.S. sales taxes because it had not yet established brick-and-mortar stores, and, as a "low-margin earner," Amazon paid only USD $2.3 billion in corporate incomes taxes from 2002 to 2017 (Moody, 2020, 22). Today, Amazon is a key player and beneficiary of the logistics revolution (the science and profit-maximization of supply chain management that began in the middle of the 20th century), operating a transnational network of sprawling warehouses, sortation centers, and delivery stations – spaces of employment that represent digital capitalism's new factories (Delfanti, 2021). As Chua and Cox (2023, 125) state, "Amazon directly – and radically – integrates formerly distinct spheres of production, transportation, and consumption into a single e-commerce system aimed at the long-term consolidation and transformation of the retail industry into a vast logistical enterprise."

Operating on this ever-expanding geographical scale, Amazon sells products procured from manufacturing in the Global South to relatively more affluent consumers in the Global North, particularly in North America and Europe. In the United States, Amazon is the largest retailer of clothing, the biggest seller of toys, books, shoes (among other consumer products), the fastest growing logistics provider, and through the creation of Amazon Web Services (AWS), one of the leading providers of cloud computing services (Alimahomed-Wilson et al., 2020).

Like Bezos' original online bookstore, the immensely profitable AWS arm was also heavily subsidized by public funds (Thomas et al., 2022). It is one of the largest providers of web and computational services, powering the servers of other major companies like Uber, Netflix, Airbnb (Alimahomed-Wilson et al., 2020; Delfanti, 2020), as well as a number of public sector organizations (AWS Economic Impact Canada, 2021). The lucrative business of AWS allowed Amazon to cross-subsidize and re-invest profits into its logistics operations to both increase its warehouse footprint and continue to cut its prices to outcompete other retailers (Chua & Cox, 2023). However, as Massimo (2022) underscores, AWS *originates from* the logistics business – Amazon needed to build an IT infrastructure in order to manage its expanding physical infrastructure. The warehouse is thus ground-zero for experimenting with new technologies that are then sold to other parties by Amazon Logistics. Through 'Fulfillment-by-Amazon', Amazon sells logistics services to third-party sellers that use its platform to reach a wider range of consumers (Massimo, 2022; Press, 2023; Weigel, 2023, Mitchell, 2021).

In terms of revenue streams, the fees extracted from external vendors to use Amazon's Marketplace e-platform accounted for 23 percent whereas AWS accounted for 12 percent of the company's total revenue (Mitchel, 2021; Massimo, 2020). Hence, while AWS's profitability counterbalanced the losses of the company's retail arm (which as of 2022 has yet to report a profit)

and made it an attractive investment for Wall Street (Chua & Cox, 2023), the warehouse constitutes the condition of possibility for AWS and continues to be the core of the Amazon empire in its pursuit of monopoly power in the retail world, both through the exploitation of workers (discussed further below), price-gouging of small businesses, and undercutting its competitors.

Amazon's capacity to expand and fulfill orders necessitates the creation of fixed physical infrastructural investments to facilitate its access to consumers (Moody, 2019). As Rodrigue (2020, 2) notes, "digitalization has a pronounced physicality." The locational strategy of Amazon's new "retail factories" (Chua & Cox, 2023) and last-mile logistics is characterized as a process of "logistics sprawling" where "warehouse and distribution centres tend to move away from urban areas and toward more suburban and exurban ones, offering lower land prices and good access to highway networks" (Woudsma et al., 2016, 475). In sum, Amazon's rise can be attributed to its exploitation of class and geographical urban/suburban disparities, generous corporate welfare and tax regimes, lax regulatory environments to facilitate its access to cheap land in close proximity to its target consumers, public transportation infrastructure (highways, airports, and rail systems) and labour market (de)regulation that enable the exploitation of low-wage workers.

Amazon in the Greater Toronto Area

Since the opening of its first warehouse in Mississauga, Ontario, (a large suburb in the GTA) in 2011, Amazon has been steadily expanding across the province and the country. Today, Amazon operates 23 warehouses (or what the company refers to as 'fulfilment centres') across the country, nearly half of which are concentrated in Ontario, Canada's most populous province. Of the 11 fulfilment centres in Ontario, 8 are in or near the GTA, located in Toronto's inner and outer suburbs. The GTA is a logistics hub. Located close to the Toronto International Pearson Airport, a significant proportion of jobs are in the transportation and warehousing sector. While there has been growth in the warehousing cluster, the quantitative and qualitative job losses due to cuts in manufacturing sector in the GTA (previously an industrial powerhouse in Canada), especially in the aftermath of the 2008 Great Recession, were never fully recuperated. The economic transition from goods production of the industrial era to goods movement of the logistics revolution (Johal et al., 2019; Peel-Halton Workforce Development Group, 2016) has thus far been unsuccessful in reversing the rise of precarious work, defined as work that is unstable, low-wage work, with no union coverage (Thomas et al., 2020).

Within the logistics sector, Amazon has been aggressive in its acquisition of warehousing real estate to expand its distribution network (Altstedter, 2021), squeezing out brick-and-mortar retailers (Chua & Cox, 2023; Johal et al., 2019; Rodrigue, 2020), a phenomenon that some have called the "Amazon effect" (Alimahomed-Wilson et al., 2020). This phenomenon is most acute in the Greater Toronto Region – the logistics capital of the country – where a bulk of Amazon's activity has been focussed (Deveau, 2019). This has implications on the broader political economy of the region and its labour market. The gradual reduction of physical retailers and rise of e-commerce has implications on the fiscal capacities of the region's municipalities. The politics of municipal governance and finance, and the making of neoliberal urbanism is linked to broader patterns of austerity in the Canadian context. The end of the postwar Fordist era in the 1970s saw governments at multiple levels shift resource allocation in an effort to court capital and encourage private investment.

At the federal level, this took shape in the form of government's receding role in overseeing urban development, while at the provincial level it was a series of municipal amalgamations that "rationalized" services to sprawling suburbanized spaces. In the 1990s, the Conservative

government initiated the restraint of fiscal transfers to the provinces, a process that was intensified and accelerated under the Liberal government of the mid-1990s. The resultant reduction in provincial revenue led governments to subsequently download much of the funding onto municipalities, marking the beginning of permanent austerity politics at the municipal level, to which the responses have been increased privatization of services and heightened reliance on residential property taxes, the latter occurring to compensate for declines in non-residential tax revenues (Albo & Fanelli, 2019). Importantly, this neoliberal policy paradigm also shaped the spatial stratification of Toronto's inner and outer suburbs along racial and ethnic lines (Kipfer & Keil, 2002; Albo & Fanelli, 2019). In the Peel region, the GTA's logistics capital, where nearly 40 percent of Amazon's packages to Canada are processed, municipalities are failing to establish infrastructure to support its overwhelmingly racialized, immigrant working class population:

> "Peel has been the fastest growing region in Ontario for decades, with the most underfunded health care system in the province: there is only one hospital in Brampton to serve over 600,000 people. It's home to the province's largest number of international students, new immigrants, and workers in distribution centres. Many of these people live in multigenerational homes, not just because it's a feature of their culture, but because of their inability to afford housing and childcare while working paycheque to paycheque" (Syed, 2021).

The downward trend of the share of revenue from industrial property is in large part due to the decline in the manufacturing sector. The growth of e-commerce and the establishment of massive warehouses in the region have not offset these revenue losses for two main reasons. Firstly, there is a distinction between industrial and commercial property classifications: a warehouse that is not attached to a goods production facility is classified as a commercial property, which is taxed at a lower rate than an industrial facility (Johal et al., 2019, 38). Secondly, the number of jobs per hectare associated with the new distribution and logistics facilities (some of which are highly automated) is lower than would have been the case with manufacturing plants (City of Toronto, 2022). Thus, the success of Amazon's geographical strategy in the GTA relies on the exploitation of struggling suburban municipalities desperate to generate revenue and employment in the context of neoliberal austerity and capitalist crises. In addition, Amazon's efforts to monopolize the logistics and retail industry by hoarding warehousing space in the GTA will, contrary to its hailing as a job creation machine (Sorkin, 2017), likely result in a net loss in retail employment due to a reduction in properties used for commercial purposes, and decreased tax revenue (Johal et al. 2019).

Amazon's expansion, however, has also had a *qualitative* impact on work. Its rapid growth, increased monopolization of retail and logistics, and augmented power in the global supply chain and over various suppliers affords the company a greater role in shaping work and employment practices (Kassem, 2022; Delfanti, 2020; Chua & Cox; 2023; Vgontzas, 2022). This "Amazonification of logistics has detrimentally impacted workers by contributing to the further erosion of labor standards, while simultaneously increasing competitive pressure on existing unionized parcel delivery firms" (Alimahomed-Wilson, 2020, 70). In Ontario, even workers in unionized warehouses have not been able to stave off Amazon's "megacycle" shifts (Gurley, 2021) of 10.5 hours a day. A former Amazon warehouse worker who took up work at a large warehouse in Brampton (a large municipality in the GTA) explains the impact this has had in her new workplace:

> "They [current employer] used to have normal 7AM-3PM, Monday to Friday. Very reasonable. People could, like, drop off their kids to day care and be home for lunch. When [they] jumped on Amazon scheduling, which is 10 hours a day, 4 days a week schedule, it meant starting at 5 o'clock, so people were complaining about all of a sudden having to wake up at 3:30 AM, not knowing what to do with their kids in the morning." (Interview)

In an effort to keep up with Amazon's aggressive pace and rapid subsumption of market share, workers in the logistics sector now face a race to the bottom, in which work colonizes massive portions of workers time outside of work and reorients workers' lives around longer and irregular shifts.

These dynamics are manifesting beyond the warehouse space and into the last-mile delivery process, where Amazon is further entrenching the gigification of work. A year after it established its first warehouse in 2011, Amazon extended its Prime membership to Canadian residents. The e-commerce giant had previously relied on Canada Post, UPS, and FedEx to deliver its parcels, whose capacities to keep pace with the immense volume of Amazon deliveries ultimately waned. Now Amazon relies on a 'contracted out' workforce to fulfil its Prime program's promise of free one-day shipping. To do this, Amazon created *Amazon Flex*, a platform through which drivers are hired as gig workers who are 'legally' (mis)classified as independent contractors. Similar to what has been dubbed the 'uberization' of work – that is, the hiring of temporary workers through digital platforms to perform on-demand work without any employee rights – "self-employed" drivers must use their own vehicles or rented vans and are compensated based on each delivery route completed (Hassel & Sieker, 2022; Alimahomed-Wilson, 2020).

In addition to the exploitation of "independent contractors" to deliver its packages, Amazon introduced its *Delivery Service Partners* (DSP) program where it relies on small, subcontracted parcel delivery services that operate 20-40 vans to deliver exclusively to the Amazon Prime membership. Like the workers deployed through the Amazon Flex program, drivers hired through a DSP are also not considered Amazon employees. From training to uniforms to work assignments, monitoring and discipline, as well as firing and retention, Amazon controls all aspects of work with DSP managers as their intermediaries (McIntyre, 2022). A delivery service partner can also subcontract another smaller delivery company to handle Amazon's packages, thus creating a complex network of subcontracted and sub-subcontracted drivers where "the further down the chain from Amazon, the worse the gig" (McIntyre, 2022).

In its crucial last-mile distributional operations, Amazon's labour strategy is to exploit (mis)classified categories of predominantly (im)migrant workers towards whom it can abdicate any responsibilities but over whom it can retain full control. In sum, Amazon's profitability is made possible through its capitalization on the broader political economic milieu of austerity and flexible labour regimes that produce a just-in-time, racially-differentiated workforce. These qualitative changes to work and processes of social differentiation also manifest in the digital Taylorist labour processes within Amazon's cavernous warehouses. In what follows, I argue that digitalized and algorithmized labour processes are constituted by racialized and gendered divisions of labour that shape the uneven experiences of algorithmic management.

Digital Taylorism and the Labour Process

Within its massive warehousing infrastructures, digital Taylorism has been a hallmark of work at Amazon. These strategies of labour management have their roots both in Frederick Taylor's scientific management (or Taylorism) as well as the lean production regimes pioneered by Japanese automobile production (or Toyotaism).

Like its antecedent management technique – Taylorism – digital Taylorism deploys digital technologies and algorithms to organize work and control the labour process through automated surveillance. Managerial control is outsourced to a technological infrastructure that breaks down work into standardized and simplified tasks, deskilling workers in the process and rendering them replaceable and disposable. As Braverman (1974, 70) noted in his seminal work, Taylorism entails the "separation of conception from execution," leaving workers without knowledge on how each task fits into the broader set of operations. This is analogous to the way in with Amazon's system of 'chaotic storage' allows its workers to "stow the stuff, [but] not possess an overview of where the stuff is" (Delfanti, 2020, 37). In the latter case, worker's subordination to the algorithmic organization of the labour process further intensifies work, making it more precarious, standardized, and dangerous – what Delfanti (2021) calls "machinic dispossession."

Similarly, elements of lean methods and its notion of *kaizen* – the continuous search for marginal improvements "by constantly stressing and readjusting the production system and, above all, the labor process" (Moody, 1997, 87) – can also be seen in digital Taylorist regimes. Lean production (or management-by-stress) shares much of the features of Taylorist exploitation of workers, such as reducing the number of workers while intensifying the labour process and squeezing efficiencies by eliminating slack times and implementing employer-oriented flexibility. As Moody (1997, 95) notes, "[r]ather than hiring new workers, more overtime is scheduled."

Some of the ways in which Amazon reduces its labour costs include mandatory overtime, as well as monitoring Time Off Task (TOT) through the scanners that workers have to use to scan commodities in the warehouse as they stow, pick, and pack. Amazon also recycles vast amounts of its workforce by hiring hundreds of temporary workers (colloquially called "white badges" in Amazon jargon) during peak seasons who are then discarded once demand winds down. To be sure, Amazon's ability to enforce mandatory overtime[4] and normalize a 'high churn' workplace are part of a broader politics of production (Burawoy, 1983) where the state-legislated labour regimes discussed above create the social conditions that allow employers to extract more time and flexibility out of its workforce.

Amazon's digital Taylorist "culture of metrics" (Henaway, 2023) also generates a culture of injury through immense physical and mental stress, exacerbated by undisclosed performance goals (the need to 'make rate') dictated by algorithms (Moody, 2020; Alimahomed-Wilson, 2019; Hanley & Hubbard, 2020; UNI, 2023, Delfani, 2020). This arbitrary "floating rate" is an "overall rate at which workers must complete a task in an Amazon warehouse, whether it's putting items on shelves, taking them off, or putting them in boxes, is calculated based on the aggregate performance of everyone doing that task in a given facility" (Mims, 2021).

Across the United States and Canada, injury rates inside Amazon's warehouses continue to be well above industry standards. Injury rates are worse in Canada than they are in the US, and they are worst in Amazon's Toronto-area warehouses where injury rates have more than doubled since 2016 (Mojtehedzadeh, 2020). Despite consistent reports of the harm workers face in its

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[4] One of the 2001 amendments to the Employment Standards Act (ESA) enacted by the Mike Harris government concerned the regulation of overtime. The revised legislation revoked the requirement of a government permit for excess hours and instead introduced a requirement for employee 'consent' to work overtime (Thomas, 2010). As one Amazon worker explained to me: workers hired by Amazon can opt out of overtime but hiring managers do not inform them of that option. Mandatory overtime is discretely embedded in the employment contract that they sign upon being hired. The worker added: "*they punish you for [opting out]*" by suggesting that it would not be possible to opt back in. The power imbalances between the employer and the employee thus make it difficult for workers to practice their legal right to *not* consent to overtime, and this is especially the case in the face of economic insecurity, concerns about immigration status, and language barriers (Thomas, 2010).

warehouses, Amazon consistently disputes and undermines the severity of workers' injury in order to reduce the company's accident costs and their Workers Safety and Insurance Board (WSIB) premiums, as well as the benefits injured workers might ultimately receive (Mojtehedzadeh, 2020). In all, this hybrid culture of metrics and injury – which some have dubbed "Bezosism" (Mims, 2021) – pits workers against one another as they are pushed to their physical limits in these techno-panopticons.

The 'Social' in Digital Taylorism: Racial-Ethnic and Gender Differentiation

These digitalized, standardized labour processes that require little training also have implications on the social relations amongst workers. They allow managers to assign tasks arbitrarily, opening the possibility for nepotism and favouritism. Henaway (2023, 3-4) suggests that "[s]upervision through algorithms and surveillance masks the power dynamics of this technical division of labour." As one worker explained to me:

> "I don't know, like, the whole idea that this is just an app running things or something… that doesn't really correspond to what my view of how it is at work. There is this whole surveillance system and all this rating and everything, but that's just kind of used to enhance the managers' power in a lot of ways because they still have the discretion - they can choose to go complain to certain people and not to other people. There isn't like some automatic process where it's just like based on these metrics that that's how people are being promoted" (Interview).

Although digital technologies have greatly reshaped the management and intensification of work, it is still human managers who decide how work is distributed and who gets disciplined, and technology enables managers[5] to mask practices of favouritism through the veneer of digital objectivity. As Kelly (2022, 835) notes, the very term 'algorithmic management' has "the unintended effect of erasing the human labour of middle management which remains important to the labour process." While it is true the technologies that workers encounter are standardized across the world, local differences do matter, especially in a highly diverse workplace comprised of different groups of racialized immigrant workers. In this context, favoritism happens along gendered and racial/ethnic lines and is experienced by workers as such: "The arbitrary power of the company over workers worsens the ethnic and gendered dynamics because it gives them power that they can use to do the sort of ethnic favouritism and pit different groups against each other." (Interview)

Another worker describes the ways in which racial/ethnic dynamics shape how work is organized. She describes the ways that managers sanction social interaction: "I worked at ship dock. They dictate who you're allowed to be around and who you're not to be around. They don't want certain kinds of people mixing together. […] I noticed they had me separated from other East Asian people. Always kept us separated. And when I'm talking, they would come in and break us up. That's what they do [but] they'll say, 'your rate is too slow'" (Interview). Miraftab (2016) refers to these managerial strategies as the "linguistic choreography of the production line" to describes the ways in which racialization is exploited to quell solidarity and intercultural understanding amongst workers.

Work is also organized along gendered lines (see also Vgontzas, 2022). Water spiders – Amazon's borrowed lexicon from lean methods – are workers who provide supplies to other workers in the work process (e.g., ensuring there are enough boxes). These roles tend to be more

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[5] Delfanti (2021) uses the term 'augmented despotism' to refer to the interplay between technology and the enhancement of human managers' powers.

physical and are predominantly assigned to young men. In the warehouses, these are considered "indirect process" roles that facilitate others' work and are not monitored or subject to a specific performance rate in the same way that "direct processes" like picking or stowing might be. The workers who perform the role of a water spider in the warehouses note the physicality of the job, but also expressed feeling relatively more secure in their jobs because their work is not 'rated': "A lot of indirect roles are more physical. so for example, like aunties [a term used endearingly to describe older racialized women], older ladies, probably don't want it. I think they would rather be tracked than have to do physical work that's gonna, you know, hurt their back or something" (Interview). Women in the warehouse can end up in more precarious work situations when confronted with the difficult choice of heightened surveillance or potentially injurious work. Another worker notes that the surveillance technology that are afforded to managers to use "their positions of authority for sexual harassment and whatnot" (Interview), by tracking a worker's location in the warehouse, for instance.

Workers' *actual lived* experience of work inside digitized and algorithmized workplaces suggest that the use of technology in the workplace does not neutralize or transcend existing social relations. Far from achieving an undifferentiated workforce and labour process, digital Taylorism is a socially grounded phenomenon that is situated within an unequal context. This labour process is constituted by racialized and gendered divisions of labour that inflect the uneven experiences of algorithmic management. Management's practices of nepotism and ethnic favouritism, as well the gendered differentiation of work assignments bestow unequal levels of algorithmic surveillance, managerial discipline and harassment, and job precarity.

Conclusion

The past few years have seen a rise in research on digital capitalism and its broader social, economic, and political impacts. This paper seeks to contribute to these discussions through a case study of Amazon's presence and expansion in the Greater Toronto Area, in which most of its warehousing operations are concentrated. By drawing on the framework on racial capitalism, I explore social differentiation at two distinct but related scales: at the broader level of the GTA as well as *within* Amazon's warehouses. Amazon's rise in Canada is partly attributable to a racially and ethnically stratified labor market. As I have shown above, this stratification is itself a product of racial capitalist practices of differential inclusion of (im)migrants and racialized workers. In a context of multi-scalar neoliberal austerity and labour flexibilization, it is a predominantly racialized immigrant workforce living in Toronto's inner and outer suburbs that works to stow, pick, ship, and deliver commodities to prop up Amazon's empire.

At the level of the warehouse shopfloors, the analysis offered here provides a more nuanced depiction of workers' experiences of digital Taylorism. Workers own accounts trouble the notion that technology and algorithms lead to an undifferentiated workforce and a uniform labour process. By insisting that digitality unfolds within a specific socio-historical context, I show that racialized and gendered social relations inflect the uneven experiences of algorithmic management, shaping the division of labour and bestowing differential levels of injury, surveillance, harassment, and job precarity. As Amazon continues to expand, worker and community resistance against its monopolistic and exploitative practices will continue to grow. The contribution offered here suggests that attention to racial dynamics of Amazon's digital capitalism is crucial in the struggle for post- or anti-capitalist futures.

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