



Algorithmic Control in Platform Food Delivery Work

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Abstract

Building on an emerging literature concerning algorithmic management, this article analyzes the processes by which food delivery platforms control workers and uncovers variation in the extent to which such platforms constrain the freedoms—over schedules and activities—associated with gig work. Drawing on in-depth interviews with 55 respondents working on food delivery platforms, as well as a survey of 955 platform food delivery workers, we find that although all of the food delivery platforms use algorithmic management to assign and evaluate work, there is significant cross-platform variation. Instacart, the largest grocery delivery platform, exerts a type of control we call “algorithmic despotism,” regulating the time and activities of workers more stringently than other platform delivery companies. We conclude with a discussion of the implications of the spectrum of algorithmic control for the future of work.

Keywords

algorithmic management, labor process, platform work, gig work

Platform work—in which companies like Uber, Lyft, Instacart, TaskRabbit, Mechanical Turk, Care.com, and others use cloud-based technology to “match” workers with consumers (Vallas 2019)—has produced a type of labor with contested status under U.S. employment law. The explosion of “platform capitalism” (Srnicsek 2016) is part of a broader transition from standard employment protections toward “flexible” work arrangements, including contract, temporary, and part-time employment, in the United States and elsewhere since the 1970s (Beck 2000; Kalleberg and Vallas 2018; Summers 1998).

Some commentators see possibilities for liberation in flexible work arrangements, since such workers can more freely choose their hours and reduce their commitments to single employers. A few go so far as to argue that the loosening of the bonds between workers and employers may make possible a world in which work is altogether less central to people’s lives and life projects, allowing for new pursuits and new forms of solidarity (Beck 2000)—recuperating an older utopian vision (Marcuse 1964). In theory, workers engaged on platforms can choose when, where, and how much to work; and they can work for multiple platforms at once to reduce their dependence on any one, like the Uber driver who also drives for Lyft and Juno (Sundararajan 2016).

Many labor scholars have argued, in contrast, that such “flexibility” is closely associated with precariousness (Arnold and Bongiovi 2013; Kalleberg 2009; Kalleberg and Vallas 2018; Neilson and Rossiter 2008; Standing 2011; Vosko 2010). For these scholars, the “freedom” promised by flexible employment arrangements is illusory, recalling Marx’s critique of the “free laborer” as being free “of everything necessary for the realisation of his labour power” (Marx [1906] 1936:188). Workers are forced to confront the market directly, outside the safety of a contractual employment arrangement, absorbing the market risks and uncertainties that employers previously shouldered, without protections like health insurance or retirement benefits (Barley and Kunda 2006; Hacker 2006; Smith 1998). The platform worker is in many ways the ideal-typical member of the precariat, with few of the traditional rights or entitlements associated with employment.

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These critics have observed that companies use such work arrangements to reduce their responsibilities to workers, but few have explored the impact of platforms on the experience of work itself and how it varies by employer. This article draws on a survey of 955 platform food delivery workers and in-depth interviews with 55 of the respondents. Food delivery is a rapidly expanding sector of platform work. Both online grocery and restaurant delivery sales are expected to grow by billions of dollars in the coming years (Haddon and Jargon 2019). A range of restaurant delivery companies are battling for market share across the United States (Edison 2019), while in the grocery delivery sector, upstarts like Instacart compete with Kroger, Target, and Walmart as well as Amazon (Haddon and Jargon 2019).

We analyze how platforms control the labor process, drawing on workers' own experiences and highlighting variation in these control processes across platforms. While all food delivery platforms use algorithmic management to assign and evaluate work (Lee et al. 2015; Rosenblat 2018), they vary in the extent to which they constrain the freedoms—over schedules and activities—widely associated with gig work. Instacart, the most prominent grocery delivery platform, exemplifies what we call “algorithmic despotism,” because the company regulates the time and activities of workers more stringently than other platform food delivery companies. In what follows, we unpack how workers experience the spectrum of algorithmic control and its implications for the future of work.

Algorithmic Management and the Experience of Low-Wage Work

An emerging literature has recognized that many platform companies do not merely “match” consumers with service providers but also seek to control the behavior of workers—a process some commentators call “algorithmic management” (Lee et al. 2015; Rosenblat 2018). Through the strategic use of information asymmetry, the surveillance of workers through customer ratings and other performance measures, and behavioral nudges, like surge pricing, platform companies manage and monitor the activities of those who work for them. In the case of Uber, for example, Rosenblat and Stark (2016) argue that such practices belie the claim that drivers confront the market in an unmediated way, as “independent contractors” or “entrepreneurs.” Instead, the various features of the platform combine to produce “what most reasonable observers would define as a managed labor force” (Rosenblat and Stark 2016:3777). But at the same time, as Alexandra Ravenelle (2019:94) has shown, “gig workers, as independent contractors, are outside the social safety net of basic workplace protections,” from minimum wage laws, to workers' compensation, to the right to form unions.

Debates over the classification of these workers are currently playing out at the state and national levels, as evidenced by the California Supreme Court's decision in

Dynamex Operations West v. Superior Court (2018) and the U.S. Department of Labor's recent opinion letter classifying many platform workers as independent contractors (Scheiber 2019). Scholars, activists, and platform company officials are all keenly aware of the contingency in contemporary social understandings of such economic interactions (Zelizer 1978, 1997) and mindful of how important their classification is for the regulatory context within which these companies exist and the relative power of actors engaged in them.

Yet notwithstanding the important work of Rosenblat, Ravenelle, and others arguing that the relationship between gig workers and platform companies is an employment relationship rather than a market one, scholars have been slower to theorize the processes through which platforms control workers and whether and how these systems differ from one another or from the systems that have come before. We draw on previous scholarship on the labor process, which considered in detail the variety of strategies through which employers control workers (Braverman 1974; Burawoy 1979; Edwards 1979; Jacoby 1985). Synthesizing the literature on algorithmic management with this older tradition reveals that while algorithmic control over labor may be relatively new, it replicates many features of older mechanisms of labor control (Mason 2018; Veen, Barratt, and Goods 2019).

For its advocates, the promise of the gig economy is the autonomy it affords workers—the sense of control it offers them over their time and activities. Tilly and Tilly (1998:90) point out that autonomy over one's work “encompasses time (who decides on the pace of work and the time worked?), but also space (who determines where tasks will be performed?), and tasks (at whose discretion does the repertoire of tasks performed vary from one time period to another and at whose discretion?).” Research has consistently shown that workers value such forms of autonomy and that they chafe against both the arbitrary authority of managers and the constraints of bureaucratic rules limiting their freedoms over how and when to work (Crowley 2012; Hodson 2001; Roscigno, Sauer, and Valet 2018).

Michael Burawoy's (1979, 1985) notion of hegemonic control, however, complicates the idea that workplace autonomy is always positive for workers. By granting workers a degree of autonomy, he suggests, employers can more effectively secure workers' consent to their own exploitation: “Within the labor process the basis of consent lies in the organization of activities as though they presented the worker with real choices, however narrowly confined those choices might be. It is participation in choosing that generates consent” (Burawoy 1979:27). In the context of platform work, workers appear to have the capacity to choose the shifts or jobs they take and in some cases when and where to work—Tilly and Tilly's (1998) three dimensions of autonomy. Yet we suggest that this, too, is a case of securing consent, rather than genuine autonomy.

In the factory Burawoy (1979) studied, workers incorporated the company's piece-rate system into a game of "making out," aspiring to achieve rates of production that would earn incentive pay. The piece-rate systems on which most delivery platforms are based make the gamification of earnings operate in just this way. Burawoy cites Marx's observation that a piece-rate system makes it "in the personal interest of the worker that he should strain his labor-power as intensely as possible" (Marx [1867] 1990:695). Moreover, piecework fuels the sense of individual choice and competition underlying the games that Burawoy found and that we find on many platforms today: "[T]he wider scope that piecewages give to individuality tends to develop both that individuality, and with it the worker's sense of liberty, independence, and self-control, and also the competition of workers with each other" (Marx [1867] 1990:697).

In the context of platform work, games extend beyond pay rates. As several scholars have shown, the metrics collected about platform workers, which are reflected back to them and their coworkers publicly and which serve as the basis of rewards, incorporate workers into a variety of behavioral games. For example, Mason's (2018) first-person account of working for Lyft describes the various "meaningless badges" to which drivers can aspire and the panic she felt when she saw that her average reviews had dipped from 4.91/5 stars ("Awesome") to 4.79/5 stars ("OK"). In her fascinating study of food delivery workers in China, Lei (2019) shows that the platform interface closely resembles the video games that workers often play in their off time. Drawing on labor process theory, Gandini (2019:1049) similarly identifies customer-generated consumer metrics and gamification strategies as two key dimensions of what he calls "techno-normative" control.

Burawoy's theoretical innovation was to show how worker choice could be made a part of workplace systems of control—a relevant insight in the context of platform employment. But as he and other scholars of the labor process have argued, systems of control are often overlapping, with new systems "contain[ing] and actively reproduc[ing] forms of control originating in previous periods" (Burawoy 1985:125) and multiple systems operating "simultaneously and in combination" (Crowley 2012:1401; see also Hodson 2001). While the gamification of platform work undoubtedly enhances productivity (Gandini 2019), platforms also rely on other control processes that restrict rather than expand worker choice.

In Burawoy's account, the arbitrary control of the foreman was replaced with a system through which workers became actively invested in the game of production. Richard Edwards (1979:20) also observed the diminution of arbitrary authority in the workplace but saw it as being replaced with what he called "technical control," exemplified by the assembly line, through which the "[m]achinery itself directed the labor process and set the pace" of work. Writing in the late 1970s, Edwards foresaw that the assembly line would be replaced by the computer as the primary technology that would direct and evaluate workers, as "[t]heir immediate

oppressor becomes the programmed control device, the programming department, the printout" (Edwards 1979:125).

Platform companies make use of technical control as well as hegemonic control. As explored later, platforms direct workers where to go and what to do—a process, on its face, not unlike the structuring routines of the assembly line. The information asymmetry that Rosenblat and others describe as central to platform employment—for example, a company like Uber preventing a driver from seeing the economic value of a ride before accepting or declining it (Rosenblat 2018:94) or "predicting" surges that sometimes never materialize—elides the distinction between offers and commands, preserving an illusion of choice for platform employees while effectively directing their work (Veen et al. 2019:10–11).

More surprisingly, on many platforms, workers feel that they are subjected to arbitrary authority—what Edwards (1979) describes as "simple control" (a parallel to the "despotic control" that Burawoy [1979] posits as the historical precedent to hegemonic control). Despite the technical rationality of an algorithmic system, from the perspective of an individual worker (denied access to the algorithmic logic involved), the decisions that an algorithm makes about the allocation and compensation of work can feel arbitrary (Veen et al. 2019). Here the boundary between technical and simple control blurs, for it is the technological system itself that exerts what workers experience as unjust and personalized discretionary authority. As other studies have shown, it is not technology in and of itself but how it is incorporated into production that shapes worker experience (Vallas 1993).

While all platforms rely on such mechanisms to control workflow and productivity, they do so in distinctive ways, and those variations matter for workers. After reviewing the basic control systems on which all food delivery platforms seem to rely, we compare Instacart with other food delivery platforms and argue that Instacart is especially despotic in the degree to which it strips workers of the freedoms widely associated with the gig economy. We call Instacart's form of control "algorithmic despotism."

Method

This paper is based on research conducted between October of 2018 and February of 2019. Our analysis relies primarily on 55 in-depth qualitative interviews with people who work on a range of food delivery platforms. Interviewees were recruited among respondents to a larger survey we conducted on a nonrandom sample of 955 platform food delivery workers, and we draw on quantitative data from this larger group as well.

Following Schneider and Harknett (2019), we began our research with a web-based survey designed to reach grocery delivery workers from the leading food delivery platforms: Instacart, DoorDash, Postmates, Uber Eats, GrubHub, Shipt, and others. Instacart and Shipt focus primarily on grocery delivery, though Shipt—bought by Target in December of

2017— also delivers a range of items from Target and, as of spring 2019, pharmaceuticals from CVS and pet products from Petco. Postmates delivers groceries as well as prepared food and drink. DoorDash originally focused on delivering food from restaurants, but since 2018 it has partnered with Walmart to make deliveries of other items. Uber Eats and GrubHub focus primarily on delivering prepared food from restaurants. All of these companies consider their delivery workers independent contractors, not employees.

We recruited workers to take our online survey in two ways. First, we targeted advertisements to platform food delivery workers on Facebook. Schneider and Harknett (2019:91–92) review in detail the advantages and disadvantages of using Facebook advertisements to target low-wage workers. Given the widespread use of Facebook and Instagram across the U.S. population, as a sampling frame, Facebook compares reasonably well to telephone-based methods (Christian et al. 2010). We targeted Facebook advertisements for our survey at individuals who were between 18 and 64, who spoke English, and who reported working for one of eight food delivery platforms. An example of one of our ads is displayed in Figure 1. Such advertisements were displayed to 64,434 people, some of whom were shown the ads multiple times, and 2,976 people clicked on the survey link, slightly less than 5 percent of those to whom it was displayed. Among those who clicked on the link, 1,289 who identified as platform delivery workers began the survey and 664 completed it.

In an effort to increase our sample size, we also sent messages to the moderators of 47 Facebook groups for platform food delivery workers (excluding those managed by the platform companies themselves). Six moderators confirmed that they posted our survey link within their groups. This yielded an additional 492 platform delivery workers who began our survey and 291 who completed it. In total, then, 1,781 platform delivery workers began our survey and 955 completed it. The quantitative results we report are based on data from the 955 completed surveys.

Our sample of survey respondents is not representative of the population of food delivery workers as a whole. Those who identify themselves as platform workers on their Facebook pages and those who belong to groups related to platform food delivery on Facebook—the two channels through which we recruited respondents—are likely to be more attached to this work than other platform food delivery workers and to differ from the population of other platform food delivery workers in other unanticipated ways. That said, given the lack of data about the composition and experiences of this workforce and the difficulty of reaching this population using other methods, the research presented here provides an important, even if nonrepresentative, portrait of this emerging sector.

One of the last questions in our online survey asked whether the respondent would be willing to participate in an hour-long interview by phone or Skype, for which we offered

Figure 1. Example of Facebook advertisement for survey recruitment.

a \$40 gift card as compensation. If respondents expressed interest, we asked for contact information to arrange the interview. Of the 955 people who completed our online survey, a majority (559, or 58 percent) expressed interest in participating in a follow-up interview. In deciding who among these 559 to contact, we sought to maximize diversity in terms of platform company, age, gender, race, geography, political orientation, and family household income. We completed interviews with 55 delivery workers, or 10 percent of those who expressed interest, and the interviews lasted an average of one hour. In order to protect respondents' confidentiality, we use pseudonyms throughout.

While our survey is not generalizable to the population of food delivery workers, our interviews enabled us to identify processes using logical rather than statistical inference and reach saturation (Mitchell 1983; Small 2009). Further, we observed the same patterns both across and within our interviews, giving us more confidence in the findings: that is, we observed similar patterns in people's accounts of different platforms whether we were comparing different individuals who worked for different platforms or the same person's experience working across multiple platforms.

Table 1. Descriptive Statistics, Platform Food Delivery Worker Interviews.

Variable	Interviewees (N = 55)
Female (0/1)	0.8
White (0/1)	0.81
Age	40.98 (11.74)
Education	
High school diploma or less (0/1)	0.11
Some college (0/1)	0.25
College degree or more (0/1)	0.64
Works primarily for Instacart (0/1)	0.69
Works on multiple platforms (0/1)	0.45
Delivery work is primary income (0/1)	0.63

Note: Standard deviations, where informative, in parentheses.

Table 2. Descriptive Statistics, Online Survey of Platform Food Delivery Workers.

Variable	Instacart (n = 534)	Other (n = 421)
Female (0/1)	0.85	0.6
White (0/1)	0.77	0.76
Age	41.17 (11.63)	38.23 (13.84)
Education		
High school or less (0/1)	0.14	0.25
Some college (0/1)	0.36	0.41
College degree or more (0/1)	0.5	0.34
Works on multiple platforms (0/1)	0.41	0.4
Delivery work is primary income (0/1)	0.58	0.56
Gross hourly earnings (not including tips)	9.50 (6.61)	10.15 (7.43)
Gross hourly earnings (including tips)	13.09 (8.48)	13.51 (7.99)
Weekly hours	32.19 (17.74)	23.62 (14.31)
Percentage of work time waiting for jobs	20 (19)	13 (15)
“I would work with fever” (0–100)	47.16 (35.63)	26.91 (31.18)
“App is fair to me” (1–7)	3.37 (1.99)	4.95 (1.87)
Job satisfaction (1–7)	3.48 (2.02)	4.98 (1.78)

Note: Standard deviations, where informative, in parentheses.

Notably, respondents repeatedly emphasized Instacart’s higher level of control over their time and activities compared to other platforms.

Table 1 presents basic demographic information for our 55 interviewees. As we came to recognize that experiences working on Instacart varied from those on other food delivery platforms, we constructed Table 2, which presents descriptive statistics of our 955 survey respondents broken down by

whether they reported working primarily for Instacart or primarily for another food delivery platform. While 40 percent of our survey respondents reported working on multiple platforms, the data in Table 2 are specific to the primary platform on which they reported working. The composition of our sample of interviewees was similar to the composition of our survey sample, though slightly more female, slightly more white, somewhat more highly educated, and somewhat more likely to report reliance on platform food delivery work as the respondent’s primary income.

Algorithmic Control in Food Delivery Work

If the primary problem facing traditional employers, as the labor process literature emphasizes, is transforming working time into actual output, the platform employer has the additional challenge of matching labor supply with fluctuating consumer demand. The platform aims to regulate both the supply of workers at any given time as well as their behavior once they are working. Algorithmic control processes must be understood in relationship to these two separate, though related, problems.

The structure of platform food delivery work is far from the ideal type of a free marketplace of independent contractors and customers buying and selling services with full information (Ravenelle 2019; Rosenblat 2018). Platforms do use market mechanisms (i.e., price and choice) to match labor supply with consumer demand, creating frameworks within which workers can strategize to maximize earnings—akin to Burawoy’s hegemonic control. But they do so within the context of technical control systems that shape and constrain workers’ choices. And because the rules of the game—the logic of pay and disbursement of orders—is black-boxed beyond workers’ view, and subject to frequent change, workers often experience the algorithm as arbitrary and inscrutable, much like the arbitrary authority of a flesh-and-blood supervisor. In this section we review these control processes and then analyze the varied ways in which platform employers rely on them.

Price and Choice

All of the food delivery platforms we studied use the mechanisms of price and choice to align labor supply with customers’ demand for services. DoorDash, for instance, offers set rates of “bonus pay” during peak demand times in order to increase labor supply. Shipt offers a floating “promo pay” on orders that workers have repeatedly declined, which increases (up to a maximum) until the order is accepted. After Instacart abandoned a \$0.40 per-item piece-rate system of compensation for its workers in 2018, it implemented a variable algorithmic pricing system based on factors that it does not disclose to its “shoppers,” the platform’s term for delivery workers.

Many Instacart workers with whom we spoke believe that the algorithm “learns” the lowest rate it can successfully offer for an order within a particular region at a particular time and day of the week. Erica, a California-based Instacart worker, reported that this new pay system had not affected her as negatively as it had others because people in her region were less willing to accept low-paying orders. “So if the shoppers are accepting the \$10 orders, then the algorithm will learn from that and know that it can keep sending out \$10 orders,” she explained. But if workers do not accept low offers, “the system starts to learn that that’s not going to work because then that makes the orders late and we have unhappy customers.” Some Instacart workers suspect that the algorithmic pricing system facilitates individual-level pay discrimination: that it learns each worker’s reservation wage, the lowest rate each is likely to accept, and then tailors offers to each accordingly. As Suzanne, a Michigan Instacart shopper, observed, “I feel like I trained the computer what I’ll do. Eventually that computer knows I’m not going to take all kinds of \$10 orders. So they stop sending them to me and they send me more decent stuff.”

These pricing practices are mediated through, and likely work to the advantage of, the platforms themselves. (It is unclear whether or how fluctuations in the wage are passed on to customers in the form of higher or lower prices.) Nevertheless, across all the platforms we studied, workers nominally have choices about what work to do once they are logged onto the platform. This allows them some scope to strategize about the orders they take in order to maximize their take-home pay, creating a game of food delivery not dissimilar from the games described by Burawoy. Robert, a stay-at-home dad who works for Postmates, described how he avoids accepting orders that involve fast-food restaurants. He noted that “the general wisdom is that if it weren’t for new people [i.e., inexperienced Postmates workers], no one would ever pick up fast-food orders.” He had started a spreadsheet on which he marked the restaurants from which he would take orders and those he would reject based on the higher or lower average returns they offered. But, he noted, “at the end of the day, somebody still has to go to Taco Bell. And it’s not going to be me!” His work on Postmates is a game, a competition between him and others on the platform.¹ Toni, an Instacart worker in New York, discussed how she tried to avoid low-paying orders by logging off the platform until she thought

another shopper was likely to have accepted it. “I’ll wait a half an hour. Let’s see what else is coming down the pipe.” Other Instacart workers would accept orders that she would never accept, Toni said, because “a lot of other shoppers are not educated the way I’m educated. . . . I like to keep it that way.” Again, the platform sets up a competition between Toni and other workers, which she experiences as a game: “I kind of feel like sometimes I’m playing a slot machine.”

Stories of strategic decision making about which orders to accept abound in our interviews. Shelly, a Michigan-based Instacart worker in her 60s who also does occasional shifts on Shipt, described how she would often wait for the “promo orders,” declining the rest of them. An Instacart worker in Dallas named David mentioned that the most useful advice he got from another shopper was never to chase the “hot spots”—the places on the map that the platform described as busy—but rather to go to the parking lots of particular stores and “wait there.” Gina, another Instacart worker who also delivers for DoorDash and Uber Eats, explained that the neighborhoods in her Minnesota work zone where she was likely to get the highest tips were those populated by the *nouveaux riches*, where people had money but were also likely to have had experience “working for tips” themselves; she tried to accept orders from these areas as much as possible.

The Context of Technical Control

Such strategic moves are made within the context of technical control systems that limit the information workers can access and place incentives on compliance, pressuring workers to treat “offers” as commands. Food delivery platforms rarely show workers a full range of orders that have been placed by customers within their region but instead present them with individual orders that they must accept or reject. In this way, platforms often withhold vital information. Historically, for instance, Instacart had paid workers per “item,” but the platform withheld the particular items in each order when offering it to a worker, displaying only the number of items in the order. Since an item was defined as any number of the same product (e.g., 30 gallons of spring water was counted as a single item), this meant that work could vary significantly across identical-looking “batches.” Without knowing what kinds of items they will be required to shop for, workers lack the ability to predict accurately how quickly they will be able to complete an order. Further, many platforms, such as DoorDash, withhold information about the final destination to which a customer or an order must be delivered, further decreasing workers’ knowledge about the work and how profitable it will be after expenses.

Most platforms also measure the rate at which workers accept orders they are offered while they are logged onto the app and then explicitly and implicitly penalize those who repeatedly decline orders. At DoorDash, for example, bonus pay (offered during peak demand periods) is provided only to those with high acceptance ratings generally (80 percent

¹Though beyond the scope of this paper, Robert’s orientation to the game was more complicated than indicated by this quote. He had shared his spreadsheet with a Facebook group for local Postmates workers, and others had contributed to it, reflecting a movement toward worker solidarity—physically separated workers uniting in digital space. (He expected it would be the newbies, the 75 percent of Postmates workers who were not a part of the group, who would wind up at Taco Bell.) Many other workers mentioned participating in online groups to share strategies, support each other, occasionally coordinate resistance, or just vent.

according to an interviewee), incentivizing workers to accept most of the jobs they are offered even in nonbonus periods. Many of the platforms also give priority in the allocation of orders to those with the highest acceptance rates, although the particular logic by which orders are matched to workers is often shrouded in mystery (see Veen et al. 2019).

Alongside efforts to match labor supply with customer demand, platforms seek to ensure service quality. Others have demonstrated how, within the traditional service sector, customer feedback may serve as a quality-control mechanism (Fuller and Smith 1991). Food delivery platforms, similarly, use customer ratings to control worker performance. However, unlike the customer feedback of previous eras, which managers used to discipline workers, platforms incorporate such feedback directly into the technical control system. DoorDash, for instance, allows customers to see the previous ratings of their delivery worker, and company policy states that it may “deactivate” people whose last 100 ratings average less than 4.2 out of 5 stars. Robert, the stay-at-home dad and Postmates worker quoted earlier, reported that the platform used to remove workers whose ratings dipped below 4.7 out of 5 stars but then explained that the company had recently changed from a star ranking to a “thumbs-up, thumbs-down” system, adding that he did not yet “understand the ramifications” of the change. Robert’s uncertainty hints at how opacity regarding the platforms’ use of performance ratings can be another mechanism of managerial control (Veen et al. 2019:12–13): if one suspects that ratings may impact the likelihood of getting work in the future, even if they do not, one is likely to err on the side of taking them seriously.

Platforms harness ratings and rankings in various other ways to exert control over the labor process. For example, Shipt uses customers’ ratings to structure future relationships between workers and customers. When a customer gives a particular worker a high (or low) rating, that worker is more (or less) likely to be matched with that customer in the future. As Gina explained, “If a customer rates their shopper as a one or two stars, that shopper will be permanently blocked from shopping for that customer.” Such capacity to structure future relationships is one-sided, however, as workers are not able to similarly rank the customers. Thus a worker might get stuck delivering repeatedly to somebody who ranks the worker highly but who “doesn’t tip well” or treats the worker badly in other ways.²

²Wendy, who delivers for DoorDash, Uber Eats, and Postmates in Florida, recounted how DoorDash had her deliver to some college guys, who later told DoorDash they never received their order so they could get their food for free. They pulled the same trick a second time when Wendy was sent their order again—even though Wendy recognized the name and address and contacted DoorDash to warn the company and suggest banning them. Finally, when DoorDash sent Wendy a *third* order from these same guys, she snapped a picture of one of them holding the food before he slammed the door shut on her—which seemed to prevent them from conning DoorDash (and lying about Wendy) a third time.

Instacart historically used bonus pay to incentivize good customer service, though the company has changed the rules by which this pay is allocated over time. Previously, Instacart workers who had exceeded a certain threshold of deliveries (i.e., 20 deliveries within the week) were given \$100 in bonus pay if their customer service ratings were in the top quartile within their region. More recently, the company changed this practice, instead offering a \$3 bonus for each five-star rating that a shopper receives. When Instacart made this change, however, it also changed the rating process itself: whereas the “default” rating was five stars in the old system (i.e., a nonrating was a perfect rating), under the new system there is no default rating, so shoppers are not compensated unless a customer deliberately gives them five stars. As Linda, an Instacart and Shipt worker in Indiana, explained, “Now if they don’t go back and purposely do the rating, it defaults as nothing. So they have to go in and give us that five-star rating to get this quality bonus.”

In her analysis of working for Lyft, Sarah Mason (2018) reports that her average ratings score riveted her attention in a way analogous to the productivity games in Burawoy’s factory. She worked for weeks “like a maniac” to raise her rating from a 4.79 to a 4.93, despite the fact that “one’s rating, so long as it stays above 4.6, has no actual bearing on anything other than your sense of self-worth.” To use the language of labor process theory, her account suggests the interwoven nature of technical and hegemonic control on such platforms. The platform would punish her if her average rating dipped too low, but it also created a framework in which she felt invested in keeping her rating far above the required level. Likewise, many of the rating systems on food delivery platforms reflect scores back to workers (and customers) so as to incentivize workers to keep their ratings high—as in the bonus system that Linda described—while also threatening workers with sanctions should their ratings dip too low.

The Algorithm as Arbitrary Authority

Even if algorithmic processes are technically rational, workers sometimes experience them as if they embodied the arbitrary authority of a supervisor. This experience of arbitrariness is one result of the platform companies’ deliberate efforts to obscure the algorithmic processes by which they assign orders to workers, or assign piece rates to orders. Shelly recounted that she was confused about when and why she would get orders on Instacart: “There’s been days that you don’t get anything. But the person down the way, the other shopper, is busy all day. . . . They won’t tell you whether it’s your speed, whether it’s your customer satisfaction, whether it’s your returns, whether whatever. There’s no rhyme or reason to that.” Lacking access to knowledge about how the platform algorithm dispenses orders, all Shelly can see is that another worker is getting work while she is not—an inexplicable disparity that shows how the platform individualizes

work, potentially encouraging competition and discouraging solidarity. Blair, another Instacart worker, similarly expressed the inscrutability of Instacart's system for allocating orders. "I think I've gotten a bad review like once or twice, and it was fraud and the customer's fault," she noted. "But they would hardly ever send me orders. . . . I would go in the store, and see other Instacart shoppers, and I'm just like, 'I have such good ratings, and such good speed. Why am I not getting orders?'" These workers know that the company measures various aspects of their performance but lack specifics as to how these affect the process of work allocation (Veen et al. 2019). Naturally, that creates a sense of unfairness when they see others receive work.

Opacity expands far beyond ratings systems. Michelle, a Florida-based Uber Eats driver who also does work for DoorDash and Instacart, explained that she was offered anywhere between \$2 and \$10 per delivery on Uber Eats. She attributed the variance to Uber Eats's arbitrariness, surmising that "whenever Uber feels like doing what they want to do," they change the rate. Similarly, Shelly described her confusion about Instacart's algorithmic pricing model: "Now it's just like, well why is this order now \$12.37, but the same number of units over here is \$18.37? . . . So it's just not very transparent. It's not very clear. And I understand they want to make money. I understand that. But it doesn't make any sense." In all of these cases, the algorithmic process determining who gets assignments and the rate at which the assignments will be compensated are hidden from view. As a result, the experience of work parallels the experience of a boss's arbitrary authority under the simple control of an earlier era.

Workers also experience arbitrary authority when platform companies unilaterally "pivot" (Ravenelle 2019), changing the structure of the work or the system for compensating and evaluating workers, often without advance notice or justification. In the case of Instacart, workers expressed frustration not just that the algorithmic pricing model seemed arbitrary but also that the transition from a piece-rate system to algorithmic pricing happened so suddenly and one-sidedly. As David recalled, "I don't know, it's weird for a company to have a certain way they pay you. And then all of the sudden . . ." He then interrupted himself, continuing, "I get it, because we're not employees, but it's still weird, you know?" Another Instacart worker named Alexandria noticed that not only the pay but also the stores she is assigned to shop at in her zone had shifted, with no clear logic. While before, she would go toward stores that were frequently assigned orders and typically receive an offer, "now that doesn't seem to matter as much. I don't know how assigning batches has changed from the old pay structure to the new one, but it seems to be a little bit more arbitrary," she concluded.

One of the biggest public controversies about grocery delivery platforms involved the changes Instacart made in how it manages customer tips. In September of 2016, Instacart altered the platform so that customers were unable to tip shoppers while adding a 10 percent "service fee" that

went directly to the company. This led to negative media attention and worker outrage that soon compelled the company to relent—though at first it remained difficult for customers to find the tipping option, and the default tip was set to zero. Then, in April 2018, the company made the tipping option more conspicuous, reduced the service fee to 5 percent, and increased the default tip to 5 percent, which customers could then raise or lower up to 72 hours after a delivery was made (Carson 2018). Finally, in late 2018, as the company moved to algorithmic pricing, it incorporated customer tips into workers' wages, in effect paying workers less the more they were tipped. Under this system, Alexandria told us, her tips were "all over the place," ranging from 10 percent to 90 percent of her earnings, "which leads me to believe that maybe Instacart is doing something a little sketchy with the tips." This policy again provoked worker and media backlash, leading Instacart to retreat yet again, promising that tips would no longer affect workers' base pay. DoorDash, which had maintained a similar policy of incorporating tips into workers' wages, more recently announced that it too would end the practice following media attention and public outrage (Newman 2019).

While such specific changes to the algorithm have drawn public attention, a more fundamental frustration with platform work is that the rules can change quickly and unexpectedly, with dramatic and uncertain implications for workers' livelihoods. This was most apparent in our interviews with Instacart workers who had worked before and after the company's shift from piece-rate to algorithmic pricing toward the end of 2018, as most workers' earnings declined sharply under the new pay structure. Given that 57 percent of the workers in our survey reported relying on platform delivery work as their primary income, such sudden changes can have profound economic consequences for individuals and their families. The practice of arbitrary "pivots" is ubiquitous across the platform economy, not only in food delivery (Ravenelle 2019:75–81).

Algorithmic Despotism

All of the platforms we studied deploy promises of flexibility and choice to recruit workers and to motivate investments in workplace games. Such freedom is constrained on all the platforms through technical control systems that structure workers' activities and through the inscrutability of algorithmic work processes. Our survey suggests that compensation levels are also similar across the various platforms. Whether working on Instacart or on other food delivery platforms, our survey respondents reported earning an average of approximately \$13 per hour, including tips and after deducting expenses, as seen in Table 2.³

³We calculated a person's average gross pay per hour as his or her average weekly reported earnings, after expenses, divided by the average weekly hours he or she reported working. We did not take account of taxes, and we included tips. A recent study by Working

Yet Table 2 also reinforces a key insight from our interviews: the experience of work seems to vary dramatically between Instacart and other platforms. Those primarily working on Instacart reported working an average of 32.19 hours a week on the platform, compared to 23.62 hours a week among those working primarily on other platforms—a 36 percent difference. Instacart workers also reported that a higher percentage of their time on the app is spent waiting for jobs (20 percent vs. 13 percent) and that they would be more likely to work with a fever than those working on other platforms (47 percent vs. 27 percent).

Moreover, Instacart workers were less likely to believe the platform is “fair” to them and were less satisfied with their jobs than those on other platforms. On a scale from 1 to 7, Instacart workers rated the statement that the app is “fair to me” an average of 3.37, whereas workers on other platforms rated it an average of 4.95. Further, on a scale from 1 to 7, Instacart workers’ average satisfaction was 3.48, compared to 4.98 among those working on other platforms. These differences remain substantively large and statistically significant in a regression analysis controlling for differences in workers’ backgrounds and earnings, as shown in Table 3. Models 1 and 3 control for demographic characteristics alone, while models 2 and 4 control also for select workplace characteristics. Working for Instacart is consistently associated with lower job satisfaction and believing that the app is less fair.

These results must be interpreted with caution, as we do not know the processes by which people self-selected into the survey sample or the unobserved characteristics that might differentiate Instacart workers from those working on other platforms and might also be associated with feelings of lower satisfaction and unfairness. Yet the quantitative results displayed in Tables 2 and 3 are consistent with the qualitative differences we observed among our interviewees.

The interview data suggest that these differences are attributable to a system of authority at Instacart that more closely approximates the traditional employer relationship than the algorithmic control exerted by the other platforms. Instacart work is organized around “shifts” based on anticipated labor demand, which workers sign up to fill a week in

advance. Workers who maintain “early-access” status are able to sign up on Sunday at 9 a.m. for the following week’s shifts, while other Instacart workers must wait until Wednesday, when there are often no shifts left to claim. Maintaining early-access status requires averaging at least 25 hours per weekend over the previous three weekends or working at least 90 hours over the previous three weeks.

As we have seen, incentivizing certain behavior (e.g., high acceptance rates, good customer service) with the promise of additional benefits (e.g., bonus pay, regular customers) is standard practice on food delivery platforms. But the Instacart early-access system, and the stringent requirements that workers must follow in order to sustain it, sets it apart. Workers often expressed their fear of losing early-access status, and this enables Instacart to exert authority over workers more intensely than other any of the other platforms. Instacart interviewees also reported having less control over their work, through an algorithm that puts intense pressure on them to accept a given order—forcing them to wait four minutes to decline an order while the platform pings their phone—undercutting their ostensible freedom to choose whether or not to take it. Instacart thus exerts greater control over workers than other platforms in two key ways: by demanding a greater time commitment by incentivizing maintaining early-access status and by making it more tedious and time-consuming to reject orders. We call this control system, in which workers have little control over either their time or the activities that they perform while working, *algorithmic despotism* because of the way in which it reproduces the “petty tyranny of the bosses,” although now in algorithmic form (Edwards 1979:35).

Control over Time

Several Instacart workers emphasized the importance of maintaining early-access status to receive any work at Instacart at all—belying the notion that “gig” work is flexible and requires little commitment, and demonstrating how platforms can constrain worker autonomy (Roscigno et al. 2018). As Linda told us, “If you lose early access, you’re pretty well screwed with Instacart because that means you’ll only be able to pick up whatever is left over on Wednesday, which is absolutely nothing. So you won’t work.” A worker named Selena confirmed this: “If you lose [early access], there’s really no hours available for you to choose from. And you’re really not working at that point.” Erica, who works on the Instacart platform in California, reported, “This week I missed the 9:00 claiming hours by one-and-a-half minutes and I only got like five hours for next week. Yeah. I probably won’t be making much of anything next week, and that’s very frustrating because I’m available to work, but I won’t be able to.” Samantha, a Michigan-based Instacart worker, said that since taking a trip recently and losing her early-access status, she had to resort to snatching up “the dregs that are left over from that frenzy” during a second sign-up round on

Washington (<https://payup.wtf/instacart/delivering-inequality>) provides a more detailed portrait of pay at Instacart. On first glance, that study’s estimate of the average hourly pay of Instacart workers (\$7.66 an hour) seems far lower than our estimate of approximately \$13 per hour. However, Working Washington excluded tips and factored in taxes. When we made similar adjustments, our hourly wage estimate for Instacart workers fell to \$8.77, still higher than the Working Washington estimate but not dramatically so. Our data may overestimate wages across delivery platforms because we asked respondents to estimate their earnings after expenses, and they may well underestimate the expenses associated with this work. Working Washington instead used a method for calculating expenses based on miles driven.

Table 3. Ordinary Least Squares Regression Analysis of Job Satisfaction and Fairness on Instacart Compared to Other Food Delivery Platforms.

Variable	Dependent Variable			
	Overall Satisfaction		App Is Fair	
	(1)	(2)	(3)	(4)
Works for Instacart	-1.477*** (0.143)	-1.191*** (0.167)	-1.621*** (0.153)	-1.367*** (0.182)
Female	0.101 (0.162)	0.096 (0.179)	0.318* (0.169)	0.278 (0.191)
White	0.081 (0.162)	0.066 (0.184)	0.171 (0.176)	0.314 (0.205)
Age	0.003 (0.005)	-0.002 (0.006)	0.004 (0.006)	0.001 (0.007)
Education				
High school or less	0.422** (0.194)	0.304 (0.211)	0.378* (0.203)	0.424* (0.227)
Some college	0.091 (0.152)	0.079 (0.166)	0.030 (0.164)	0.014 (0.181)
Primary income		-0.090 (0.168)		0.019 (0.182)
Gross hourly earnings (including tips)		0.044*** (0.009)		0.034*** (0.012)
Weekly hours		0.003 (0.005)		-0.003 (0.005)
Percentage of time waiting for work		-0.020*** (0.004)		-0.023*** (0.005)
Constant	4.614*** (0.294)	4.444*** (0.387)	4.421*** (0.317)	4.359*** (0.422)
Observations	807	645	707	555
R ²	.136	.176	.153	.207
Adjusted R ²	.129	.163	.145	.192

Note: Standard errors in parentheses.

* $p < .1$. ** $p < .05$. *** $p < .01$.

Wednesday morning. By that time, she added, remaining hours in the schedule were scarce: “It won’t be big blocks of time. It will be little dribs and drabs, like a couple hours here, a couple hours there.”

The early-access framework forces workers to organize their schedules painstakingly to avoid losing access to work. Maintaining one’s status when one’s income depends on it naturally becomes a source of anxiety. As Linda clearly articulated, “Everybody that has ‘early access’ wakes up in a cold sweat in the middle of the night to check their app to make sure they still have it.”

Workers revealed the significant control Instacart exerted over their time when they compared it to their experience working for other platforms. As Selena put it,

You just turn on your app for Postmates, and you’re online. And with Shipt, you pick up shops prior to. But with Instacart I do feel that there is—it’s kind of hard to keep job security. Because if you need time off or if you decide not to shop what they’re offering you, you can get your hours taken away. Or you can get your early availability taken away.

Likewise, Janna, an Instacart and GrubHub worker in Salt Lake City, said, “With GrubHub, once I get off this call, I could be like, hey, I’m ready for a delivery, and an order would most likely come in.” Instacart offered no such freedom.

Once workers obtain early-access status, they must navigate rather rigid parameters in order to maintain it. To start, there is the requirement that they have worked at least 90 hours over the previous three weeks or 75 hours over the previous three weekends. This alone likely explains the larger average number of hours worked by Instacart workers compared to workers on other platforms (see Table 2). Several workers discussed the difficulty of recovering early access status once it is lost. The advertised freedom to “choose one’s own hours” is seriously curtailed by such a requirement. As Linda put it, “When you start, you think, ‘Oh, this is great. I can work anytime I want to!’—until you realize you’ve come awfully close to not making that cutoff. And then, ‘Oh my God, I’m going to lose early access, and then I might as well deactivate my account.’”

Workers also lose early-access status if they receive more than five “reliability incidents” during a rolling 30 day window. A reliability incident can be issued if a worker cancels a shift within six hours of the start time, fails to be in the designated work zone during a shift, or is kicked off-shift for declining too many orders (four in a row) and then fails to log back on within two hours. Together, these restrictions effectively liquidate workers’ autonomy over time, space, and the tasks that they perform (Tilly and Tilly 1998). Some workers reported being threatened with reliability incidents without any apparent rhyme or reason. This threat, and the potentially dramatic effect of the removal of early-access status on one’s capacity to earn any money, makes Instacart feel “like a boss” to many workers who were initially attracted to platform work largely because of the promise of “being my own boss.” As Linda described it, “Sometimes they like to tell you, ‘If you don’t do this, you’ll get a [reliability incident].’ That doesn’t make me feel like I am completely my own boss, literally.” Samantha made the same point, observing how, legally, as an independent contractor “you can refuse to do certain work” but that at Instacart, “if we refuse then they have all kind of penalties that then make it harder for us to work.” She continued, “There are tons of rules that you have to follow or you’re going to get a [reliability incident] and you’re going to get in trouble and all that stuff. And so, in that way, there is a boss” even if, she said, “there’s not the physical presence of someone breathing down your neck.”

Control over Activities

In addition to exerting more control over workers’ time through early-access status, Instacart exercises more control over workers’ activities than other platforms. As on other platforms, workers on Instacart are permitted to decline orders, but it is more difficult to do so on Instacart than on the other platforms. While DoorDash and Postmates allow workers to “decline” or “reject” orders with the push of a button, Instacart does not offer this option. Instead, an Instacart worker declines an order by failing to respond to a delivery request within four minutes. After failing to respond to orders four times in a row, the worker is kicked off the shift, though he or she is allowed to log back in at will.

When Instacart workers receive a batch offer, the request pings for four minutes straight, and they cannot press a button to decline. Instead, they must wait for the order to go away. “It sends you for four minutes, so your phone pings like a submarine for four minutes straight,” Sara, an Instacart worker in New York, explained. Similarly, Erica explained, “Essentially, we have to ignore it to decline. There’s no *decline* option. We just ignore it. And then it keeps on getting sent to shoppers or back to the same shopper” until the learning algorithm figures out that nobody will accept the order at the offered rate. Cindy, who does Instacart in California, shed light on this process:

I think they’re utilizing some kind of a bot that’s trying to reach equilibrium to see how long people will shop for. Because I do recall seeing some jobs that were like \$10, and then after it being bounced around for a while, it would come back to me again. And that’s the one thing that’s annoying, is that you tell it no and it comes back a second time or a third time. It won’t leave you alone.

Although it is different from a boss breathing down her neck, the algorithm Cindy describes here is as annoying as a boss—coming back to you again and again, bothering you with the same demand, with no explanation for why you are receiving this low offer and no way to decline it efficiently. Technically the algorithm cannot force workers to take an order, but it mimics the authority of a supervisor hounding them to complete a certain task. Many other Instacart workers complained about the platform pinging them the same order again and again.

Sara recounted how she passively declined the same low-paying order 27 times in a single afternoon: “My entire shift was just ignoring this order. And I kept calling them, and they’re saying, ‘Well, we can’t do anything until you accept it.’ I’m like, ‘I’m not accepting it, because then you’re going to make me do it.’” The freedom to refuse orders at Instacart does not translate into genuine freedom to choose the work one does, as Sara’s experience suggests. Her “choice” was between a particular order—one for which she would have earned very little—and no work at all. Further, by requiring workers to toggle around the platform, repeatedly ignoring four-minute notifications and turning the platform on and off to avoid taking low-paying orders, Instacart demands even more unpaid time from its workers. As Sara’s description of repeatedly struggling to decline the same order shows, workers are effectively required to work in order to *not* do work.

For many workers, Instacart’s dominion over both their time and the work they did to fill it made the platform feel like a traditional employer. Delia, a California-based Instacart worker in her mid-60s who also works for Amazon Flex, described how Instacart seemed to treat workers as employees instead of as independent contractors: “It’s like they try to blur the line constantly between, ‘Oh, you’re an employee,’ but you’re not. You’re an independent contractor. . . . They really try to get over the line.” Offering further proof of the point, she added,

I mean, for example, some of their shopper support people, if you keep turning down a batch or an order, they’ll text you and they’ll say, you know, “What’s going on? Why are you not taking this order?” And you know, you’ll say something like, “Well, it’s going to take me two hours over the end of my shift,” or something like that. And then they badger you and harass you and say, “Well, you have to take it. You’re required to take it,” which is completely false, you know?

At this extreme of algorithmic control, when automated nudges are not enough to produce compliance, a human

supervisor, in the guise of “shopper support,” sometimes gives a shove.

Instacart’s regime of algorithmic despotism, then, often resembles the experience of being controlled by an employer’s whims. Yet algorithmic despotism comes without any accountability structure, as workers confront the same inscrutability that characterizes all gig platforms. Instacart and other platforms that exert intensive control over workers’ time and activities demand commitment from workers similar to what is demanded of part- or even full-time traditional employees, while failing to guarantee even a minimum wage. Though Instacart workers with early-access status are incentivized to be available to work during their scheduled hours like a standard employee, they are not guaranteed any orders during their shifts. This likely explains the fact that, among our survey respondents, Instacart workers reported waiting for jobs much more than their counterparts on other platforms—though uncompensated wait time is an issue across all the platforms. Many workers described having long periods of time “on shift” when they would receive no orders, without knowing why. As Shelly reflected on such periods, “There’s no rhyme or reason to that. . . . Sometimes you just don’t feel the love.” Linda pointed out that with Instacart, there is “no boss to hold accountable for the new pay structure—who is the man behind the curtain? Who are these people sending me these orders? What is sending me these orders? The mighty algorithm.” While they are not dominated by the orders of a despotic boss, workers often feel dominated by a despotic computer. As Linda imagines it, “Instacart is this giant, impersonal, glowing computer somewhere that’s running its own program.”

As on other platforms, the ways in which the algorithm allocated work felt inscrutable to workers. But in the case of Instacart, the system was particularly despotic. As Emily put it, “I feel like I have an algorithm that makes a lot of choices that don’t make sense.” Blair noted that, for the same number of hours, “I could make \$20 one Thursday and the next Thursday make \$100. . . . It just doesn’t really seem to have very much rhyme or reason.” Being held accountable for shift availability but not being given any work (or pay) for this shift was particularly infuriating. “It can be frustrating if it’s really slow. . . . I’ve been on the clock all day and I’ve got nothing,” Erica told us. “I kind of blocked off the whole day where I can’t leave the area or make plans with anyone, and then I made nothing.”

Discussion and Conclusion

The experience of platform delivery work was not unambiguously negative for our respondents. Many told us how much they valued the flexibility and freedom they felt they had, confirming the significance of autonomy to the meaning and

dignity of work (Crowley 2012; Hodson 2001). Robert’s favorite thing about working for Postmates, he told us, was “the freedom of working when I want without really having to answer to anybody, and that I can work in the middle of the night if I want.” A former information technology worker, he made evening deliveries for Postmates to supplement his wife’s income after caring for their children during the day. Like many other food delivery workers, not having a boss looking over his shoulder made the work fundamentally different from previous jobs inside and outside of the service industry:

With no one to answer to, there’s a lot of freedom. And there’s not so much sort of getting in your head with disagreements with management or that sort of thing. That you can just walk away from it if you want is nice. Really I describe it as probably one of the better jobs I’ve ever had, due to that flexibility, freedom, and—I don’t want to say lack of accountability, because that’s not accurate. But that you don’t have somebody breathing down your neck or a quota or something like that is very, very freeing.

Some aspects of this sense of freedom are intrinsic to food delivery: workers were able to spend time in their cars, alone, without supervision from a boss or much interaction with customers (unlike platforms like Uber and Lyft, in which the demands on workers’ emotional labor seem higher). Many also valued the scheduling flexibility. In spite of the constraints of early access, one Instacart worker, Nancy, appreciated the ability to alter her schedule when necessary. Instacart allows workers to cancel a shift without a reliability incident if they do so at least six hours prior to the start. So, after a “crappy day,” she said, she could decide to “tak[e] tomorrow off. That’s something nobody else has, or very few people have. The freedom of just saying, ‘Screw it. I’m not working tomorrow.’”

Some of the freedom workers experienced reflected the absence of a flesh-and-blood supervisor. Jennifer, a single parent in Texas who works for Instacart as well as DoorDash and Uber Eats, explained, “I like that I don’t have a boss breathing down my neck. . . . I like the flexibility and the fact that there isn’t a boss following me everywhere I go.” Jennifer vividly contrasted this experience with a previous warehouse job, recalling how in the latter “you’re doing something and they’re watching you from the cameras and then watching every little thing you do so you’re nervous. Or they’ll come on the floor and they’ll be like, ‘What’s this? Why is this here? You have to fix it.’” With Instacart, “it’s more relaxed so I don’t have to be so uptight about it.” Unlike when she worked at the warehouse and felt constantly surveilled by a coercive vertical management, working for Instacart gives Jennifer a sense of freedom from the watchful eyes of a boss; there is no floor supervisor scrutinizing her every move or making

demands on her. Sara, an Instacart worker in New York state, remarked, “No one’s there breathing over your shoulder, which is good.”

Our research suggests that such freedoms might best be understood as a part of the platform employer’s control system, as Burawoy (1979) famously argued (see also Mason 2018). Workers’ feelings of choice and agency in relationship to the work help them feel invested in it, despite the fact that the pay is often minimal. Robert, who in one breath described Postmates as “one of the better jobs I’ve ever had,” in the next breath admitted, “I don’t know anybody who can live on it.” For many of the workers with whom we spoke, the freedoms of platform employment came at a significant financial cost.

Moreover, workers’ freedom is often illusory, or at least highly constrained by the platforms. Many food delivery platforms, like others in the gig economy, do allow workers relative autonomy over when they work and what particular tasks they accept, and yet that freedom exists under algorithmic control, which includes incentive pricing, ratings, and incomplete information as well as the broader uncertainty and unpredictability of earnings. Instacart, as we have shown, constrains workers’ choices more than the other platforms, forcing them to commit to schedules in advance and exerting more pressure on them to accept particular orders, minimizing autonomy over their time and tasks (Tilly and Tilly 1998).

Our analysis draws a relatively sharp distinction between Instacart and other food delivery platforms. But the extent of algorithmic despotism across different platforms is a continuum, albeit one that can change quite rapidly as companies “pivot.” Between the time we began and completed this paper, Instacart introduced an “on-demand” option that allows workers who do not have early-access status to accept orders without being on a schedule (Dumont 2019). For its platform-based workforce, Amazon, not analyzed here, offers various options that correspond to different degrees of flexibility and constraint.⁴ Despite workers’ experiences of autonomy relative to more outwardly coercive, vertical control (Crowley 2012; Roscigno et al. 2018), our analysis shows how coercion often comes through the back door of algorithmic management, in particular through constraints over workers’ time and activities.

Future research should explore in more detail the reasons why the labor control systems of platform employers vary. Specifying the varieties of algorithmic control and their impact on workers’ earnings and experiences is also critical for informing legal and political debates around the future of work.

⁴As of this writing, Facebook did not permit targeting advertisements at Amazon employees, preventing us from including them in our survey.

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