

# Antinomies of the gig economy: The annihilation of space by time or the annihilation of time by space?

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## Abstract

This paper concerns migrants in Sweden working in various types of on and offline gig work. It explores how the temporal and spatial flexibility afforded to gig customers is predicated on temporal and spatial inflexibility for workers. The argument moves discussions beyond relational space by promoting a more fully dialectical view of space that understands it as simultaneously relational, relative, and absolute. Without such a view of space—which understands that space is not always open and fluid but just as often closed and fixed—it is impossible to understand the specific relations of labour that structure gig work, particularly offline gig work in such ways as to provide maximal flexibility for customers. This paper shows that the Marxian adage concerning how, in capitalism, space is annihilated by time, does not always hold. For workers doing cleaning and delivery gig work, the converse is oftentimes truer: time is annihilated by space. Gig workers—and even more so *migrant* gig workers crowded in the above-mentioned industries—experience the annihilation of time by space through the dual mandate that they must be available “just-in-time” and “just-in-place” to produce the spatiotemporal flexibility upon which the gig companies base their model and their success.

## KEYWORDS

flexibility, gig economy, migrant labour, space-time dialectics

## 1 | INTRODUCTION

Uber's arrival in September 2013 was hailed by many as the moment when Sweden truly entered the gig economy. While exploitative, de-meaning temporary work arrangements have always existed (Ehrenreich, 2002) in Sweden as much as elsewhere, the rise of platforms mediating gig labour has marked both a qualitative and quantitative shift in the nature of Swedish labour relations, deepening processes of casualization and flexibilization, while pushing risk down onto the shoulders of individual workers—the very hallmarks of a gig economy (De Stefano, 2016).

The gig model of labour market organisation allows platforms to argue that flexibility is at the heart of their business model as they

provide on-demand services to their customers. Platforms also claim that they provide flexibility to workers who are able to choose when and how they work. To be sure, engaging in gig work allows some people to work while also concentrating on their studies, to stay at home to perform domestic or care work while also taking on platform-mediated gigs, or enjoying the perks of being one's own boss. For other gig workers, particularly those performing cleaning and delivery work, the promise of *flexibility* is felt instead as *inflexibility* as they must be just-in-place (Wells et al., 2021) in order to be ready just-in-time (De Stefano, 2016). Indeed, for particular workers the experience of flexibility is constrained and limited by various factors such as the degree of choice when searching for work,

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financial dependence on income from gig work, the length of time spent performing gig work (much of which is unpaid), individual migrant backgrounds, access to social security and insurance, and one's visibility both to gig-service users and to one another. To understand how gig workers' inflexible work becomes a precondition for the flexibility of gig platforms' services, particularly in offline industries, we argue that analysis must go beyond relational space—that a one-sided relational view of space is inadequate to the task of understanding the spatiotemporal intricacies of gig-labour relations.

We argue instead for a theory of space-time relationships that understands how the absolute and relative characteristics of space are equally as important in shaping the realities of gig-labour as the relational qualities of space. In particular, we suggest that it is the dialectical interaction between these characteristics that is most vital for understanding how inflexibility is unevenly experienced in the gig economy due to the spatiotemporal realities of gig workers' lives. To make our case, we draw on 10 semi-structured, in-depth interviews with migrant gig workers performing off-line services for local urban consumption (e.g., cleaning and deliveries) as well as online services (e.g., programming, translation work and journalism). Data is used to critically examine the limits to thinking of space as only relational and propounds a more dialectical view of how the gig economy is spatially and temporally structured. In particular, we suggest that a dialectical view of space makes it possible to understand how the "annihilation of space by time" (Marx, 1987) or "time-space compression" (Harvey, 1989) that continues to mark capitalism, and which is often taken as shorthand for capitalism's ever-increasing *flexibility*, rests on a simultaneous "annihilation of time by space" for certain categories of gig workers. This is especially true for workers found in segments such as cleaning (or care more generally: see Stevens & Shearmur, 2020) and deliveries since they need to transport themselves in and through urban space to perform their work. Not only are they required to be mobile and to spend time on transporting themselves, but they also wait, sometimes for hours, in between gigs. This waiting often takes place in public urban spaces: in the street or at a metro station for instance. Thus, the annihilation of time by space is both experiential—it is how gig workers experience their everyday work lives—and a function of how the absolute and relative qualities of space are arranged.<sup>1</sup> Constrained by the absolute and relative spatiotemporalities that govern their work, the openness of space promised by advocates of relationality proves elusive for these migrant gig workers, even as it is advanced for customers. For these workers, the promise of flexibility is a myth.

In the next section, we delve into some of the key debates about the different ways to conceptualise space. Instead of a one-eyed view of space as relational, we argue that Harvey's (1996, 2019) tripartite and dialectical understanding of space as simultaneously absolute, relative, and relational offers a better "toolbox" when seeking to understand the lived experiences of migrant gig workers. After this, we give a brief account of method and data, followed by four subsections where we analyse the data accordingly: (1) cleaning

and delivery workers' experiences of the urban environment as an absolute space which, together with certain scheduling practices, creates friction in their lives, (2) the challenges and opportunities that migrant couriers and cleaners face as they work themselves into the (relative spaces of the) Swedish gig economy and society more broadly, (3) how the relational spaces and antinomies of being on-demand and in-demand are experienced in particular by couriers, and (4) how the spaces of gig work shape and are shaped by the combined absolute, relative and relational properties of both space and time. Finally, we conclude that migrant gig workers performing offline services such as cleaning and deliveries, through their deployment in absolute, relative, and relational space, open up time and space for others (i.e., consumers)—this is how the gig economy's promise of flexibility and instant gratification is realised.

## 2 | BEYOND RELATIONAL SPACE: TOWARDS A DIALECTICAL ACCOUNT OF THE SPATIOTEMPORALITIES OF GIG WORK

Relational theories of space hold that "there is no such thing as space or time outside of the processes that define them" (Harvey, 2019, p. 123). Such theories insist that space be seen as open, as always *in relation* to other places, people, things, and objects, as forever incomplete and in the process of being made and remade (Massey, 2005; Murdoch, 2006). Indeed, *For Space*, Massey's (2005) extraordinarily influential relational treatise, holds that spaces are always "open" to the possibility of change, transformation, and contestation, and never entirely "closed," predetermined, or fixed. We should acknowledge, however, that Massey wrote *For Space* (2005) as an intervention against the tendency among social scientists to treat space as merely a container (i.e., as unequivocally absolute), and against the propensity of regarding space and time as a binary, where space represents stasis, and time is perceived as the active force of change. By the time Massey was writing, relationality had become something of a *sine qua non* in geography, deeply embedded in the work of economic geographers (e.g., Bathelt & Gluckler, 2003; Ettliger, 2001) and urban geographers (e.g. Amin and Thrift 2002), among others. Its dominance as the primary way to understand spatiality among geographers has only grown since (for a review, see Jones, 2009; for a critique, see Mitchell, 2021).

Yet for Harvey, (1973, p. 13), a relational perspective on space has only ever been one piece of the puzzle, that must be fitted together with at least two other pieces:

If we regard space as absolute it becomes a 'thing in itself' with an existence independent of matter. It then possesses a structure which we can use to pigeon-hole or individuate phenomena. The view of relative space proposes that it be understood as a relationship between objects which exist only because objects exist and relate to each other. There is another sense in which space can be viewed as relative and I choose to call this relational space – space regarded in

<sup>1</sup>On the affective qualities of waiting in the gig economy and the toll of it, and its associated non-interaction with others, takes on gig workers bodies (especially during Covid) see Staughan & Bissell (2022a, 2022b).

the manner of Leibniz, as being contained in objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects.

Consider in this sense the nation-state, which is in so many ways central to the structuring of migrant gig-workers' lives and work. As an absolute space, the nation-state is a container, with demarcated borders, *within which* things (and people) are placed—pigeonholed, in Harvey's words—and *within which* processes take place, events occur, and laws (concerning the working of the labour market, for example, or migration policies) are enforced. Borders separate this absolute space from others—Sweden from Denmark, Finland, and Norway. But nation-states are relative spaces too: they exist in relation to other nation-states (Denmark, Finland, Norway) and in coalitions of nation-states (the EU, the OECD), themselves wrapped up in and linked through global political economic processes, practices, and institutions, all of which, of course, condition national-level labour policies and markets. Finally, nation-states are relational spaces, containing within themselves—or, to use the dialectical term, *internalising*—all those absolute and relative structures that make them what they are. The specific spatiality of national-level labour market policies and practices are an internalisation and function of the very *conditions of possibility* that both absolute and relative spatialities afford. And what is true at the scale of the nation-state is true at every other scale, from the global to the bodily, except that at fine scales—the city or neighbourhood, the street or body—it all becomes that much more concrete. Absolute space is not just an abstract “container” but the actual built form, the shape and the structure, of the urban (or bodily) landscape, and this built form has a solidity, a “relative permanence” (Harvey, 1996) that is *not* always-already open or “incomplete,” but rather structured and determinative of what actions and movements are and are not possible.

Harvey (2019, p. 126) thus argues that it is “far more interesting in principle to keep these three concepts [of space] in dialectical tension with each other and to constantly think through the interplay among them” than to focus exclusively on only one. As a mode of reasoning that aims to “understand things concretely in all their movement, change and interconnection, with their opposite and contradictory sides in unity” (Engels, 1962, n.p.), dialectics is thus particularly useful when considering the contradictory nature of (in) flexibility in the gig economy, which is spatially uneven and irregular. That is to say, it is particularly suited to understanding how the absolute, relative, and relational spatialities of the gig economy *come together* to construct uneven, temporally irregular, and frequently inflexible labour relations such that flexibility within the domain of gig-service use can be advanced.

To put this another way, while a relational perspective may seem befitting of the gig economy, able to account for its complicated global networks, flows of capital, power, knowledge, and migration, to say nothing of how the gig-economy is experienced by its beneficiaries, an over-emphasis on relationality can obscure the fact that gig-space is not *inherently* open, but rather *made open* (for users)

through the labour of workers who, navigating the absolute and relative spaces of the city and nation, provide on-demand services.

Felicity Callard (2011, p. 5) has asked scholars to consider “what an (over-)emphasis on the contingent and open might occlude.” John Allen (2012, p. 193) has answered that focusing too much on relationality risks ignoring the kinds of “entities that make and are made through relations,” while Jones, (2022) insists attention be paid to the inertial and constraining as well as the multiplicities, fluidities, and flows. Mitchell, (2021, p. 146) similarly argues that an over-emphasis on relationality has come at the cost of understanding the “relative and absolute productions to space,” by which he means the production of the actual physical landscapes—the built environments—within which people must live and move. For population geographers, the focus on relationality has led to an overemphasis on the process of migration and not enough attention to the architectures of migration, and thus, in turn, insufficient research on the nexus between migration, labour market segmentation, and precarious work (King, 2002).<sup>2</sup>

Any dialectical approach to how the relationship between absolute, relative, and relational space structures gig-work and the gig-economy more broadly would be insufficient, however, if it did not also incorporate an analysis of “how time and space work *through* each other” (Axelsson, 2022, p. 2). Such an analysis would help “produce more precise accounts of what it means to gain access to and move in and out of a political community” (*ibid*), as well as, of course, more precise accounts of how gig-work is undertaken and experienced by migrant gig-workers. That is to say, any fully dialectical account of space and spatiality must in reality be an account of spatiotemporality, of the time-spaces, rather than just the spaces, that govern work and life. Relational space always-already presupposes time (as the emphasis by its theorists on its *potentiality* makes clear), but so too do absolute and relative space, if in different ways. Conceptually, absolute space, for example, can be seen to “freeze time” in the sense that absolute spaces—containers, landscapes, street patterns, physical infrastructures—are produced as concretisations of social relations at *particular moments*, constraining and determining futures: the relationality of space opens up futures; its absoluteness closes them down (Mitchell, 2021). The dialectical tension between these determines the relative nature of space-time: the degree to which space is annihilated by time (and some kind of flexibility reigns) *and*, as we will show, how time is annihilated by space (and some kind of inflexibility or fixity determines).

Understanding how space annihilates time within the gig economy is a little bit tricky. Time, of course, has been a central preoccupation of scholars of the gig economy. For example, numerous studies have shown how platforms use time to discipline workers (e.g., De Stefano, 2016; Lehdonvirta, 2018), but a closer examination of the constraining and enabling aspects of space (perhaps especially in its absolutist guise) is necessary if we want to more fully understand how time works within the gig-economy. Time

<sup>2</sup>By contrast, this has become a central concern among labour geographers. See Buckley et al (2017); Strauss (2018); Zampoukos (2018).

is not only disciplinary. It is a necessary condition of gig-work: deliverers going from place to place (and waiting in between); cleaners scrubbing from top to bottom (and waiting for their next posting); translators and transcribers spooling back through the recording, and forward again to catch the right word (and waiting in hope for their next gig). For some migrant gig workers, the waiting is also relevant for their continued stay in Sweden, since without work and a sufficient income they may be forced to leave. In each case, the unfolding of this time is conditioned by the spaces within which it occurs, as we will show. In this sense space does not so much annihilate time as give it its shape.<sup>3</sup> Yet, as we will also show, space does indeed sometimes annihilate time for certain categories of gig workers: the time to care for one's self and others, the time to relax and recuperate, and even the time necessary to do the task delineated by the algorithm. This is essentially what produces the antinomies of the gig economy, and the geographically and temporally irregular experiences of flexibility.

### 3 | METHOD AND DATA

The data for this paper is drawn from a wider, ongoing research project examining how gig workers (both Swedes and migrants) knit together their work lives with other, necessary aspects of life. For this paper we focus in particular on interviews with 10 migrant workers who performed various kinds of gig work including cleaning (5), couriering food and parcels (3), programming (1), translating (1), teaching (1), and journalism (1), in the period 2021–2024. Two of our research participants combined two types of gig work, which explains the numerical discrepancy above (10 research participants and 12 kinds of gig work). In addition to these 10 unique interviews, we also circled back to two of the cleaners about 2 years after the initial interview, to learn about their current situation. Information from these follow-up interviews is incorporated in the paper.

We want to stress that even though all participants included in the present paper fall under the umbrella category of migrant gig workers, they differ in terms of migrant background and status meaning that our sample contains both migrants from inside Schengen, thus enjoying some of the associated privileges, and migrants from outside Schengen; migrants whose mobility is unproblematic in the eyes of existing national and supra-national migration policies, as well as migrants with a more insecure, and in various ways conditioned, existence in Sweden. Thus, our sample consists of people with temporary visas (student or work visas), as well as people who entered on temporary visas, but who gained permanent residency.

We purposefully cast a wide net in regards to varieties of gig work when recruiting interviewees—not just the typically highly

visible (and male dominated) world of couriers, but also those who work within the domestic sphere such as cleaners (which tends to be dominated by migrant women), and those working in on-line pursuits like programming and translating. Hence, our sample contains migrant gig workers whose position in the (gig) labour market is highly differentiated, as it is forged at the intersection of individual identities (gender, migrant status, age, educational background, etc.) and particular segments of the gig economy (requiring different skill sets; offering various work environments and conditions of work; labour being more or less in demand, etc.).<sup>4</sup> This, we argue, is also essential to understand how the gig economy entails flexibility and opportunity (for some), and inflexibility and challenges (for others). Interviewees were largely recruited by contacting gig-worker social media sites to ask for volunteers, tracing our own networks, and deploying a snowball method.

In what follows, we will explore empirically the geographically and temporally irregular experience of flexibility in the gig economy, showing how both the absolute and relative characteristics of space work to “annihilate time,” which is to say, how they work to *decrease* flexibility for migrant gig workers in segments such as cleaning and deliveries, rather than to enhance it. We will show how this annihilation of time by space results from a combination of oppressive scheduling (which is as much about space as it is about time), spatiotemporal inflexibility, and a form of invisibilization that fetishizes gig work while also deepening gendered and racialized productions of difference. These are the characteristics that give life to the myth of flexibility in the gig economy.

### 4 | THE ANNIHILATION OF TIME BY SPACE, OR THE FLEXIBLE INFLEXIBILITY OF GIG WORK

The promise of flexibility in the gig economy pledges that service users will be liberated from both space and time, from the need to *take time to travel* to a shop or restaurant or to clean one's home, for example (Mulcahy, 2016). Supposedly, workers will also be liberated, able to build their own schedules and work remotely. For certain gig workers, particularly migrant gig workers in segments such as cleaning and deliveries, however, the inverse is true. Far from flexibility, these workers experience time as truncated and space as restrictive (as well as expansive rather than compressed), the result of both schedules and incomes that reduce or eradicate their ability to build meaningful lives beyond their work (De Stefano, 2016; Lehdonvirta, 2018) and the algorithmically-determined need to traverse the exact same (absolute) spaces customers are liberated from or to be waiting “in-place” for the next gig.

<sup>3</sup>Our argument on this point is thus different from the classic arguments developed in time geography. For Hägerstrand, it was movement in and across absolute space that created its relativity; but he had little to say about how, why, or by whom those movements were *directed* and thus little to contribute to how the *relationality* of space was very much a function of the *form* of absolute space, which is a central argument that we are making.

<sup>4</sup>Most of our interviewees were fairly young (20–30). The majority of couriers (both migrants and Swedes) were students or quite recently graduated and struggling to find a place in the labour market. By comparison, all cleaners were of migrant background, both from within and outside Schengen. Even though some of them entered Sweden on temporary visas, none of them entered on student visas.

## 4.1 | Scheduled inflexibility and the challenge of absolute space

The annihilation of time by space occurs, in the first instance, through scheduling practices that make it difficult for cleaning and delivery gig workers to plan their lives.

I cannot go to the shops for example, do anything. Because I need to be on call. But I don't get paid for that time, you know? (Cleaner 9)

As this interviewee indicates, cleaning gig workers' shifts can be changed/imposed on them on very short notice. At the same time, they report that they often end up working long hours because of all the unpaid waiting and transportation time (Cleaners 6 and 7). Couriers similarly describe being unable to plan (Courier 13) and having to spend a lot of time waiting around (Couriers 12 and 13). Workers understand this waiting to be intentional and planned, as one cleaner explained:

So, you have two bookings. If they leave long enough time between them, they don't have to pay you as it can be considered a split shift. However, if they can't leave it that long then they try to make [the time between the two bookings] as short as possible so they can pay you as little as possible (Cleaner 7).

Not infrequently, that "little as possible" is so little that it is impossible to travel from the first booking to the second in the requisite time and leaves very little, if any, time for a proper break, something that the cleaning-app algorithms seem unable—or not programmed—to account for (Zampoukos et al, 2024). Absolute time (in terms of bookings and the unpaid time in between bookings) forces workers to wait in absolute (urban, public) space. At other instances, absolute space—in this case distance—becomes a barrier to successfully complete gigs in the allotted time. This annihilation of time by space is further aggravated by, for instance, customers demanding that workers carry out extra services, such as cleaning under the sink, or customers who (intentionally or unintentionally) underestimate the time required to clean their house or apartment. Such wants and whims on the part of consumers will inevitably entail more stress for workers, since they are the ones who need to speed up the work to gratify their customers (Zampoukos et al, 2024).

Workers also find that they can be punished—their jobs threatened or their profiles deprioritized for shift allocations—if they challenge or complain about unpredictable scheduling or the impossibility of actually completing assigned gigs (given, for example, the actual size of the space to be cleaned or the distance between gigs) or if they turn down work (Cleaners 6, 7, and 9). For gig workers who depend on gig work as their main source of income, unpredictable scheduling can also interfere with the formation of social ties necessary for their own, social, self-reproduction. This is particularly acute for immigrants who are physically isolated from

their social networks in their countries of origin—a real expression of the "tyranny of absolute space" (Mitchell, 2021).

The sorts of constraints such scheduled inflexibility create are, of course, varied. Those for whom gig work is supplemental may find this of little concern. Life tasks, studying, meeting with friends or dating might be relatively easily accommodated around chosen shifts. But such, of course, is not the case for gig workers making a living out of offline services, such as cleaning and deliveries. As one courier explained, being a gig-deliverer works well for those who take on such work:

once or two times a week as an extra job to supplement already working income or student finance. Then it's actually perfect. But most of the time it happens that people try to make a living of it because it is the most available thing (Courier 13).

Given Swedish immigration and labour market policies, it is particularly immigrant workers who find this kind of work "the most available thing," or rather, the *only* available thing, as we will now explore.

## 4.2 | Immigrant workers, employment (im)mobility, and the challenges and opportunities of relative space

For some workers—especially immigrant workers—certain jobs in the gig economy are attractive because of their low barriers to entry.<sup>5</sup> In a study of immigrant workers in Norway and Sweden, Newlands (2022) found that food delivery workers generally only anticipated engaging in gig-work short-term—that is, as a means to get a foot in the door of the labour market—rather than as part of a longer-term career trajectory. Neither do the platforms typically understand their workers to be "permanent," rather they are "dependent on expendable labour relations with significant migrant involvement" (Webster & Zhang, 2021, p. 1). Yet, because Sweden has the most segregated labour market in Europe (Gauffin, 2020), migrants often find themselves in low-paid and insecure jobs that are less desirable to the longer-settled population (Axelsson et al., 2017). Given Sweden's professional licensing requirements that typically do not recognise overseas training, it can be difficult for immigrants to find work in the fields they were professionally trained for. Besides formal licensing requirements, immigrant workers argue that it is impossible to find work they are qualified for without "know[ing] the right people" (Courier 12) and that "breaking through the ice [with Swedes] can be challenging" (Courier 13).

The relativity of space matters. For workers migrating from other EU countries, the barriers to labour market entry are significantly lower than they are for immigrants from outside the EU. But the

<sup>5</sup>In Sweden, these barriers can in fact still be rather high, given that employment in the gig-economy, like any other employment, requires both a challenging-to-obtain national ID number and an often surprisingly difficult-to-open Swedish bank account (Newlands, 2024).



nature of gig work itself—especially in segments where (as we will explore further below) workers are required to perpetually be on-demand—can prove a hindrance to career development by making networking, taking language or training courses, or even mustering the energy to pursue alternate employment quite challenging (Zampoukos et al, 2024). Sometimes, eventually, gig workers with other aspirations simply come to accept their fate:

I was like, delivering by bike? [...] But then I was very optimistic in terms of – of, okay, I can do this for two, three months and then I'll move on. So, I kept doing it. And then I felt like, okay, I've settled in, I am actually quite good at this. And then it just rolled on (Courier 12).

Given the inconsistency of gig work, juggling multiple gigs becomes a recourse for some workers. For this worker (Courier 12) this means combining delivery work with journalistic work for several media outlets. While doing multiple gigs represents a significant logistical and scheduling challenge, it is one leveraged on the fact that waiting time is actively built into many gig platforms.

Advancing within the platform company itself was not an option for most cleaners that we interviewed:

I haven't met a Swedish cleaner, all of us are foreigners. They say once you're here for long enough, it's really easy to go up, you know, the ladder, and maybe work in the office [...] but what I did note: that people who work in the office are only Swedish (Cleaner 9).

Indeed, 2 years after their initial interviews, Cleaners 7 and 9 had both left the cleaning platform company. Cleaner 9, who arrived on a temporary visa tying her to the platform cleaning company for 2 years, had found new employment with a woman from the same country of origin. Because of this, she was able to renew her work visa, and the two women now planned to become business partners. Meanwhile, Cleaner 7 had taken up her university studies, and was now part of the management team of a café chain. Therefore, whilst the platforms offer few or no opportunities for internal advancement, some cleaners had managed to work themselves into the Swedish labour market. Still, skin colour and English and Swedish language skills matter. As Cleaner 7 testified in the initial interview, this became manifest through low in-app ratings:

If you get below three stars you have to go through retraining. My friend who is responsible for that said ninety-nine percent of them were dark colored people. Because they just get bad ratings for no reason. And she said they were cleaning really good (Cleaner 7).

Such racist realities structure the space of the workplace (from the company headquarters to the house being cleaned) making it a *relatively* different place—a place that positions

different workers *differently*, depending on one's position within racial hierarchies, gendered divisions, migrant status, and so forth. Even so, workers' positionality need not be perceived as absolute and fixed. Workers can, under certain circumstances, re-position themselves in both absolute and relative space, and through this re-positioning there is also an opening and a possibility of re-inventing oneself.

### 4.3 | On-demand, in-demand and the antinomies of relational space

Differences of race, gender, and migration status matter in relation to whether gig workers are *in-demand*, or merely available *on-demand*. Positioning workers to be available *on-demand* is perhaps the sine qua non of the gig economy. The genius of the apps has been to smooth and coordinate flexibility in labour deployment by ensuring workers are available just-in-time (synchronised with the time of production) (Andrijasevic 2022) and just-in-place (waiting in the optimal place for production fulfilment) (Wells et al., 2021). For good reason, how such just-in-time and just-in-place, that is, on-demand, pools of labour power are created, managed, and deployed has been a central focus of gig-economy research. Less attention, however, has been paid to the degree to which particular skills may be *in-demand*, affording at least some workers the ability to negotiate to their advantage the contradictions that arise from the simultaneous need for just-in-time and just-in-place labour.

While Sinicki (2019) found that certain kinds of workers, such as tech professionals, whose skills are in significant demand are able to optimise the scheduling of their gigs to “thrive” in the gig economy, our own research has revealed that in-demand workers (both Swedes and migrants) are often able to circumvent the platforms altogether and communicate directly with service users. For instance, a data science student who arrived in Sweden on a student visa, performed gig work using an online labour intermediary while teaching himself multiple programming languages to make himself increasingly desirable to clients. Given his skills, he found that gig-offering employers were often willing to hire him directly.<sup>6</sup> In some cases he himself subcontracted labour to other workers on the app because he was receiving so many offers.

Others, however, expressed dissatisfaction with the vast fluctuations in demand for gig work. For example, food delivery couriers explained that (unsurprisingly) there were peaks in demand around meal times, while logistics drivers noted that demand increased in winter when people were more likely to partake in e-commerce. Competition between couriers also fluctuated. Couriers were less likely to work in the winter in poor weather conditions, which is paradoxically when customer demand is at its peak. Indeed, one logistics company had 450 couriers registered on the platform and 40 available routes, but still

<sup>6</sup>This gig-worker acknowledged the risk involved: working through the gig platform at least provided some insurance against unpaid wages.

experienced staff shortages during the winter. The shortage of couriers during bad weather usually translates into longer shifts across further distances with increasingly illogical routes. This, in turn, can lead to reduced earnings since workers are compensated according to both how many individual deliveries they complete, and the speed in which they do so.<sup>7</sup>

During periods of low demand, however, the experience of being on-demand could be trying, with workers we interviewed finding out about shifts only at the last moment, and with wait-times between orders stretching long enough that they often could not even cover the cost of their own commutes (see also Teglund, 2021). Similarly, at times of low-demand—that is, times when there were labour surpluses available just-in-time, just-in-place, and just-in-case—one platform delivery company reportedly engaged in selective hiring processes to target the “right” kind of workers, in one case targeting migrant university students in the belief they would be more knowledgeable, responsible, and less fully dependent on the platform:

We've had applications from, like Eritrea, Somalia, like immigrants and asylum seekers. They don't really know how to read or write [in English or Swedish] so it's not safe to put them on a bike. Whereas students are definitely going to know how to use the app, read and write. So, if they can attract students, it's fantastic. With like asylum seekers, with immigrants it's more difficult. I mean we tried to hire them, but we ended up regretting it because they put themselves in dangerous situations (Courier 13).

This platform's selective hiring process goes against the grain of literature that describes the gig economy as relying upon undervalued migrant labour. In this instance, the promotion of a last-mile delivery model that advocates the use of bikes instead of cars or vans for delivering parcels tended especially to appeal to sustainability-minded students, some of whom “worked not only for the money, but for the idea” (Courier 1).

Here, then, space is opened up as a space of potentiality, and of flexibility, at least for some workers. Relational space is an internalisation of the relations that go into its making, and when on-demand labour becomes in-demand labour those relations are significantly remade. For in-demand workers the spaces of gig work—the spaces of waiting—can become spaces of opportunity. At the same time, however, and as we have seen, they are also spaces of constraint, spaces of inflexibility, and, as with Eritrean and Somali asylum-seekers wanting to do last-mile delivery, spaces of total closure. These are the antinomies of relational space: the spaces of gig work are *both* open and closed.

#### 4.4 | Thinking absolute, relative, and relational together to understand the spaces of gig-work

Understanding the gig economy requires understanding its work-spaces not as absolute, relative, or relational, but as absolute, relative *and* relational. A gig worker who works in the private space of their own home, for example, may experience their workspace as oppressive and cell-like (absolute space)—isolated from the surrounding world in spite being ‘connected’ to the app (and their phones and computers more generally) (relative space). Their workplace may feel very lonely (relational space).

Besides the money, I think the other thing is not having colleagues on a daily basis is the most frustrating [...] I would like to rent some kind of table in some kind of collective place but I realized that's a bit too much for me right now. I'm still counting the money here (Translator/teacher 3).

The entanglement of all three aspects of time-space, then, contour the quotidian realities of gig work. Remote workers report being tethered to their computers all day long to be the first to bid on available tasks, or because of short-task delivery times. For such workers, their lonely and isolated invisible workspaces in the home—a function of gig work as opposed to a personal failure (Wilkinson, 2022)—dialectically intersects with the intense surveillance enabled through digital platforms that makes them highly visible to their anonymous and invisible employer (Moore et al., 2018; Newlands, 2024; Wood et al., 2018). As Hatton (2017) explains, work is *made invisible* when workers are physically unseen, overlooked, socially marginalised, economically or culturally devalued, or legally unprotected or unregulated. The exploitative nature of the absolute space of the private sphere of work is deepened relatively (to more public-facing work places, for example) and relationally, through how (a lack of) regulation and contextual social relations penetrate and remake the very space itself.

Yet the degree of visibility and invisibility—that is, the way the absolute, relative, and relational come together—in the gig economy varies tremendously. It varies by migration status for instance. The co-production of (in)visibility and (in)security for many migrant workers in the Swedish economy has been well-documented (e.g., Torp, 2019) as workers have to sometimes make themselves invisible to the enforcement apparatuses of the state (if, for example, their visa has expired) while still being hyper-visible within the urban landscape (as with food couriers wearing brightly coloured clothes), or—in hopes of remaining in the country—being willing to subject themselves to all the dangers of being hidden in the private space of the home they are cleaning with little or no recourse to the health and safety, or access to legal protection, that resident workers may have (Torp, 2023).

And both the degree of visibility-invisibility and flexibility-inflexibility varies by type of work. In contrast to home-bound online gig-work, for example, offline gig-workers must be deployed to other

<sup>7</sup>The exception would be if workers are able to do several deliveries on one and the same route.

kinds of locales—private homes to be cleaned, restaurants to fetch an order, or parking lots to wait for the next Uber fare or other dispatch (van Doorn, 2017; Wells et al., 2023). Or they must traverse the city in the course of their work. In doing so they must navigate the absolute spaces of the city, something that the apps can, in fact, be relatively poor in assisting with:

The route is not planned by a human. It is planned by a program, so sometimes the route doesn't take into consideration elevation and leads us to the water or to stairwells (Courier 1).

A food courier in a brightly-coloured jacket with a large, just as brightly-coloured box on his back standing by his bike at the top of a steep stairway wondering whether and by what route to defy the app presents a very different picture of the antinomies of gig-work space than does a translator working alone and being paid by the word. And yet, the courier belies the myth of full flexibility every bit as does the task rabbit.

By being fixed in particular places, or forced to travel along specific routes, gig workers actively produce what Shawn Wen (2014, n.p.) describes as “the feeling of magic – the instant gratification of desire being met the moment it's felt – on which the apps market themselves.” Of course, Wen (2014) continues, “it's not magic. The magic is founded on grossly underpaid, casualized labour. [...] The actual magic trick is making the worker disappear.” This is true of all gig workers, but perhaps doubly so for migrant gig workers, since the swinging doors of temporary permits mean that workers appear just-in-time and just-in-place but are also made to disappear just-in-time, no longer waiting just-in-(this)-place.

But the migrant worker clearly does not disappear from the Earth's surface. That would be a dream of fully relational, totally open space. Migrant gig-workers remain beholden to the apps not just to secure a livelihood, but to secure a livelihood sufficient in the eyes of the Swedish state to obtain or maintain legitimate residency (for which the minimum income has recently been raised to 80% of the national average and is set to further rise to 100% of the national average over the next 2 years). So, the migrant courier remains standing there at the top of the steps. The Upwork translator is still tethered to her computer, while platform companies turn to absolute space and seek to isolate workers from one another, using algorithmic routines to direct workers away from each other (sometimes in the guise of properly positioning them for the next order).

Algorithmic management is hard to override: “you have to follow the orders” (Courier 1). Even so, as Wells et al. (2021, p. 325) have shown, putting workers in place—locating them in absolute space—can also create possibilities for worker connection and mobilisation:

Uber's creation of the “just-in-place” workers had led, unexpectedly, to the opportunity for collaboration and conspiracy on the part of workers. By emplacing drivers together in the airport's parking lot, Uber's

management strategy became the grounds for worker organizing.

The airport parking lot was transformed into a different kind of space than the kind of “container” for waiting drivers Uber imagined it to be.

Similarly, couriers for a logistics company that we spoke to were able to meet at a depot where they collected their packages for delivery. They were able to create a sense of community where a “critical mass” (Courier 1) of people interested in improving their work conditions was created and personal relationships were forged. In response, the platform employed alternative measures to reduce contact among couriers, including monitoring and closing Slack and WhatsApp channels and chats. Before workers had used these channels to complain about working conditions (broken equipment, unwashed uniforms, no access to toilets). With their monitoring and closure, workers were left wondering “why am I the only one pushing this” (Courier 1), became disillusioned, and dropped the issue. As this worker continued, “we are again in the mode where no one cares.”

The ways in which the absolute, relative, and relational qualities of gig workspaces—and of the larger urban, national, and, especially for migrant gig workers, international spaces these workplaces are situated within—come together, in other words, is itself a significant site of conflict and struggle—or resignation. Degrees of visibility and invisibility, modes of isolation and collaboration, and forms of regulation and communication all intertwine to shape migrant gig-workers' lived realities. The spatiotemporal flexibility afforded to gig-economy customers is constructed out of a kind of (contested) spatiotemporal fixity for gig workers that is at once a function of the reality of having to live in absolute space structured as a container and a landscape, negotiating one's relative place in it, and confronting the forces of relationality that both open and close it as circumstances develop and change.

## 5 | CONCLUSION

To fully understand how gig work—and the experiences of migrant gig workers—are structured in the contemporary, flexible, time-space compressed world of the gig economy, it is necessary to look beyond the *relationality* of space, to better understand how that relationality is dialectically entangled with and reliant on productions of space that are *also* absolute and relative. Such a view helps expose the myth of the “magic” of flexibility that platform companies rely on to advance their business models. For consumers, platform-mediated gig work does indeed seem to open up space and compress time: they no longer need to go to the store or restaurant (or take the time to cook); wherever they may be their demands are fulfilled on command. The absolute space of the dirty toilet or the grimy oven no longer demands their attention, or their time; these get magically transformed while they are elsewhere at work (whether in their home office or in their cubicle), or at the gym or, indeed, at a restaurant because they now have time to take time out. Such an opening of



space, its relativisation as well as its relationality, is, as we have seen, predicated at least in part on the closing down of space—deploying is absoluteness, relativity, and its relationality in other ways—for others, those others who *make space open* for the consumers of the gig economy.

There is, of course, no denying that for some workers the spaces of gig work *can* be open and full of potential, but as we have seen, this depends heavily on how such workers are placed both relatively and in absolute space, as well as the type of work they do. The absolute space of the nation-state—its borders and their enforcement—matters significantly especially to migrant gig workers, as does their own position relative to, for example, Sweden's membership in Schengen. These relative and absolute qualities of space shape the kinds of work they can and must take, the chances for study, advancement, or the development of a career, or even to their ability to take care of the same sorts of daily reproductive needs (eating, cleaning, caring) that they provide for others (Zampoukos et al, 2024).

A dialectical approach to the spatiotemporalities of the gig economy thus allows for a fuller assessment of “the tension between the current state of things and the appearance of things in the contemporary global reality of constant realignment, recalibration, mobility, and adjustment” (Kobialka, 2016, p. 54). In this case, the absolute and relative emplacement of (migrant) gig workers is such that they must both produce and negotiate the spaces that make on-demand service provision so magically flexible. The central question, therefore, is not *whether* space is absolute, relative, or relational, but rather how these qualities of space *come together* to shape migrant gig workers' work and lives. Emphasising the relationality of space may pay significant dividends for understanding *why* the gig economy is so attractive to those who benefit from it, but it makes it more difficult to understand *how* it is made so attractive, and perhaps especially by whom—or more accurately, what kinds of “whom”. Careful attention to how the absolute, relative, and relational aspects of space in the gig economy combine, helps make it clear why it is so frequently (if not exclusively) migrants who end up in the least flexible corners of the newly-flexible economy.

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The authors declare no conflicts of interest.

## DATA AVAILABILITY STATEMENT

Research data are not shared.

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