



Landscapes of precarious labour: on the long prehistory and contingent future of digital platforms

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Abstract. Digital platforms are commonly portrayed as innovative technology-driven disruptors. This paper challenges such claims of novelty by situating digital platforms within broader historical and contemporary landscapes of precarious labour. It highlights four central elements that form part of the labour model of platforms – home-based labour, piece wages, day labour, and labour intermediaries – and traces pre-digital historical moments in which these elements played a significant role. By revisiting these selected instances in the history of precarious labour, the paper aims to contribute to a critical genealogy of digital platforms. Such a genealogy situates digital platforms in a long history of contingent labour that is deeply intertwined with histories of migrant and feminized labour, where precarity and instability have historically been the norm. Overall, such a perspective sharpens our conceptual understanding of platforms and the ways in which they adapt, reconfigure, and radicalize historical techniques, structures, and practices for organizing labour. The paper concludes by outlining implications for future analyses and critiques of and regulatory approaches to platform labour.

1 Introduction

Digital platforms are commonly portrayed as radically new and innovative. This narrative is, of course, very much pushed by platform companies and their self-branding as tech-driven disruptors. However, the critiques that have followed the global expansion of the gig economy often present a mirrored version of this narrative. Rightfully decrying the precarity and lack of rights faced by gig workers, these critiques usually also underline the novelty and disruptive character of platform labour. In this context, platforms are often described to be disrupting the normalcy of employment and pushing, by digital means, an unprecedented level of precarity onto their workers.

Whether mentioned implicitly or explicitly, the normative backdrop against which the lack of security and labour rights in the contemporary gig economy is usually criticized consists of a concept of “standard employment”, understood as a number of social rights and protections that are, to a large extent, a product of the Fordist class compromise in the Global

North after World War II. In the context of this compromise, core segments of the working classes were able to gain enlarged job security, labour rights, and social protections (Lipietz, 1987; Fraser, 2016). The rise of digital platforms, the critique goes, is a direct attack on these achievements: via their apps and digital management technologies, platforms seem to be able to roll back these rights and protections.

There are reasons to be sceptical about this narrative. The first reason has nothing to do with digital platforms but rather relates to the Fordist class compromise itself. Historical research on Fordist labour and living conditions has extensively demonstrated that the Fordist model of stable, full-time employment was never a universal experience, even in countries of the Global North. What have been of particular importance for this discussion are Marxist feminist studies of social reproduction, which were developed by feminist thinkers and activists in the 1960s and 1970s and revealed the gendered division of labour on which Fordism was based (see, for example, Cox and Federici, 1975; Dalla Costa and James, 1972). Much research has further high-

lighted the multiple segmentations and differentiations of workforces shaped by migration, racism, and global inequalities (see, for example, Davis, 1983; Federici, 1999). Adopting a global perspective or taking a longer period into account, the Fordist concept of standard employment is revealed even more clearly to be a historical exception (see, for example, Neilson and Rossiter, 2008; Mezzadri et al., 2022). If we consider precarity and contingency to be standard experiences of waged labour throughout the history of global capitalism, we find a long prehistory of digital-platform labour. Why is this important for the critical study of digital platforms?

Arguing that Fordism was not very inclusive but rather always relied on segmented, gendered, and racialized labour markets characterized by precarity at their margins casts some empirical doubt on the argument that digital platforms disrupt the model of standard employment. These doubts are amplified if we consider the historical timeline of neoliberalism and pre-digital attacks on labour rights and welfare states. However, we find it very important to underline here that this does not invalidate the political efficacy of such critiques. If we understand standard employment not merely as an empirical reality but as a “normative model” and a “powerful aspiration” (Huws, 2016:10) that did contribute to profound transformations and that remains deeply rooted in the political imagination of many countries in the Global North, it becomes clear why such arguments have been effective in critiquing the labour conditions of digital platforms. In that sense we want to underline that the fact that stable employment, labour rights, and protections have not been a universal experience in the past is certainly no argument against demanding such rights and protections for all gig workers of the present. Indeed, such critiques of the gig economy, driven first and foremost by the protests of workers themselves in the last 10 years, have been quite successful in raising social and political pressure against the labour practices of the gig economy, pressure that has caused some attempts of regulation, as well as having permanently tainted the public images of Uber, Deliveroo, and co. (see, for example, Englert et al., 2021; Woodcock, 2021; Dubal, 2020).

Notwithstanding the political power of the line of critique described here, however, we feel that it is necessary to complicate the image of digital platforms as novel, technology-driven disruptors. For this reason, our attempt in this paper is to situate digital platforms in the long history of contingent labour. To do this, we trace key components of the labour model of digital platforms and revisit pre-digital historical moments in which these components have played an important role. We believe that tracing these genealogies of digital platforms is important for several reasons. First, it helps to challenge overarching claims of novelty and situates digital platforms within a much longer history of precarious labour – both past and present. Importantly, this approach helps us to identify more precisely what is genuinely new about digital platforms and the contemporary, far-reaching transforma-

tions of capitalism. It also allows us to gain a clearer understanding of the role digital technology plays in these transformations. Second, looking at digital platforms not from the perspective of Fordist standard employment but from the long history of precarious labour also helps to sharpen our analytical understanding of these platforms, for example, regarding the composition of their workforces, and to understand how the importance of migrant labour for the platform economy is anything but coincidental. Third, as we discuss in the concluding remarks of this article, we believe that a historical perspective also has implications for how we critique digital platforms and imagine political alternatives.

Sketching such a genealogy of digital platforms has been an old side project of ours. We began thinking about this 8 years ago, when we started a research project on *platform mobilities* with Manuela Bojadžijev. This project examined digital platforms from the perspective of migration and social reproduction, and we argue that it is precisely such an angle on platform labour that invites us to think about the long prehistories of digital platforms and that, in fact, makes these historical groundings necessary. For some reason, we abandoned this almost-finished paper in 2018 and are only now returning to finish it. Yet we feel that its argument has since gained considerably more importance.

This constitutes a fourth reason why we think a historical perspective on platform labour is important: over the last decade, digital platforms have become a hot topic in academic research, making it almost impossible to keep pace with the sheer volume of new publications appearing each month. In combination with the protests by gig workers, digital platforms have broadly come to symbolize precarity and labour exploitation under digital conditions. As acknowledged above, this critical spotlight has been very productive, as the gig economy has become a crucial battlefield over labour rights in digital times – one that matters far beyond its own boundaries. At the same time, this focus has sometimes created the impression that the gig economy is the most precarious and exploitative segment of the whole labour market, thereby diverting attention from its surrounding world of precarious and contingent labour, of which it continues to inhabit only a small segment. From our perspective, it is therefore of crucial importance to situate digital platforms within a (historical and contemporary) *landscape of precarious labour*.

This seems even more important today than it did 8 years ago as we observe a tendency for the distinction between gig work and other forms of precarious labour to become increasingly difficult to draw. To give one example, which we will expand upon in the conclusion, in Germany, Uber and other digital platforms have abandoned the model of framing their workers as independent contractors (not least due to political and regulatory pressure). Their new employment model is based on working with many small subcontractors who employ the workers performing cab rides or food deliveries, yet these workers still lack basic labour rights (Niebler

et al., 2023). With this shift, platforms have adopted a model that has existed in the German low-wage sector for decades, for example, in parcel delivery. In light of such developments, the limits of discussing (and regulating) these platforms as “digital exceptions” come into view more clearly. This also explains our use of the term “contingent” labour, which not only situates platform work within the long history of precarious labour but also captures the contradictions and mutations within labour regimes in the contemporary gig economy, where, for example, formally recognized employment may be just as unstable and temporary as informal work or self-employment.

Our intent in this paper is therefore to contribute to a discussion about the future of analysing the gig economy beyond “platform exceptionalism” (Schaupp and Woodcock, 2025). Hereby, we are not the first to point to the need for a historical contextualization of the contemporary platform economy. Our article contributes to a growing body of scholarship that traces the historical antecedents of platform labour (see, for example, Finkin, 2016; Alkhatib et al., 2017; Huws, 2017; Stanford, 2017; Gray and Suri, 2019; Mika, 2020; Dubal, 2020; Leung et al., 2021; Pasquinelli, 2023). We aim to contribute to this line of research and advocate for further studies that situate gig work within its historical and contemporary contexts. Our understanding of genealogy is informed by a perspective that, drawing on Michel Foucault, is not concerned with identifying a single historical origin of its research object but instead traces its multiple, contingent histories shaped by tensions and contradictions (see, for example, Apprich and Bachmann, 2017).

In what follows, we present a series of historical snapshots – moments that form part of the longer history of today’s platform economy. These are instances in which core elements of digital-platform labour were already present in pre-digital contexts. Just as our argument is, these snapshots are geographically limited to the Global North – precarious labour, Fordist tendencies, and digital platforms have other histories and trajectories elsewhere for which we cannot account in this paper. Even with this limitation conceded, these snapshots are undoubtedly very selective and schematic, offering only a partial view of complex historical processes. They are not arranged chronologically, which further reflects the selectivity. Instead, the article is structured around what we would describe as four central elements in the pre-history and composition of digital-platform labour, namely home-based labour, piece wages, day labour, and labour intermediaries, each illustrated through specific historical examples.

2 Historical trajectories of platform labour

2.1 Home-based labour

Today, millions of digital workers spend their working days in front of screens in their private homes, annotating images, recording sample sentences, or completing surveys. Others

perform more complex, longer-term tasks such as accounting, virtual assistance, or programming. Digital-labour platforms distribute these tasks to a globally dispersed crowd of workers, who complete them in their kitchens or bedrooms. A group central to our research in the last decade has been women crowd workers who combine this form of digital wage labour with domestic tasks and care work for children or other relatives. Driven into the online gig economy by the promise of temporal flexibility, these women instead often find themselves juggling the pressure to remain constantly “logged in” and hunt for new gigs on platforms while also attending to the care needs of their relatives. Many of our interview partners told us about fragmented working days in which time loses its linearity and becomes fluid and elastic, accelerating or slowing in response to the demands of the global just-in-time economy on the one hand and the rhythms of reproductive work on the other (Altenried, 2022; Wallis, 2026).

Around the mid-19th century, English journalist Henry Mayhew (1980 [1849–1850]) wrote a series of investigative articles dedicated to the lives of poor people in London, which were later compiled into a three-volume book called “London and the London Poor”. Among many other things, his extensive writings deliver a vivid impression of the “sweating system” that was important, for example, in the production of clothing and shoes (Bythell, 1978). This system was characterized by long hours and exploitative, unsafe working conditions and was organized through an extensive network of intermediaries and subcontracting (Gregson and Quinlan, 2020). Alongside larger and smaller makeshift workshops, private homes functioned as key sites of production in these industries.

In one piece, Mayhew cites a female cloakmaker. “I am a widow with four children,” she introduces herself. “My eldest is fourteen – is a boy – and the youngest is a girl, four and a half ... I have no other money coming in but what I get by my own needle” (Mayhew, 1980:169ff.). She describes to Mayhew, “I can’t go out on account of my young family. I am obliged to work at home.” She sells her products to a warehouse in the city but must buy all the materials in advance and has no security as to whether or at what price the warehouse will buy the finished goods. The market is characterized by intense competition among small producers and wildly fluctuating prices. The cloakmaker speaks at length about these prices and the difficulty of achieving a steady income in a time of crisis: “Everything gets so reduced in price now that it is hard to find out what to work at so as to get a living by it” (Mayhew, 1980:169ff.). At one point, she employed four helpers in her flat; at another, she worked for someone on another floor in the same house. When Mayhew interviewed her, she had only the help of her children and reported that she was “upon an average, at my work, from nine in the morning till eleven at night; often longer, seldom less. Fourteen hours is my usual day’s labour” (Mayhew, 1980:169ff.).

Although this situation occurs during a period marked by the rise of large-scale factories and industrial production, these forms of home-based labour organized through systems of middlemen, piece wages, and the employment of women and children in private homes and small workshops were also growing. Even to Karl Marx, the contemporary theorist of capitalist industrialization, home-based labour was not a pre-capitalist relic. Rather, he underlines the central and continuing function of home-based labour. In the first volume of *Capital*, published only around 20 years after Mayhew's description of this London homemaker, Marx describes the different forms of spatially distributed home-based work done predominantly by women and children as a component of the new reality of production. Besides the workers concentrated in factories, he writes, "capital also sets another army in motion, by means of invisible threads: the outworkers in the domestic industries, who live in the large towns as well as being scattered over the countryside" (Marx, 1990 [1867]:591). In a striking formulation, he describes these new domestic industries as an "external department of the factory" (Marx, 1990 [1867]).

Hence, home-based wage labour does not vanish with the rise of the factory. Even though it receives little attention, we can find many more instances in the history and present of capitalism where home-based work becomes important. In many of these moments, home-based work serves as a latent reserve army "that shall be ready at a moment's notice" as Marx put it (Marx, 1990 [1867]:608). We can trace these instances from early examples such as the one cited above to the new role of home-based labour within increasingly complex global supply chains in the late 20th century, including stitching in garment production, candy packaging in the food industry, or assembly work in the electronics industry. A look at the global history of industrial home-based work thus shows that this form of work by no means disappeared in the 20th and 21st centuries and was marked by recurring cycles. Over the course of capitalist development, home-based work was repeatedly pushed back, not least through trade union struggles, but it never vanished completely and has experienced repeated upswings, particularly in the wake of globalization, decentralized production chains, the mass production of home computers since the 1970s, and the commercialization of the internet in the 1990s (Huws, 1984; Huws et al., 1999).

The contemporary online gig economy adds a new chapter to this long history of home-based labour. Today, between 14 and 52 million home-based platform workers (Kässi et al., 2021:8; Datta et al., 2023:55) are annotating data for AI technologies or catering to the expanding digital service industry. The home as a largely unregulated space of work, the combination of waged labour and unpaid care work, and the competition over prices between individual workers are all central components of both 19th-century domestic industries and the present-day remote gig economy. Regarding the latter aspect, the online gig economy is able to take the competition

for prices to a whole new level. Here, digital technology is instrumental in creating a "planetary labour market" (Graham and Anwar, 2019), bringing competition between gig workers operating from their homes to an unprecedented global scale.

2.2 Piece wages

Whether delivering a meal to the doorstep of a client, annotating an image to train a machine learning algorithm, or cleaning a bathroom in a private household, most workers on today's digital platforms are paid for each distinct task or output individually. Piece-based payment is a core element of digital platforms. Consider, for example, delivery workers who work as independent contractors for platforms such as Deliveroo or UberEats. As they are paid a piece wage for every completed delivery, their income is largely determined by their speed and ability to complete deliveries efficiently, given that enough orders are available. In this context, driving fast and running red lights becomes their own direct economic interest while simultaneously increasing their level of risk – a contradiction that characterizes the daily work of many platform workers (Altenried, 2024; Wang and Churchill, 2024).

Two decades ago, David Pellow and Lisa Sun-Hee Park (2002) described similar dynamics of labour intensification through piece wages in a very different context: the late-20th-century Californian electronics industry. Here, an army of pieceworkers performed the time-intensive tasks of the so-called last mile of computer manufacturing – assembling cables or inserting silicon chips into small plastic boards. While the main stages of production had already moved to offshoring sites in Asia, with components shipped to Silicon Valley and assembly handled by subcontracted firms, the labour-intensive final step was often outsourced to home-workers paid per completed device. Workers frequently spent the formal working day in the factory and would then take electrical components home for a second night shift. While factory work was paid by the hour, this second shift was informally compensated on a piecework basis. This home-based workforce largely consisted of women; people of colour; and migrant workers from the Philippines, Vietnam, Korea, Cambodia, and various South American countries.

"They labor in their living rooms, bathrooms, bedrooms, and kitchens. Lead, flux, solders, and acids are toxins these workers use in their homes every day Children, siblings, grandparents, entire families, friends, and neighbors all pitch in to produce these parts, often washing components in acidic solutions in their kitchen sinks. The workers labor sometimes twenty-four hours straight at poverty wages with no benefits, and the ever-looming possibility of dismissal In some cases, home workers are paid as little as a penny

for each component produced.” (Pellow and Park (2002):158)

As has often been the case in the history of piecework, in the Californian electronics industry it also served as a tool to control spatially dispersed, remote workers in the absence of a supervisor. Furthermore, it enabled flexible scaling of the workforce in response to production fluctuations while also tapping into labour pools that would otherwise be inaccessible due to their relative immobility, such as women with children or the elderly, and accessing additional time resources of these workers by extending the working day into the night. Additionally, piecework allowed employers to bypass labour regulations and prevent collective organizing.

Pellow and Park also highlight that the rationale of electronics manufacturing subcontractors hiring home-based pieceworkers cannot be reduced to cost reduction; it was essentially a matter of accelerating the time-intensive assembly work that could only be carried out by human hands (Pellow and Park, 2002:159). This echoes other historical instances of piecework, such as the aforementioned example of sewing in the early garment industry. Here, too, home-based piecework persisted even after most manufacturing had shifted to mass production on assembly lines in factories – specifically where machinery reached its limits and time-consuming finishing tasks requiring precision had to be carried out by hand, such as sewing on buttons or curtain loops (Gray and Suri, 2019:42).

Although the discipline of the factory clock and the measurement of wages through the duration of labour were central to the development of industrial capitalism (Thompson, 2017), piece wages never disappeared and have, as Marx (1990:692) already noted, historically coexisted alongside hourly wages. Marx highlighted the function of piece wages in the intensification of labour as they drive workers toward high levels of self-exploitation, increasing their workload and extending their working hours. As he put it, with piece wages “it is naturally in the interest of the worker that he should strain his labour-power as intensely as possible; this in turn enables the capitalist to raise the normal degree of intensity of labour more easily” (Marx, 1990:695). Since Marx’s writings, piece wages as a tool for the organization and control of labour have been constantly refined. One prominent example is the work of Frederick Taylor (1896), who, based on empirical experiments monitoring workers’ time usage and movements, advocated for a scientific calculation of piece rates, aimed at eliminating unproductive time in labour processes and boosting worker productivity by creating incentives, such as setting piece rates that rewarded workers for exceeding production targets.

In today’s gig economy, piece wages find a digital resurgence, presenting a crucial mode of disciplining labour and intensifying the labour process. First, piece rates are integral to the contracting framework of platforms and complement the classification of workers as self-employed independent

contractors, enabling platforms to circumvent labour regulations such as minimum wage laws. Second, just as in the sweating system of the 19th-century garment industry or in the home-assembly of digital devices in the late-20th-century electronics industry, piece rates in the gig economy play a crucial role in the management and control of labour outside of disciplinary spaces like factories. Here, as well, they serve as a means of pushing spatially distributed workers to work harder beyond the direct supervision or field of vision of managers.

However, the gig economy combines this historical form of control over spatially distributed workers with a new and crucial component: algorithmic management. Networked digital devices, apps, and smartphones add a crucial modality for the remote organization, measurement, and control of labour to the arsenal of digital platforms (Altenried, 2022). In most platforms, algorithmic management works in combination with piece wages and refines their logic. Digital infrastructure often enables constant monitoring of the labour process – whether through activity or location tracking. This allows for further intensification of labour as workers are not only incentivized to increase their own efficiency but can also be disciplined in cases of low performance.

2.3 Day labour

Another and related characteristic component of the contemporary platform economy is the short duration of employment and the resulting uncertainty over whether there will be enough work in the future. We can think, for example, of gig workers in Amazon’s Flex programme. Operating as independent contractors and using their own cars, these workers deliver Amazon parcels throughout the city while being managed and coordinated through an app. It is also in this app that they must secure their next work opportunity. Here, workers are offered “delivery blocks” a few days, or sometimes only a few hours, in advance. If they can accept a delivery block quickly before someone else takes it, a slot of 2 to 4 h is reserved for them. As the availability of work is fluctuating and there is little apparent logic as to when these blocks pop up in the app, many drivers in Germany described to us constantly checking their smartphone for new opportunities, sometimes even comparing it to an addiction. Additionally, it remains opaque to workers how their performance and speed in completing previous blocks impact the amount of new work offered to them. For this reason, many gig workers regularly spend hours of unpaid time constantly refreshing their apps, hoping that the algorithm will offer them a new slice of work (Altenried et al., 2026).

The role played by the algorithm in this case was, for many of Hamburg’s dock workers in the mornings of the 19th century, played by a person they knew well from the night before: the pub owner. Day labourers, who formed an important part of the port workforce at this time, were often selected by these pub owners. At 03:00 or 04:00 p.m. LT, workers would

present themselves at the pubs around the harbour, whose owners then funnelled the requested number of workers to the employers. According to historians, these pubs were the most important sites of labour intermediation in the port of Hamburg up until the early 20th century (Grüttner, 1984:36). The likelihood of being chosen by the pub owner depended to no small extent on the generosity the worker showed in buying drinks the night before. A change in this system of allocating daily work was one of the demands of the extensive strikes arising in the docks of Hamburg in 1896, which became one of the biggest labour conflicts of the 19th century (Bieber, 1978; Ulrich, 2021). At its peak, more than 16 000 dock workers were on strike. Day labourers were heavily involved as they had no permanent employment to lose. Ending the arbitrary system of daily job allocation, which largely depended on the moods and goodwill of pub owners, was therefore a central demand (Ulrich, 2021). The strike ended in an almost complete defeat. Less well known is the fact that it had been preceded only a few months earlier by a more successful strike of female day labourers in the vicinity of the harbour: several hundred female coffee sorters who managed to secure improvements in their working conditions (Beimel and von Dücker, 1989; Trautwein, 2023).

The procurement of labour on a daily basis remained crucial at many harbours around the world well into the 20th century, with varying systems for allocating jobs and giving rise to different actors and infrastructures of labour intermediation. At the port of New York and other American East Coast ports, the so-called shape-up system emerged from the mid-19th century onwards. Each morning, dock workers would line up at a designated location to get work for the day – or at least for 4 h, as stipulated by the rules. Before the Second World War, virtually all jobs at the port of New York were assigned daily using the shape-up system. Daniel Bell describes the scenery as follows:

“Twice a day, at 7:55 a.m. and at 1 p.m. (and, when necessary, a third time in the evening), the men “shaped up” in a loose semicircle in front of the pier and were picked for a half-day’s work by the hiring or “shaping boss.” No formal system existed for informing the men where they might be needed [...]. If a man was not hired at the 7:55 a.m. shape, he had little chance of working during the rest of the day.” (Bell, 1962, quoted in van der Linden, 2014:14).

Typically, the number of available workers exceeded the number of jobs, and migrant workers were often crucial in constituting a reserve army of workers available for day jobs. While large sections of the male Irish-American population found work as day labourers around the port of New York, specific places also emerged in the city where women gathered to hire themselves out as day labourers in private households; around a quarter of Irish-American women worked in

this way (Martinez, 1976). In ports along the West Coast of the US, more formal “hiring halls” were established, where a rotation system for day labourers was introduced to distribute available work as fairly as possible (Larrowe, 1955). In both systems, however, workers often felt disadvantaged, and struggles over the shape-up system contributed to the rise of powerful dockworkers’ unions. In the great strike by waterfront workers on the US West Coast in 1934, which led to the foundation of the famous International Longshore and Warehouse Union (ILWU), the allocation of work again became a central issue. A key result of the disputes was that the unions gained more control over hiring halls and the allocation of work. This paved the way for their establishment as one of the most influential and militant unions ever (Meyris, 2025:368).

It was not until 1989 that the last hiring halls closed, at least at the port of New York. From then on, workers had to wait at home for a phone call. While some feared that this change would mean a return to the old nepotism, others were happy that they no longer had to show up at the hiring hall at 07:00 every morning, only to return home empty-handed (Depalma, 1989). By that time, ports had already changed a lot. The introduction of intermodal shipping containers had drastically reduced not only the time and space needed to load goods but also the amount of human labour required.

For truck drivers transporting these containers to the port, new forms of work procurement for short periods emerged at that time, not as a relic of the past but through deregulation. Beginning in the 1970s, this deregulation of the trucking sector was mainly reflected in a new contractual form: rather than being employed, an increasing number of truckers became “owner-operators” or “independent contractors” (Bonacich and Wilson, 2008:103). The independent contractor, the key figure of the gig economy, thus emerges here in a pre-digital variant at US harbours. The work itself differed little from that of employed drivers. Some of the independent contractors even rented the same trucks from the companies where they had previously been employed. However, with the contractual change, a large part of the risk was shifted to the drivers. Insurance and social security became the responsibility of the driver. Overtime pay and union organization are not guaranteed by law for independent contractors. In addition, most independent contractors are paid per piece – that is, per container delivered. This means that traffic jams and other obstacles immediately become a financial problem for drivers, intensifying their work. This is vividly illustrated in Allen Sekula and Noël Burch’s film *The Forgotten Space*: “Waiting is bad,” says a driver in the traffic-plagued California ports, “especially if you want to make money” (Sekula and Burch, 2010). This model of solo self-employment prevailed: according to a study by the National Employment Law Project, approximately 50 000 of the 75 000 drivers in US ports were classified as independent contractors in 2014 (Smith et al., 2014:40).

In today's gig economy, the legal construct of the independent contractor remains a key component in most countries. The strategic outsourcing of economic and social risks, such as low demand for work or worker illness, continues to be crucial. Compared to previous historical forms of day labour, however, the hiring period has shrunk drastically, from a full day to just a few minutes for an Uber ride or even seconds for completing certain tasks on crowdwork platforms.

2.4 Labour intermediaries

While today's platforms assume central functions in the management and control of labour, they tend to position themselves as mere intermediaries. Consider the platform *Helping*, for example, which acts as an intermediary between customers, mostly private households, and cleaners. While these workers carry out tasks such as cleaning toilets or washing windows in clients' most intimate private spaces, they do not have a direct contractual relationship with them. Instead, they are hired through the platform who controls the labour process through a system of co-management by customers and an algorithmic architecture of rating, matching, and sanctioning (Altenried and Niebler, 2024). The triangular contractual relationship and the positioning of platforms as mere intermediaries of work enables the shifting of risks and responsibilities onto workers, including financial and administrative obligations relating to income tax and social security contributions.

More than half a century earlier, this mode of externalizing risks and responsibilities was already being tested through the introduction of a different form of labour intermediary: the temporary-labour agency. In postwar Detroit, *Kelly Office Service* was founded by William Russell Kelly in 1946 and quickly became known for hiring out its "Kelly Girls" – mostly young, white, middle-class women placed in a wide range of temporary office jobs in the booming service sector. These jobs were marketed as "women's work", "suitable for white, middle-class housewives with a little extra time on their hands" (Hatton, 2008:2). Women were recruited into these jobs based on the promise of gaining independence and self-fulfilment while still being able to take care of the household. Temporary work was portrayed as a "cure for 'housewifeitis'" (Hatton, 2008:3) while at the same time being constructed as merely an extra, secondary income that did not require legal protections such as health and unemployment insurance. In an advertisement published in the journal *The Office* in 1971, the agency marketed the Kelly Girl as "The Never-Never Girl" that

"[n]ever takes a vacation or holiday. Never asks for a raise. Never costs you a dime for slack time. (When the workload drops, you drop her.) Never has a cold, slipped disc or loose tooth. [...] Never costs you for unemployment taxes and social security payments". (Quoted in Hatton, 2011:51)

Erin Hatton (2008, 2011) provides a compelling analysis of the evolution of the US temporary-labour industry by highlighting how gender-specific exploitation helped normalize flexibilized and subcontracted work. The initial framing of temp labour as women's work was, as Hatton argues, essential in order to introduce the new category of on-demand, precarious work and to undermine potential union resistance. This strategy proved to be successful as, by the 1970s, the temp industry in the US had become widely accepted as "a legitimate sector of the economy" (Hatton, 2008:24, 2011). This allowed for the move away from portraying temp work as only suitable for housewives and the move toward establishing it as a general new model of work and fuelling the large-scale flexibilization of labour in the transition to post-Fordist economies.

The development of the temporary-labour industry in the United States did not occur by chance in Detroit and other major cities such as Chicago and Pittsburgh, located in the North American Rust Belt, formerly the country's largest and oldest industrial region. The region stood paradigmatically for the decline of heavy industry, the outsourcing of production to the Global South, and the end of the Fordist era following the crisis of the 1970s. As a result, cities changed drastically: production (especially manufacturing and logistics) was relocated to the suburbs, while unemployment and poverty increased in the former industrial centres. It is precisely in this context that numerous temporary staffing agencies established themselves in inner-city areas, particularly in poorer migrant neighbourhoods, in order to organize the (mostly daily) placement of labour to the suburban manufacturing and warehousing sectors (Peck and Theodore, 2001:490).

Geographers Jamie Peck and Nik Theodore investigate this development in Chicago in the 1990s and show that, alongside its gendered dimension, the racialization of contingent labour was central to the rise of the temporary-labour industry. They demonstrate this, for example, by analysing the geographical distribution of temporary staffing agencies, which mirrored the already significant dynamics of racial segregation in Chicago. Most of these agencies deliberately located themselves in predominantly Latino neighbourhoods, explicitly targeting Latino workers who were perceived by clients as "cheap [and] hard-working" (Peck and Theodore, 2001:488). Peck and Theodore argue that this locational strategy, common among agencies supplying manual labour in manufacturing and warehousing, differed markedly from that of large firms such as the previously discussed Kelly Agency. Whereas the former clustered in poor neighbourhoods close to their labour supply, the latter were typically situated near client firms, in suburban office parks or in downtown Chicago (Peck and Theodore, 2001:473).

The overall logic guiding this expanding temporary-labour industry followed a rationality similar to that of the logistics sector, which also grew in the second half of the 20th century, where the management, monitoring, and optimization of

supply chains “in real time” (and increasingly through digital technologies) became crucial to ensure the “just-in-time and to-the-point” delivery of commodities (Altenried, 2022:26). It is precisely this rationality that, as manifested in the rise of the temp-labour industry, now also became transferred to the management of (mobile) labour. This was articulated particularly strikingly in the 1990s by Mitchell Fromstein, the former director of Manpower – today one of the largest globally operating temporary staffing firms – who stated the following:

“The US is going from just-in-time manufacturing to just-in-time employment. The employer tells us, “I want them delivered exactly when I want them, as many as I need, and when I don’t need them, I don’t want them here” [...] Can I get people to work under these circumstances? Yeah. We’re the ATMs of the job market.” (quoted in Castro, 1993)

Temp agencies, which continue to proliferate to this day, can be seen as a modern evolution of the middlemen in the 19th-century putting-out system. As described above, back then a multitude of merchants used to coordinate industrial homework by delivering materials and collecting finished goods. The digital platform, in turn, can be understood as an evolution of the temp agency, radicalizing and reconfiguring its functions. It is the very logic of the just-in-time delivery of workers that is amplified in today’s gig economy, where platform companies advertise the provision of flexible, scalable workforces “on demand”, with workers who can be hired and fired at almost any time and at no costs. Compared to temp-labour agencies, the business model of platforms is even “leaner” (Srnicsek, 2017:13ff.), relying on the maximal outsourcing of non-profitable business areas and further avoiding many fixed costs such as staff provision and management.

3 Conclusions

We hope to have demonstrated that today’s platform economy emerged from a long prehistory and that many elements commonly attributed to its labour model have existed in multiple variations for centuries. Does this mean that nothing is genuinely new? Certainly not. As indicated throughout the historical examples, digital platforms do not merely adapt historical techniques, structures, and practices for organizing and regulating contingent labour; they fundamentally reconfigure them. It is precisely the interplay between these historical forms and the new algorithmic capacities of platforms to control remote workforces that enables a profound radicalization: intensifying the demand-oriented, temporary, and flexibly scalable allocation of labour power while further shifting costs and risks onto workers, their households, and their communities.

However, we remain careful not to reduce the disruptive character of platforms to *technological* development alone.

To understand where and how platforms impact employment relations and labour markets, platform labour must be analysed in relation to both other proliferating forms of precarious work and the broader precarization of life. Along with others (see, for example, Huws, 2019; Dowling, 2021, 2022; Ecker and Strüver, 2023; Gerold et al., 2025), we have previously argued for understanding the rise of platforms in the context of a structural crisis of social reproduction, which manifests in both the deterioration of households’ capacity to sustain themselves and provide care and a wider societal deficit in the provision of care (Altenried et al., 2021).

Ursula Huws’s research has been particularly influential in shaping our understanding of these dynamics as she was among the first to highlight the connection between the spread of platform-based services and what she terms the “domestic time squeeze” (Huws, 2019:16). The flexibilization and intensification of labour (such as the expansion of work obligations beyond the formal working day), coupled with the state’s withdrawal from responsibility for many services of social reproduction in recent decades, women’s large-scale entrance into the labour market, as well as limited access to extended family support, have reduced households’ financial and temporal resources. These dynamics have prompted those who can afford them to purchase services such as grocery shopping or cleaning on the market (Fraser, 2016). Meanwhile, they have pushed workers to find new ways to top up insufficient income or explore new ways of combining wage labour and care.

It is precisely these crisis dynamics in labour and welfare regimes that produce heterogeneous pools of workers unable to secure their own social reproduction, who – seeking sources of income beyond the traditional labour market – are absorbed into the platform economy (Gebrial, 2024; Wallis, 2026). At the same time, our research, along with that of many others, shows that the platform economy’s promises rarely materialize. For example, workers often face intense competition for lucrative gigs, constant pressure to remain “logged in” and accept large amounts of unpaid labour while searching for new tasks, and extensive algorithmic control (Altenried et al., 2026). As a result, platform workers and their households are often forced to compensate for the financial uncertainty of platform work by relying on multiple other income sources. Digital platforms can thus be understood both as a response to the increasing precarization of work and life in recent decades and as an additional driver of this process, contributing to the normalization of unpaid and undercompensated work.

Historically, the normalization of precarious work has been closely linked to gendered divisions of labour, as demonstrated by the example of the temporary-labour industry in the US, where framing temp work as women’s work helped normalize flexibilized and subcontracted labour while undermining potential union resistance. Likewise, contingent labour has long been deeply intertwined with migrant divisions of labour. Home-based piecework and day labour,

for example, often emerged in migrant neighbourhoods and communities in particular and were tied to their exclusions from “regular” labour markets. As mentioned in the introduction, we believe that the perspective of migrant labour is crucial to understanding platform labour. From this perspective, many of its characteristics – such as instability, limited protection and rights, and fluctuating demand for labour – are not particularly exceptional but rather are typical features of those sectors of the labour market that largely rely on migrant labour.

Speaking with migrant platform workers in Berlin and other European cities demonstrated this very clearly. In our interviews and conversations with migrants working for platforms in different research projects throughout the last decade, we would often ask what job they would do if it were not for the platform in question. Many mentioned, for example, jobs in gastronomy or logistics, often in constellations that were equally or even more informal and precarious than platform labour. From the perspective of most migrant workers, these platforms clearly operate within what we have described as a *landscape of precarious labour* and do not constitute a digital exception to any form of standard employment (Altenried, 2024).

As Simon Schaupp and Jamie Woodcock (2025) argue, moving beyond “platform exceptionalism” does not mean ceasing to study platforms but rather means “situating [them] within the broader dynamics of industrial relations and capitalist development” (Schaupp and Woodcock, 2025:2). While Schaupp and Woodcock argue for more studies comparing platform labour with other forms of precarious work, such a contextualization of platforms could also, for example, involve explicitly examining the multiple connections to other forms of precarious work in empirical qualitative research with platform workers. As some researchers already do, this could mean taking into account workers’ entire work trajectories and biographies, analysing which factors have driven them into the platform economy and how these factors relate to the broader dynamics in the precarization of work and life. In such research, both migration regimes and the crisis of social reproduction will necessarily come to the fore as crucial structures and conditions of the platform economy.

The future of platform labour

Even if the proliferation of studies and publications on the gig economy suggests otherwise, this form of labour is not the hegemonic form of labour in contemporary capitalism. Since its inception, the gig economy has been a growing but quantitatively limited part of labour markets – and it exists and will continue to exist alongside a range of markedly different labour relations. What motivated us and others to research the gig economy was not its character as a blueprint for all labour in the future but rather its function as a “laboratory” where new combinations of algorithmic management and flexible working conditions are tested and contested. As

such a laboratory, the gig economy’s relation to the world of work in contemporary capitalism is complex and changing, but it compels us, again, to situate platforms within a changing landscape of precarious labour. This means further conceptualizing the role and situatedness of platform labour in the broader current constellation of work and the ongoing transformation of capitalism while remaining attentive to the ways in which the gig economy evolves within this constellation.

Regarding the latter, functioning as a laboratory for experimenting with both new and historical forms of organizing contingent labour, platforms must continuously respond to governmental regulatory efforts, as well as to the persistent struggles of workers seeking to navigate the platform economy to their advantage. As mentioned in the Introduction, in Germany, taxi services like Uber and, increasingly, food delivery platforms have largely abandoned the form of bogus self-employment based on the legal construct of the independent contractor due to a combination of these reasons. Instead, these platforms have turned to systems of subcontracting (Niebler et al., 2023). They work with a sprawling network of subcontractors, often called “fleet partners”. These subcontractors vary in size and professionalism: some employ only a few workers, others employ hundreds; some operate largely within the law, while most casually violate a number of labour and tax regulations. Although many workers hold formal contracts, they are still often partially or entirely paid piece rates, and a significant portion of the work takes place undocumented (Adamek and Göbel, 2024). The experiences of roughly 200 Wolt delivery riders – hired by an individual in a corner shop in the Berlin district of Neukölln who later disappeared without paying wages – or of UberEats couriers attempting to organize a strike only to be physically assaulted and hospitalized (Grieger and Wiese, 2025) resonate as strongly with the struggles of striking dock workers at the end of the 19th-century as they do with those of millions of migrant workers operating under today’s global capitalism (and seem a world away from the shiny headquarters of the tech companies).

These developments in Berlin and elsewhere demonstrate the limitations of framing – and consequently regulating – the platform economy as a digital exception. In addition to that, algorithmic control and the digital organization of work are not confined to digital platforms; they are spreading throughout various sectors of the economy. This hints to the need to develop the debate around the regulation of digital platforms beyond the (necessary) measures against bogus self-employment. Rather than regulating platforms as such, a broader approach to regulating precarious labour is necessary, not only because it will become increasingly difficult to distinguish platform labour legally from other forms of precarious labour but also because it could often be more effective. For example, the direct and indirect effects of rising minimum wages might have a more lasting impact on platforms than regulating specific contractual arrangements. At-

tempts to universally raise the standards in sectors of precarious labour will both limit the abilities of platforms to switch between contractual arrangements and deliver an upwards pressure on working conditions that might, in the long run, help to give workers more alternatives (see also van Doorn and Shapiro, 2023).

At the same time, both this contemporary tendency and a historical perspective on the trajectories of platform labour show that the regulation of employment relations is only one piece of the puzzle in transforming the world of work. Looking at digital platforms in their broader historical and social context as we have done, it becomes clear that questions of property and ownership, as well as broader structures and conditions of social reproduction, are inextricable parts of the issue. The takeover of infrastructures of the procurement of day labour by unions in US-American ports hints, for example, at the question of ownership and collective organization of the infrastructures of labour, a question that is taken up by the contemporary experimentations under the slogan of platform cooperativism (see, for example, Scholz, 2016; Pentzien, 2023). Furthermore, having underlined how migration regimes and the crisis of social reproduction structurally produce the workforces of digital platforms strongly suggests that solutions to the problem of precarious labour can hardly be found exclusively in labour legislation. Hence, thinking about the transformation of labour relations also invites us to think about the foundational ways labour and social reproduction are organized in our societies.

Data availability. Our qualitative empirical research data are not publicly available due to ethical and privacy considerations related to the ethnographic nature of our study and the protection of participants. Historical sources are cited.

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