Platform Capitalism 🔓

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Summary

Platforms have become a central concern in scholarly production due to their sudden scope and rising popularity in mainstream discourse, which either hyper-celebrate their possible achievements, or over-dramatize underlying consequences. Together with related terms—such as *sharing economy*, *digital ecosystems*, *algorithmic decision-making*—the so-called platform revolution has been portrayed as a profound transformation upon previous modes of economic exchange and models of business organization. Platform scholarship is sharply divided among utopian and dystopian prospects, contributing to a multiplication of terminology and opposing narratives around the emergence and development of platforms. While some fields and disciplines emphasize its multiple potential benefits, others explore its continuities with previous negative trends. Both, defenders and critical scholars of platforms, agree upon the intermediary role of connecting economic agents through technological innovations as the defining feature of platforms.

Those working in the field of anthropology—and its sister disciplines such associology, human geography, cultural and media studies, as well as legal scholars—have been steadily contributing to complicate, if not undo, an overly optimist or pessimist portrait of the platform economy. Thanks to case-based studies and empirical appraisals of its inner workings, these disciplines are developing more complex and rather critical accounts of its human and environmental entanglements. The very study of platforms, as with other research objects such as mobility, technology, and racism, among others, request a certain fluidity between disciplinary boundaries, giving rise to transdisciplinary fields and approaches. In the case of the emerging field of platform studies, the discipline of anthropology has a lot to offer. Indeed, anthropology's attention to materiality, everyday practices, and agency are already informing the literature on platforms. Methodologically, ethnography is becoming one of the main approaches to engage the complexities of platforms. For an anthropology of platforms to fully unfold, three areas of research can be identified as worth exploring: (a) tracing the genealogies and logistics of platform infrastructures; (b) further understanding the limits of this economic model by building and expanding upon established concrete and critical engagements; and (c) accounting for the conjunctural contingency of platforms by paying due attention to expressions of resistance and instances of reappropriating platforms.

The Transdisciplinary and Contested Field of Platform Studies

There is a flurry of academic production around platforms, initially growing out of the fields of business and management studies on the one hand, and media studies on the other. The term "platform economy" refers to the latest transformations in production, distribution, labor, and consumption, mainly due to technological developments in Internet reach and the increase in cloud storage. These changes have been analyzed in openly celebratory terms, such as "digital revolution," popularized by the book *Race against the Machine* (Brynjolfsson and McAfee 2011). With their futurist accounts, these two authors from the MIT Business School not only captured the imagination of many business student cohorts, but also influenced emerging digital companies by serving as their expert consultants. Their appraisal portrayed an overly utopian landscape where machines, platforms, and people interact happily ever after (Brynjolfsson and McAfee 2016; McAfee and Brynjolfsson 2017).

At the same time, and after witnessing the over-optimism engendered by the San Francisco start-ups, some authors have called for a more neutral approach. The referential text, *The Rise of the Platform Economy*, urged scholars to narrow down the many emerging terms to a more precise terminology, arguing that terms such as the *digital*, *creative*, *gig*, or *sharing economy*, although used interchangeably, were neither sufficient nor completely synonymous, and indeed, some were overly idealistic or misleading. According to these authors, it was imperative to identify and engage with the unique traits of the ongoing transformations, which were not necessarily positive or negative (Kenney and Zysman 2016). Despite this call for neutrality, however, these influential authors were definitely excited about the implications of the so-called "digital revolution" (Zysman and Kenney 2018). Indeed, a review of the platform literature reveals a proliferation of the use of the term "revolution," as in "algorithmic revolution" (Zysman et al. 2013), "platform revolution" (Parker, Van Alstyne, and Choudary 2016), and "fourth industrial revolution". These accounts portray themselves as fact-based, nuanced, and empirically grounded appraisals. Yet, they are unmistakably marked by an overall positive subtext pointing to a promising novelty and speaking, if not in terms of revolution, at least in terms of "innovation" (Gawer 2009). Basically, according to these accounts, the platform economy refers to the open-ended process by which information technology monetizes everything. This monetizing process takes place mainly in services and works by digitalizing every potential value-creating human activity, from taking a ride somewhere to having food home-delivered. It is a proactive, even aggressive, move toward turning many everyday activities into potential markets. As such, the disruption theory, popular in business schools during the late 1990s, was reapplied to platform businesses, since their structures enhance their ability to enable profitable transactions beyond conventional economic sectors (Christensen, Raynor, and McDonald 2015; Ozalp, Cennamo, and Gawer 2018).

By organizing ever-larger sectors of our economic and social lives, these platforms, and the firms associated with them, are focused on turning quotidian interactions into potential sources of value. Compared to the established primacy of ownership of the means of production, emblematic of the agricultural and industrial eras, the sudden relevance of intermediation, both in terms of economic power and social-political influence, is surprising. But it is in the analysis of *who* is

benefitting from this profit-making process, and *how* they are doing so, that the notion of *platform capitalism* and the critical literature on platforms becomes pertinent (Srnicek and De Sutter 2016). Anthropology and its sister disciplines have been steadily contributing to complicate the overly positive, or negative, portraits of the platform economy.

According to critical and pro-platform scholars, the defining feature of the platform-based economy is the intermediary role it plays in economic and social interactions. It is a business model based on expectations of high economic participation, where individuals are viewed as both potential consumers and potential providers. As such, this economic model is able to interconnect multiple interested parties in agile economic transactions, mainly through the mobilization of data analytics. Some authors argue that this intermediation has capillary properties, since it is able to penetrate old markets and generate new ones. This rhizomatic effect goes beyond the economic sphere, having a variety of effects on many everyday activities, certain industrial operations, and even international relations (Cusumano, Gawer, and Yoffie 2019; Van Dijck, Poell, and De Waal 2018). As such, platforms have been hailed as a new model of business governance, legally speaking, different from the top-down corporation (Davis 2016a). The emergence of this model has generated two main sets of academic narratives (Pasquale 2016). On the one hand, platforms are celebrated to the point of being proclaimed as the basis of a "peer-to-peer capitalism" (Sundararajan 2016). According to this pro-platforms narrative, democracy will be enhanced thanks to the platform economy. This view envisions the participation of all individuals, including those who are commonly marginalized, who can now act as micro-entrepreneurs in a dynamic economy thanks to intermediary platforms (Gillespie 2010). On the other hand, platforms are posited as furthering previous controversial tendencies of depredatory capitalism in search of capital accumulation. These tendencies include precarious working conditions, and negative impacts on the environment. As such, precarity and environmental destruction constitute hallmarks of anthropological attention as two long and interrelated trends of capitalist development, being depicted in detail through empirically based ethnographic accounts (Escobar 2008; Han 2018; Kasmir and Carbonella 2014; Narotzky 2020; Nonini 2015; Riles 2013; Tsing 2015).

Anthropological readings of platforms are genealogically exploring their logical foundations and structural developments. In *Legacies, Logics, Logistics: Essays in the Anthropology of the Platform Economy*, anthropologist Jane Guyer suggests that everyday acts of exchange and price setting no longer respond to the notion of market-based capitalism (Guyer 2016b). She argues that the idea of "the market" has become an abstraction based on the fantasy of a self-organizing system, and that this abstraction works to prop up institutions that serve to maintain the illusion of a "free market economy." There are "real" institutions out there that regulate real processes of exchange, but the idea of "the market" no longer accurately represents the reality of those institutions, or of people's economic experiences with them. In this way, the market abstraction gets in the way of grounded analysis of the "real" activities of economic actors in a world of platform-based coordination (Guyer 2016a).

According to economic anthropologists Narotzky and Besnier, studying economic life away from abstract models unrelated to everyday realities of ordinary people consists in

> bring[ing] to center stage the complex ways in which people attempt to make life worth living for themselves and for future generations, involving not only waged labor but also structures of provisioning, investments in social relations, relations of trust and care, and a multitude of other forms of social action that mainstream economic models generally consider trivial, marginal, and often counterproductive.
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> (Narotzky and Besnier 2014, 4)

Thus far, the anthropological query about platforms continues this disciplinary tradition of studying economics based on engaging everyday realities through a multilayered analysis of concrete developments in given times and places. This is the case of the ethnographic monograph *Taxis vs. Uber* by the anthropologist and economist Juan Del Nido (2022) on the entry of this ridesharing platform in Buenos Aires. Based on anthropological fieldwork and detailed ethnographic journaling of how multiple actors responded to Uber's *there is no way back* pose, this ethnography represents a unique contribution to further understanding the advent and social normalization of platforms, somehow conducting an "anthropology of platform-based commonsense" (Casas-Cortés 2023). In the spirit of the discipline, Del Nido's book makes the familiar landscape of platforms appear strange. Del Nido criticizes more common appraisals of neoliberalism for their analytical imprecision and overuse of a moralizing tone drawn from the ideological trenches. His book traces the social production of a given way of reasoning, which was consolidated after Uber's illegal entry and contentious evolution in Buenos Aires. As such, this study focuses on the "logical, rhetorical and affective strategies" behind Uber's success in Argentina. Another example is the *Riders Research Project*, where a set of anthropologists is exploring food-delivery platforms in Spain based on a multisited ethnography in five urban centers. While deeply informed by the discipline of anthropology, the ethnographic inquiry has allied with interdisciplinary fields such as Science and Technology Studies (STS) migration studies, social movements studies, feminist studies, and disability studies, which in turn, deepens an anthropological approach toward platforms. Some of the initial results are depicted in a special issue on the anthropology of algorithms and ethnographies of platforms published by the oldest anthropological journal in Spain, *Disparidades: Revista de Antropología* (Cañedo and Allen-Perkins 2023).

An anthropology of platforms is unfolding based on a long disciplinary interest in the following areas: the materiality and infrastructural components of socioeconomic models; the actual practices of economic actors beyond abstract discourses; as well as their own agency and attempts at resistance. The three areas coalesce in the development of platforms, constituting objects of research in platform studies. All three can contribute to deepen an anthropological gaze upon platforms by (a) tracing the genealogies, logics, and logistics of platform infrastructures; (b) building upon critical engagements, engaging the disjuncture between actual practices and existing legal regimes; and (c) accounting for the conjunctural contingency of platforms, by engaging expressions of resistance and instances of reappropriating platforms.

Platform Infrastructures

Platform Genealogies

"Platform" has been a common term in the computing industry since at least the mid-1990s, when Microsoft first used it to describe the Windows operating environment (Bazzara 2021; Plantin et al. 2018). During the first decade of the new millennium, some began to use the term to refer to companies offering different types of online intermediation services (Gillespie 2010, 2017). In their seminal text *The Platform Society: Public Values in a Connective World*, Van Dijck, Poell, and De Waal (2018) distinguished between two major types of platform: infrastructural and sectoral. Infrastructural platforms provide basic services and include search engines, social media sites, and app stores. They form the basis for sectoral platforms, which offer a varied range of services in fields such as health, finance, cultural products, home-delivery, transport, and accommodation, among others. The two types of platform are not entirely distinguishable, since they are built over each other, with porous boundaries, and are embedded in complex ecosystems or digital ecologies rooted in an algorithmic substrate (Kenney and Zysman 2016; Seaver 2019).

The increasing popularity of the term "platform" has further obscured the meaning of what was already a slippery and overloaded concept (Gillespie 2017) and "the focus of a swirling vortex of confusion" (Andreessen 2007, 1). This confusion is mostly due to the use of the term by the computing industry, as well as by society at large, as a rhetorical trope (Gillespie 2010). In addition to its computational and/or social-cultural meaning, the concept of platform is often endowed with a populist ethos, linked to the moral values of opportunity, communication, freedom, and/or democracy. This connection explains why platforms often portray themselves as neutral intermediary structures that merely facilitate communication and value generation and distribution processes without intervening in or influencing them (Gillespie 2010, 2017).

Jane Guyer (2016a) proposed the term "platform" as a heuristic for the anthropological study of contemporary economic processes, replacing the overdetermined and often excessively reified concept of "market." According to Guyer, "whereas a market is depicted as place, people and commodities, a platform is made of built components and applications, from which actions are performed outward into a world that is not itself depicted" (Guyer 2016a, 114). Thus, platform encourages attentiveness to all components of situations, being a "capacious concept" (Guyer 2016a, 116) that makes sense of complex phenomena, intricate and ambiguous entanglements or layers of components and flows, all of which are common descriptions of economic processes, "both long existing and entirely novel" (Guyer 2016a, 114), related to the so-called global economy.

From an anthropological point of view, Guyer argues that the concept of platform has the potential to group phenomena moving from the particular to the general, "focusing on a specific stance and working outwards" (Guyer 2016, 118). As in the well-known examples of "the gift" (Mauss), "deep play" (Geertz), and Ndembu color symbolism (Turner): "It entails addressing what counts as 'platform' for specific applications in practice at any particular emergent moment" (Guyer 2016, 118). It is therefore vital to approach the concept of platform

from the perspective of its empirical concretions. In other words, beginning from the perspective of its components and applications and the particular ways in which these encapsulate actions in a world "that is not itself depicted." Disciplines more or less related to anthropology have studied the infrastructural dimension of platforms, especially their nature as technological and digital objects, a necessary step to ensuring that the term "platform" becomes something more than a mere abstraction or suggestive metaphor.

Various authors have tried to come up with a more precise definition of what a platform actually is, although all emphasize different aspects. Studies focusing on platforms mainly fall into one of three categories. First, at the convergence of software studies (Fuller 2008) and the so-called infrastructural turn of social science (Kanoi et al. 2022), critical studies view platforms as modular computational or architectural infrastructures that function as a technological interface mediating between and enabling the integration of diverse partners, as well as data exchange (Bogost and Montfort 2009; Helmond 2015; Langlois and Elmer 2013). Second, management and business studies are interested in exploring how platforms enable and consolidate multisided markets (Evans and Schmalensee 2016; Nieborg and Poell 2018; Rieder and Sire 2014; Rochet and Tirole 2003). Finally, political studies emphasize platforms' opaqueness and the way in which they encapsulate broad processes of communication and social reproduction within corporate power networks (Gillespie 2010, 2017; Puschmann and Burgess 2013). Despite the term's multiple meanings and the difficulty scholars have had in establishing a precise definition, the term "platform" can be viewed as "the missing link between computation and business" (Bazzara 2021, 48). Moreover, platforms constitute a broad social-technical object that is considered to be of increasing importance in the organization of economic processes (Nieborg and Poell 2018).

Platforms as Digital Infrastructures

The key to the architecture of a digital platform lies in its modularity and programmability. In other words, it is a system that operates on the basis of recombinable components (Constantinidis, Henfridsson, and Parker 2018; Helmond 2015; Schilling 2000; Ullrich et al. 2008). A platform is a "complex mixture of software, hardware, operations and networks" (Kenney and Zysman 2016) that can be reprogrammed and customized to adapt it to multiple contexts and needs (Bogost and Montfort 2009). In her thesis on the "platformization of the Web," Anne Helmond describes platforms as the dominant infrastructural and economic model of the social web (Helmond 2015). According to these authors, the computational architecture of a platform comprises at least three levels: (a) a core, which varies very little; (b) diverse contingent complements (applications); and (c) a set of devices or interfaces to enable modularity or the connection between (a) and (b). These interfaces are tools that both facilitate the reprogramming of the platform and influence the external developers or partners responsible for performing this task, who continuously design and incorporate new applications that hugely increase the platform's functionality and number of users (Plantin et al. 2018). It is an open architecture, in which platforms are not designed to integrate new functionalities vertically, but rather to be themselves reworked and expanded from outside by other partners, always providing said partners use the proposed interfaces (Helmond 2015).

Understanding how this complex open architecture works from an infrastructural point of view is vital if we wish to comprehend how "the platform provides the conditions of visibility for the articulation of different decentralized networks, and further, reflexively creates relationships between these different networked participants in a recentralized projection" (Richardson 2020, 459). Observing this technical and infrastructural dimension is also crucial to understanding political issues, such as, how private value is generated, distributed, and appropriated.

The openness of the platform model is the key to its extreme adaptability. It is a model in which different stakeholders benefit from symbiotic opportunities for value generation in digital environments. Modularity interfaces (which are fundamental nodes in this type of architecture) guarantee that the data produced during users' interactions with these new functionalities is always fed back into the platform, thereby establishing a pouring data channel (Helmond 2015; Liu 2004). Indeed, platforms can be seen as "pouring data systems that set up data channels and enable data flows with third parties" (Helmond 2015, 1). The open architecture typical of platforms is therefore grounded in this twofold movement toward the decentralization of its features and the recentralization achieved through data pouring.

From an economic perspective, this double articulation enables platforms to offer affordances for innovation (applications, services, exchanges), while at the same time ensuring the capitalization of most of the value generated by these innovations. On top of the platforms, multiple interactions take place between users, generating huge quantities of records or data, all with some degree of economic value (Bazzara 2021). This data is stored in repositories or databases that are in turn linked to algorithms, operators that enable correlations to be established and analyzed in order to infer behavioral patterns and identify user profiles with a commercial value (Danaher et al. 2017). Moreover, these patterns and profiles are not merely statistical in nature, but rather are updated thanks to data feedback (Bazzara 2021, 58). Platforms constitute the material infrastructure for an abundance of data streams from which economic value can be extracted (Constantinidis, Henfridsson, and Parker 2018). For example, "likes," "shares," and "retweets" are not only means of expression on certain well-known platforms, they are also tools that enable rankings, product recommendations and data analytics (Plantin et al. 2018, 7).

All this is related to transformations in digital marketing and the rise of what is known as segmented advertising. According to the description offered by Helmond, Nieborg, and Van der Vlist (2017, 2):

> digital advertising shifted from . . . cookie-based approaches towards a performance-based, dynamic modality that allows advertisers to "bid" on thousands of impressions, clicks, or taps in real-time. Increasingly, these bids are informed by behavioral data and profiles offered by data intermediaries.

What is emerging, therefore, is a digital ecosystem in which platforms provide a value generation and appropriation structure made available through applications or functionality layers embedded or sunk on top of each other, which operate within a modular system that can easily be adapted to meet new demands (Gerlitz et al. 2019). It is an economy of data interoperability (Helmond et al. 2017).

The Platformization of the Economy and Its Effects

Understanding platforms as a kind of digital infrastructure is necessary to comprehending the economic transformations that have emerged from them within a new organizational and business logic that affects a diverse range of industries and economic sectors (Yoo, Henfridsson, and Lyytinen 2010). From a social-cultural perspective, this "infrastructuralization of platforms" is materialized in the fact that they are currently embedded in the everyday lives of millions of people all over the world. Digital platforms provide the material substrate for articulating a plethora of basic practices and habits, and clearly impact new forms of subjectivization and social relations. Google, for example, a platform with extensive reach, is linked to email files, photos, and documents, and the spatial navigation and orientation habits of millions of people across the globe (Plantin et al. 2018). Furthermore, the wide variety of mobile applications that are sustained by platforms and form an intricate part of so many people's daily lives (Gerlitz et al. 2019) reflect the enormous social-cultural impact of the spread of digital platforms, which, incidentally, has also opened up a fertile field of study for anthropologists.

The thesis regarding the "infrastructuralization of platforms" is complemented by the parallel idea of the "platformization of infrastructures" (Plantin et al. 2018), a theoretical development that shifts the empirical grounding from the platforms of the social web to economic activities linked to the provision of citizen infrastructures and public services, in fields such as transport, health, energy, and communications, among others. This thesis posits that the modern ideal of public infrastructure (dependent on the state and based on centralized provision) is breaking down. Many infrastructures are being "platformized"; in other words, they are being privatized, deregulated, and subdivided into a set of services provided by private companies, a process that, to a large extent, is supported by the interoperability made possible by digital technologies. It is a process that goes hand in hand with a new model of governance, in which the state, formerly the provider and entity directly responsible for the service, becomes a mere facilitator and mediator for competition between private companies (Graham and Marvin 2001; Plantin et al. 2018). From the perspective of urban geography, and based on the idea of platforms as "flexible spatial arrangements," authors such as Lizzie Richardson (2020) have pointed out how platforms imply "a reorganization of urban operations (such as transport, housing and so on) not through new physical infrastructures, but instead through novel technologies of coordination than can reterritorialize those already existing" (Richardson 2020, 460). Richardson then goes on to ask what exactly a more equitable distribution of value in these new geographies would look like.

The question of governance leads us directly to studies on the political dimension of this complex phenomenon of platformization. The public image projected by platforms is often one of neutrality (Gillespie 2010). Despite this, however, as intermediaries, platforms have gained a great deal of sway over how value is generated, distributed, and appropriated, particularly as the digital ecosystems in which they are fundamental players have become indispensable in contemporary social reproduction. Some of the key issues linked to platform governance refer to the nature of the relationship established between platforms and their partners, particularly in terms of how economic value is generated and who benefits from it; or how platforms filter communicative acts through a profit-extracting sieve (Plantin et al. 2018, 16). This sieve or filter also has a huge capacity for generating differentiated audiences and impacting citizenship

formation processes (Gillespie 2010, 2017). Another question that is relevant from a cultural and political perspective is that of how the spread of platforms affects the social organization of work or the cultural industries (Kenney and Zysman 2016). This issue is explored, for example, in analyses of the "streamification of culture" and the conversion of cultural and artistic creation into the production of "contents" or contingent products adapted to the platform format, developed by people working in increasingly precarious conditions (Bazzara 2021; Nieborg and Poell 2018).

Interest in the politics of platforms and their governance can be summed up in the following question: how can societies maintain a balance between public interest and corporate power? Or in other words, how is it possible to foster processes of engagement, creativity, and the creation of social and economic value in the framework of the new digital ecosystems, while at the same time preventing them from being completely taken over by corporate capitalization networks? Although due to the opaqueness of platforms (which is itself another topic of research), the number of studies focusing on them is still small and the social debate around them is fairly limited given their importance in today's society, demands for greater transparency are increasing and the issue of how platforms are governed has become a key question in the collective agendas of both academia and citizen activism (Ayala 2021; Brussa 2021; Gendler 2021; Jacob 2022; Reimagining Platforms Symposium 2022).

Platform Capitalism and Its Discontents

When the initial platforms emerged and began to spread during the late 1990s, the tone was so overly optimistic that platform-based peer-to-peer transactions were given the rather positive label "the sharing economy" (Lessig 2008). This economic modus operandi was seen as not only improving labor opportunities and facilitating economic participation, but also changing consumption patterns toward Peer to Peer (P2P) collaborations and environmentally responsible decisions. It was as if technological innovation had, all by itself, led to efficiency coupled with ethical behavior. This moral claim was popularized by the book *What's Mine Is Yours* (Botsman and Rogers 2010). Very soon though, this sudden generosity was stripped of its self-righteousness and novelty and exposed as reflecting previous capitalist logics, reversing the traditional expression into *What's Yours Is Mine* (Slee 2015). In the "Platform Monopolies" section, we review critical engagements with the platform-based economy, addressing some of the controversial political aspects of these kinds of infrastructures. The proclaimed opacity of platforms has given rise to three main lines of critique, of which we briefly outline seminal authors and key concepts, since they greatly inspire much of the anthropological work on platforms: (a) over-monopolistic tendencies; (b) (il)legal practices; and (c) labor dis-improvements.

Platform Monopolies

According to critical economics, current empirical evidence indicates a move not toward a more democratic and inclusive economy, but rather toward growing monopolies, as in previous capitalist cycles, including monopoly creation and the appropriation of infrastructures (Langley and Leyshon 2016; Plantin et al. 2018; Srnicek and De Sutter 2016).

The Canadian economist Nick Srnicek detects solid continuities, but also identifies significant changes in place, renaming the new economy "platform capitalism" (Srnicek 2016). For instance, although platforms constitute business models that differ from traditional corporations, their propensities toward monopoly are amplified due to the digital nature of economic transactions, turning them into powerful actors in the digital economy, as indeed Srnicek shows in his case studies. Google is one of the main examples he uses to explain how the search engine platform sector has entered a vicious circle of depending upon a single, ever more powerful company. Furthermore, every time information is digitally exchanged, these companies are set up to extract and control immense quantities of data, which they later use for further profit-making. According to Srnicek, "twenty-first-century capitalism has found a massive new raw material to appropriate: data" (2016, 48). With data as the new raw material to be extracted, analyzed, used and sold, growing platform companies are able to invest in the development of ever-larger cable infrastructures, and conduct research into artificial intelligence to further improve their data extraction capabilities. Governments and public institutions already largely depend on these *smart companies*. While his diagnosis of platform giants' influence is daunting, Srnicek, in collaboration with others, offers inspiring proposals to engage with and move platform technology forward for purposes other than making extraordinary profits for a privileged few. By following their "accelerationist" proposal, platforms under the auspices of public institutions could work wonders for the common good, leading to the establishment of a postwork society and algorithmically allocating resources through a kind of "fully automated luxury communism" (Srnicek and Williams 2016; see also Hester and Srnicek 2018).

Platform Illegalities

Legal scholars have long been issuing warnings about a serious restructuring of the current legal order (Aloisi and Stefano 2020; Pasquale 2016; Rahman 2016; Rogers 2017). Much of the legal debate on platforms has focused on the challenges they pose to regulations on governance models (Davis 2016b; Tomassetti 2016) and labor relations (Cherry 2016; Dubal 2017; Todolí-Signes 2017). Building upon these legal works, and exploring the achievements of current regulatory efforts, a series of scholarly studies have placed the legal question forefront in their analyses, whether they be about illegal practices linked to the use of public space, employment relations, or privacy rights. The very thorough ethnographic monograph entitled *Taxis vs. Uber* (Del Nido 2022) registers, step by step, the illegal actions taken by this US company to enter and establish itself in the Buenos Aires market. Trained in both anthropology and economics, Juan Del Nido shows, with analytical finesse, how the "logics, rhetoric and affects" mobilized by the platform economy have allowed Uber to defy both the local and national legislation. Through Twitter campaigns and the road presence of its drivers, this platform has redefined the legitimacy of urban transport. Despite numerous court cases and legal counteractions, this platform was able to disrupt the codes and uses of public space in the Argentinean capital, echoing many similar cases occurring elsewhere in the world. The interdisciplinary *Riders Research Project* on the food-delivery sector in Spain explores the rise of platform illegalities through a series of irregular employment practices proliferating before and after the so-called *Rider Act*. The generalization of these irregularities, introduced and sustained by several platforms, including Glovo and Uber Eats, is described in terms of "law (rather than market) disruption" (Sanz et al. 2023). Finally,

one of the most prominent examples of legal trespassing by digital platforms is the question of privacy rights. This critique focuses on the irregularities brought about by the ability of these platforms to survey anyone using them, and to access and make use of their personal information at all times. This interpretation is fully developed by Harvard sociology professor Shoshana Zuboff in her seven-hundred-page book, *The Age of Surveillance Capitalism* (Zuboff 2019). This analysis of current digital perils explains how platforms are making unprecedented amounts of money by extracting behavioral data about (and left by) users, who are not being informed of the profit-making process. Zuboff also unearths the old capitalist logics of accumulation, but this time taking an unprecedent turn: switching from land, work, or wealth as the basis of market dynamics associated with industrial capitalism, to privacy, as the raw material transformed into a profitable commodity (Zuboff 2019). This private experience, translated into apparently useless data, routinely provided by Internet users and initially discarded by tech companies, would finally be recognized as what Zuboff calls "*behavioral surplus.*" Once this happened, tech companies rapidly widened the scope of their surveillance, finding new ways of acquiring ever-increasing amounts of personal data.

Platform Precarities

Although the above interpretation of a surveillance-based economic order spreading out from Silicon Valley mostly focuses on obtaining surplus from consumers, the same concern has been expressed in relation to platform workers themselves. Indeed, several studies have analyzed the role of "algorithmic management" in furthering control over the labor process (Griesbach et al. 2019; Huws 2020; Kellogg, Valentine, and Christin 2020; Shapiro 2018; Wood et al. 2019). However, in addition to this algorithmic control, platform labor has been described as deeply precarious for other reasons also. For instance, the generalization of the *gig*-like contractual arrangement has given rise to several labor insecurities, including pay rates that are dependent on consumer satisfaction, unpredictable protocols for hiring and laying off, patchy and intensive labor schedules, and low professional promotion (Woodcock and Graham 2020). This modality of short-term, task-oriented hiring, with no social provisions or other related benefits associated with stable jobs, predates the rise of platforms. Nonetheless, although the gig contractual relationship has been historically present in sectors without platforms or digital technology (Kalleberg 2018; Kalleberg and Vallas 2018), in the early 21st century, the majority of gigs are based on the use of digital applications, furthering the proliferation of a "just-in-time workforce" (De Stefano 2016; see also Drahokoupil and Vandaele 2021; Neufeind, O'Reilly, and Ranft 2018). While there are variations between online and geographically situated modalities, as the trademark of platform labor, the gig model has been criticized by many for fostering precarious conditions (Schor, Attwood-Charles, Cansoy, Carfagna, et al. 2020; Vallas and Schor 2020). Despite new analytical terms such as the "uberization of labor" (Rosenblat 2018), "ghost-work" (Gray and Suri 2019), and "hustling work" , current forms of platform precarity (less security, lower salaries, and poorer working conditions) are but a continuation of a previous trend in labor relations. As such, they are the result of decades of institutional restructuring of labor laws (Arnold and Bongiovi 2013; Friedman 2014; Foti 2017; Kalleberg and Vallas 2018; Scholz 2017; Vallas 2019).

Those with long-term grievances towards the worsening of labor and life conditions, are facing, yet again, one more expression of imposed uncertainty, that is, platform precarities. In terms of resistance to the hegemonic development of platforms, it is possible to identify a series of emerging initiatives. These unorthodox ways to engage platforms reveal their contingent development. In their different manifestations, such as platform union-like organizing, platform-based cooperatives, or platform versions of "weapons of the weak," à la Scott, they might be able to illuminate possible futures enabled by the intermediary capacity of digital infrastructures.

Platform Resistances

These multiple faces of precarity transversally frame what we call platform resistances. In the early 21st century, creativity and innovation have not come only from the designers, programmers, and CEOs of these companies. Precisely because of the precarity of their jobs and lives, many workers have invented and tested out new forms of resistance from within and on the margins of platforms, in a wide range of geographical locations and cultural contexts: the Global North (Tassinari and Maccarrone 2020); the African continent (Anwar and Graham 2020); Asian countries, such as China (Yu, Treré, and Bonini 2022); and Latin America (Morales and Stecher 2022). We will briefly discuss three forms of resistance: (a) *platform unionism*, which exists in an entangled ecosystem of informal and rank-and-file grassroots unions (Cini and Tassinari 2018; Marrone and Finotto 2019), self-organized by workers often without the support of traditional trade unions; (b) *platform cooperativism*, established as an alternative to the monopoly of large companies, often driven by former workers of these enterprises who try to sustain cooperatives on the basis of solidarity, democratic governance, and transparency (Fuster Morell, Espelt, and Renau Cano 2021; Scholz 2016); and (c) *everyday resistance*, articulated individually and collectively at work, and often led by stakeholders who are not members of either unions or cooperatives but who weave together an "invisible organization" (Cant 2020) with which they take charge of their problems and concerns (Ferrari and Graham 2021; Joyce and Stuart 2022). At the methodological level, platform literature on resistance has a strong ethnographic orientation, providing detailed descriptions of everyday conditions and incorporating platform workers point of view into the analysis. Some works are based on auto-ethnographic research (e.g., Cant 2020) and others are inspired in the militant research tradition of the worker's inquiry (e.g., Woodcock 2021).

Platform Unionism

Let us take the food-delivery sector as an example. Mobilizations of platform workers increased from 2016 onward, when protests against companies such as Deliveroo and Foodora emerged in cities in the United Kingdom and Italy (Tassinari and Maccarrone 2020). Some of the reasons for these mobilizations were: opaque management and the asymmetry of information experienced by riders; the "flexploitation" or flexible exploitation (Popan 2021) that places workers, especially migrants (who make up the majority of the workforce) in a precarious situation (Altenried 2021); their nonconsideration by the company as workers (they are considered self-

employed people who perform micro-tasks in their spare time), which denies them access to representation mechanisms and basic rights (regular salary, unemployment benefits, medical insurance); and the insecurity and uncertainty typically associated with the informal economy (Marrone and Finotto 2019). The absence of a labor rights framework that guarantees workers' the right to strike and take collective action has encouraged the renewal of classical repertoires, and the low activity level of traditional unions has prompted workers to self-organize (Cini and Tassinari 2018). In the Global South, precarious unprotected work has long been the norm, affecting the organizational capacity of workers inside and outside the platforms, as ethnographies of motorbike taxi drivers in places like Thailand and Indonesia show (Frey 2020; Sopranzetti 2017). Despite the individualized and dispersed labor process typical of the gig economy, technology has fostered a kind of "networked solidarity" among spatially and temporally fragmented riders (Cini 2023). Digital strikes have been enacted, "whereby workers *log out* en masse from the firm's app that allocates work shifts and deliveries to boycott and block the delivery service" (Cini and Tassinari 2018). Social media has also been utilized, with online "brand shaming" and "shitstorming" of the company's websites being used to mobilize public opinion. Other workers have supported mobilizations through less risky actions, such as placing protest flyers inside bags of food delivered to customers (Tassinari and Maccarrone 2020).

Literature on industrial relations (Tassinari and Maccarrone 2018), the labor process (Joyce and Stuart 2022), and social movements (Cini 2023) has highlighted the political composition of this workforce, which has low levels of traditional unionization and where collective action has been supported either by rank-and-file trade unions or by the creation of autonomous worker collectives (Cini and Tassinari 2018). Resistance has been activated by the emerging combination of a supportive community that encourages solidarity among riders, and activists and grassroots organizations that transform mutual aid into political organization sites (Cini 2023). *Riders Union Bologna* is an example of an "informal union" of food-delivery workers, a grouping of riders and activists contesting the precarity born out of the impossibility of accessing representational rights as workers (Marrone and Finotto 2019). Active since 2017, it has made mutualism its banner, providing what the platforms denied: bike repair shops; stands where cyclists could recharge their smartphones; shelters for waiting times; and opportunities for socializing outside work. Entangled with local activist movements, this informal union made up of platform couriers joined forces with the Bologna cycling movement in the Critical Mass and participated with other precarious workers in the Rider's Pride Parade on May 1, 2017. It also pushed for the "Bill of Rights of Digital Workers in Urban Contexts," an agreement between platforms and riders that stimulated the first nationwide collective bargaining process in Europe. Subsequently, in 2021, the Spanish Congress passed the so-called "*Ley Rider*" (Rider Act), the negotiation of which was preceded by unresolved social unrest. On the one hand, the government was supported by *Riders x Derechos* (Riders for Rights), a proto-trade union association arguing for couriers to be turned into wage-earners; and on the other, the *Sí soy autónomo* (Yes, I am self-employed) movement emerged in opposition to the government's intention to force platforms to hire couriers as wage-earning employees (Vieira 2021). This controversy divides riders who are for or against the self-employment narrative advocated by platforms (Pasquale 2016). The controversy exemplifies the current tension which exists between different neoliberal subjectivities, reflecting both the pervasiveness and multiple orientations of workers' resistances, which usually pivot around platform management, remuneration, and broader normative issues (Joyce and Stuart 2022).

Platform Cooperativism

Due to the platformization of society and its impact on everyday life, there are a growing number of intermediaries operating in the fields of mobility, education, leisure, housing, food, and domestic services. Alongside the many forms of resistances, some perspectives engage this intermediation outside the control of platforms structured according to common legal categories of market/capitalist ownership (i.e., publicly traded, limited liability, etc.). This is the case of "platform cooperativism" (Scholz 2016), which is conceived as an ethical and self-managed endeavor to provide a model for businesses not rooted in the exploitation of their workers. It is a model that emphasizes new property regimes, democratic governance, and solidarity. According to Scholz, platform cooperativism is about cloning the technology of companies like Airbnb and UpWork, but with democratic values that seek to benefit a community rather than the few. "Platforms can be owned and operated by inventive unions, cities, and various other forms of cooperatives, everything from multi-stakeholder and worker-owned co-ops to produser-owned platform cooperatives" (Scholz 2016, 14). This use of the word *produser* is not a typo, but rather a portmanteau of user and producer, a response to monopolistic platforms such as Facebook and Google. The ownership of digital platforms by workers and users and the defense of a people-centered Internet challenges one of the principal narratives of what was called the "sharing economy," which emphasized access over ownership. In addition to ownership, Scholz highlights nine other principles for platform cooperativism: (a) decent pay and income security; (b) transparency and data portability; (c) appreciation and acknowledgment, with the worker's right to be informed and to communicate without intermediaries; (d) co-determined work, with worker involvement in the platform right from design and programming tasks; (e) a protective legal framework; (f) portable worker protections and benefits; (g) protections against arbitrary behavior, as in the case of Uber, known for its arbitrary disciplining and firing practices; (h) rejection of excessive workplace surveillance; (i) and the right to log off (Scholz 2016, 18–20).

Closing the gap between worker and platform is one of the goals of platform cooperativism. The organizational principles of these cooperatives are inspired in the debates on the commons (Ostrom 2015), and on the politics of ownership (Lessig 1999), which emphasize horizontal relationships, voting rights, community infrastructure, voluntary and open membership, respect for privacy, and the democratic participation of users in data governance. The practice of this kind of cooperativism faces other challenges though, such as scale of impact, economic sustainability, and gender inclusion and equality (Fuster Morell, Espelt, and Renau Cano 2021). This last issue is especially pressing in the platform economy, whose algorithms run the risk of reproducing gender, race, and class hierarchies (van Doorn 2017). In response to these dynamics, a sense of fairness has driven the emergence of cooperatives in multiple areas of socioeconomic activity. This is the case of home-delivery cooperatives, whose resistance to platform capitalism emphasizes a participatory managerialism that is not without its own problems (Moral-Martín et al. 2023). In addition, since 2019, Fairbnb has been connecting supply and demand for holiday or occasional rentals. Whereas Airbnb prioritizes economic profit, Fairbnb promotes social ties and has generated communities of users in Europe (Petruzzi, Sheppard, and Marques 2022).

Similarly, Equal Care Co-Op, Cotabo, and CoopCycle offer a fairer alternative to the extractivist and outsourcing practices of Helpling, Uber, and Deliveroo (respectively), in the domestic work, mobility, and food-delivery sectors (Fuster Morell, Espelt, and Renau Cano 2021).

The case of Mensakas is paradigmatic. These delivery workers from Barcelona first created a union (*Riders* x *Derechos*) and then a cooperative (Mensakas), with their own application and algorithm. Their resistance, therefore, runs both inside and outside the larger companies. The emergence of Mensakas reveals that technology is political, from design to implementation. In her ethnography of Uber, Rosenblat (2018) explains how the company has performed the notion of work, using technology and words to transform the rhetoric of work into a rhetoric of consumption, turning drivers and passengers into "users," talking about "entrepreneurs" instead of workers and flattering the "neutrality" of algorithms. In opposition to this, Mensakas updates the peer-to-peer culture and articulates a twofold resistance: firstly by reappropriating technology by producing a fairer algorithm and creating a counter-narrative in its own digital communities; and secondly by deconstructing the ideological discourse of platforms and advocating for a truly "collaborative" economy, without renouncing digitalization, but abandoning blind faith in a saving technology and working to foster solid labor structures (Fernández and Soliña Barreiro 2020). However, a large proportion of the migrant workers on these platforms never join a union or cooperative due to their precarious administrative situation, political background, and their life's uncertainty. Rather, they practice their resistance in a more discreet and everyday way.

Everyday Resistance

Everyday life has been one of the most explored areas in anthropological works on platform resistance in the early 21st century (Duus et al. 2023; Frey 2022; Sun 2022). In the food-delivery sector, the practices of riders reflect a kind of everyday "algorithmic resistance" (Woodcock 2021). This is articulated in streets, squares, social media, WhatsApp groups, as well as during the waiting times, where the digitalization of managerial functions via the app enables spaces mostly free from the direct managerial gaze. Faced with geolocalized control and the opaque management of the platforms, whose algorithms seem to function at a distance, like neutral, objective "black boxes" (Fernández and Soliña Barreiro 2020), couriers weave a web of "workplace solidarity" based on mutual support (Tassinari and Maccarrone 2020). This solidarity articulates the resistances of those who are afraid of being punished or "deactivated," isolated, or left unpaid, as a consequence of their direct participation in processes of protest and collective action against the platforms (Popan 2021; Yu, Treré, and Bonini 2022).

These three types of resistances are expressions of a continuum. Day by day, in the shadow of public demonstrations, yet unfolding in relation to them, riders put their stratagems into action; they constitute an "invisible" and "backstage" organization (Cant 2020) that allows us to think through the cracks of the platform economy. Riders produce situated knowledge that challenges the monopoly of the platforms' expert knowledge. They expose algorithms as social objects charged with power, politics, and ideology, multiple and unstable rather than homogeneous and static. Platform workers demonstrate that platform resistances can open the algorithmic black

box and remake it as a "beta status" under permanent construction (Ferrari and Graham 2021; Seaver 2017; Sun 2022). Also, everyday resistance generates fissures in the platforms' social-technical regime through an emerging politics of care. In particular, riders' practices of mutual support unfold in the absence of company protection (Diz, González Granados, and Prieto Arratibel 2023; Velkova and Kaun 2021).

According to our ethnographic research, many platforms do not provide training and support to riders because they do not want to look like an employer, so workers team up to solve many issues on their own. They share shortcuts to enable them to move more quickly around the city, they give each other advice about companies, and they learn tricks for dealing with the algorithms: they switch the app on and off, disconnect when they want to avoid unsafe places, reject orders when they do not pay, or invent ways to escape the facial recognition control of platforms such as Glovo (Casas-Cortés, Moya, and Piñeiro 2023). They also help each other to repair their vehicles, create digital groups to warn about police checks, or bring coffee to keep everyone warm while they wait. They ally themselves in the face of an injustice perceived as multiple and intersectional: digital, racial, mediated by the asymmetry of information, linked to mobility and also to the control and extraction of data (Vecchio et al. 2022). Their resistance involves creating solidarity "in and through work," sustained by a moral economy that differentiates between what is just and what is unjust (Beck and Brook 2020).

These concrete, situated, and embodied resistances enable riders to correct existing shortcomings within the capitalist platform algorithmic culture, rather than producing totally alternative pathways. The agency of workers in the platform economy, whether by unionization, by advocating for alternative cooperatives, or by weaving a web of everyday mutual support, pose more questions than answers about platform capitalism. This enacted and open-ended critique contrasts with conventional appraisals denouncing what seem to be the eternal wrongs of this economic system which, in turn, somehow help to perpetuate capitalism as never-ending and unquestionable––a bad system, but still *the* system––foreclosing the possibility of alternative or multiple systems. Thinking about the "end of capitalism as we know it" (Gibson-Graham 1996), and toward some kind of "pluriversal politics" (Escobar 2020), anthropological inquiry might very well expand our imagination about the real and the possible: identifying and engaging with those emerging enactments of platforms and reinventing futures beyond capitalist arrangements. In fact, some works are pointing towards a kind of "platform commons", labor reorganization for more free time, and reinventing domestic work, as well as algorithmic calculations for equitable distribution (Hester and Srnicek 2018; Schor, Attwood-Charles, Cansoy, Carfagna, et al. 2020; Srnicek and Williams 2016; Taylor 2014). Are there possibilities for reappropriating digital platform infrastructures? By engaging their material foundations, and their interactions with everyday practices and counter-practices by users and makers alike, the anthropological lens upon the platform economy suggests a possible retooling of platforms for diverse forms of development, beyond celebratory epochal language about the platform economy.

Acknowledgments

Links to Digital Materials

Film *Sorry We Missed You* <https://en.wikipedia.org/wiki/Sorry_We_Missed_You>, written by Paul Laverty and directed by Ken Loach

Short film *Radio Riders* <https://www.ethnofest.gr/film/radio-riders/>, directed by Fabio Corbellini and Paola Piscitelli

Documentary Film *Riders* <https://lab.rtve.es/lab/riders/documental-riders-repartidores/>, directed by Paloma Torrecillas and Pelayo Prieto

TV show *Super Pumped: The Battle for Uber* <https://www.youtube.com/watch?v=eNn8YJYAyEo>, created by Brian Koppelman and David Levien

Video lecture by Lizzie Richardson, "Platforms as Companies? Arranging Sharing as an Economic Activity <https://www.youtube.com/watch?v=gynWvTeqhKU&t=2s>"

Further Reading

Benjamin, Ruha. 2019. *Race after Technology: Abolitionist Tools for the New Jim Code*. Medford, MA: Polity Press.

Birch, Kean, and Fabian Muniesa, eds. 2020. *Assetization: Turning Things into Assets in Technoscientific Capitalism*. Cambridge, MA, and London: MIT Press.

Greenfield, Adam. 2017. *Radical Technologies: The Design of Everyday Life*. Brooklyn, NY: Verso Books.

Jaton, Florian. 2020. *The Constitution of Algorithms: Ground-Truthing, Programming, Formulating*. Cambridge, MA: MIT Press.

Neyland, Daniel. 2019. *The Everyday Life of an Algorithm*. Cham, Switzerland: Springer Nature.

Noble, Safiya Umoja. 2018. *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York: New York University Press.

Rieder, Bernhard. 2020. *Engines of Order: A Mechanology of Algorithmic Techniques*. Amsterdam: Amsterdam University Press.

Seaver, Nick. 2022. *Computing Taste: Algorithms and the Makers of Music Recommendations*. Chicago: Chicago University Press.

Thatcher, Jim, and Craig Dalton. 2022. *Radical Geographies of Control and Resistance*. London: Pluto Press.

References

Aloisi, Antonio, and Valerio Stefano. 2020. "Regulation and the Future of Work: The Employment Relationship as an Innovation Facilitator *<https://doi.org/10.1111/ilr.12160>*." *International Labour Review* 159 (1): 47–69.

Altenried, Moritz. 2021. "Mobile Workers, Contingent Labour: Migration, the Gig Economy and the Multiplication of Labour *<https://doi.org/10.1177/0308518X211054846>*." *Environment and Planning A: Economy and Space.*

Andreessen, Marc. 2007. "The Three Kinds of Platforms You Meet on the Internet *<https://web.archive.org/web/20071002031605/http:/blog.pmarca.com/2007/09/the-three-kinds.html>*." [Blog post].

Anwar, Mohammad Amir, and Mark Graham. 2020. "Hidden Transcripts of the Gig Economy: Labour Agency and the New Art of Resistance among African Gig Workers *<https://doi.org/10.1177/0308518X19894584>*." *Environment and Planning A: Economy and Space* 52 (7): 1269–1291.

Arnold, Dennis, and Joseph Bongiovi. 2013. "Precarious, Informalizing, and Flexible Work: Transforming Concepts and Understandings *<https://doi.org/10.1177/0002764212466239>*." *American Behavioral Scientist* 57 (3): 289–308.

Ayala, Soledad. 2021. "Entrevista a Esteban Magnani: Datos y tecnología digital; Control social disfrazado de inocencia y neutralidad *<https://doi.org/10.18861/ic.2021.16.2.3158>*." *InMediaciones de la Comunicación* 16 (2): 1–14.

Bazzara, Lucas. 2021. "Datificación y streamificación de la cultura: Nubes, redes y algoritmos en el uso de las plataformas digitales *<https://doi.org/10.18861/ic.2021.16.2.3082>*." *InMediaciones de la Comunicación* 37 (2): 1–26.

Beck, Vanessa, and Paul Brook. 2020. "Solidarities in and through Work in an Age of Extremes *<https://doi.org/10.1177/0950017019881566>*." *Work, Employment and Society* 31 (1): 3–17.

Bogost, Ian, and Nick Montfort. 2009. "*Platform Studies: Frequently Questioned Answers *<https://escholarship.org/uc/item/01r0k9br>*." *UC Irvine: Digital Arts and Culture.*

Botsman, Rachel, and Roo Rogers. 2010. *What's Mine Is Yours: The Rise of Collaborative Consumption*. 1st ed. New York: Harper Business.

Brussa, Virginia. 2021. "Entrevista a Emiliano Treré: Agendas datificadas; Controversias bajo la lupa de la justicia de datos *<https://doi.org/10.18861/ic.2021.16.2.3159>*." *InMediaciones de la Comunicación* 16 (2): 1–14.

Brynjolfsson, Erik, and Andrew McAfee. 2011. *Race against the Machine: How the Digital Revolution Is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy*. Lexington, MA: Digital Frontier Press.

Brynjolfsson, Erik, and Andrew McAfee. 2016. *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York and London: W. W. Norton.

Cañedo, Montserrat, and Diego Allen-Perkins, coords. 2023. "Mashups digitales: Algoritmos, cultura y antropología." *Disparidades: Revista de Antropología* 78 (1).

Cant, Callum. 2020. *Riding for Deliveroo: Resistance in the New Economy*. Cambridge, UK: Polity Press.

Casas-Cortés, Maribel. 2023. "Can the Subaltern Be Listened To? An Anthropology of Platform Commonsense in Spite of the Law—Juan M. Del Nido, Taxis vs. Uber: Courts, Markets, and Technology in Buenos Aires (Stanford University Press, 2021) *<https://doi.org/10.1017/S0003975623000061>*." *Archives Européennes de Sociologie* [*European Journal of Sociology*] 63 (3): 550–558.

Casas-Cortés, Maribel, Laura Moya, and Eleder Piñeiro. 2023. "Algoritmos de reconocimiento facial entre repartidores en España: Vigilancia y complicidad con las prácticas de subarriendo y uso compartido de cuentas personales." *Disparidades: Revista de Antropología* 78 (1).

Cherry, Miriam. 2016. "Beyond Misclassification: The Digital Transformation of Work." *Comparative Labor Law and Policy Journal*. 37 (3): 577–602.

Christensen, Clayton, Michael Raynor, and Rory McDonald. 2015. "What Is Disruptive Innovation?" *Harvard Business Review* 3: 1–11.

Cini, Lorenzo. 2023. "Resisting Algorithmic Control: Understanding the Rise and Variety of Platform Worker Mobilisations *<https://doi.org/10.1111/ntwe.12257>*." *New Technology, Work and Employment* 38: 125–144.

Cini, Lorenzo, and Arianna Tassinari. 2018. "On Struggles in Logistics: Notes for Militant Labor Activism from the Italian Experience *<https://notesfrombelow.org/article/struggles-logistics-notes-militant-labor-activism>*." *Notes from Below*.

Constantinidis, Panos, Ola Henfridsson, and Geoffrey Parker. 2018. "Introduction—Platforms and Infrastructures in the Digital Age *<https://doi.org/10.1287/isre.2018.0794>*." *Information Systems Research* 29 (2): 381–400.

Cusumano, Michael, Annabelle Gawer, and David Yoffie. 2019. *The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power*. 1st ed. New York: Harper Business.

Danaher, John, Michael Hogan, Chris Noone, Rónán Kennedy, Anthony Behan, Aisling De Paor, Heike Felzmann, Muki Haklay, Su-Ming Khoo, John Morison, Maria Helen Murphy, Niall O'Brolchain, Burkhard Schafer, and Kalpana Shankar. 2017. "Algorithmic Governance: Developing a Research Agenda through the Power of Collective Intelligence *<https://doi.org/10.1177/2053951717726554>*." *Big Data & Society* 4 (2): 1–21.

Davis, Gerald. 2016a. *The Vanishing American Corporation: Navigating the Hazards of a New Economy*. 1st ed. Oakland, CA: Berrett-Koehler.

Davis, Gerald. 2016b. "What Might Replace the Modern Corporation? Uberization and the Web Page Enterprise." *Seattle University Law Review* 39: 501–15.

De Stefano, Valerio. 2016. "The Rise of the 'Just-in-Time Workforce': On-Demand Work, Crowd Work and Labour Protection in the 'Gig-Economy *<https://doi.org/10.2139/ssrn.2682602>*.'" 71. ILO Conditions of Work and Employment Series. Geneva: International Labour Office.

Del Nido, Juan M. 2022. *Taxis vs. Uber: Courts, Markets, and Technology in Buenos Aires*. Stanford, CA: Stanford University Press.

Diz, Carlos, Paula González Granados, and Amaia Prieto Arratibel. 2023. "Reaprendiendo a trabajar: Saberes que cuidan en el manejo de algoritmos entre riders." *Disparidades: Revista de Antropología* 78 (1).

Drahokoupil, Jan, and Kurt Vandaele, eds. 2021. *A Modern Guide to Labour and the Platform Economy*. Elgar Modern Guides. Cheltenham, UK, and Northampton, MA: Edward Elgar.

Dubal, Veena. 2017. "Wage Slave or Entrepreneur? Contesting the Dualism of Legal Worker Identities." *California Law Review* 105: 65–124.

Duus, Katrine, Maja Hojer Bruun, and Anne Line Dalsgård. 2023. "Riders in App Time: Exploring the Temporal Experiences of Food Delivery Platform Work *<https://doi.org/10.1177/0961463X231161849>*." *Time & Society* 32 (2): 190–209.

Escobar, Arturo. 2008. *Territories of Difference: Place, Movements, Life, Redes*. Durham, NC: Duke University Press.

Escobar, Arturo. 2020. *Pluriversal Politics: The Real and the Possible*. Durham, NC: Duke University Press.

Evans, David, and Richard Schmalensee. 2016. *The Matchmakers: The New Economics of Multisided Platforms*. Cambridge, MA: Harvard Business Review Press.

Fernández, Aina, and Maria Soliña Barreiro. 2020. "The Algorithm Is Not My Boss Anymore: Technological Appropriation and (New) Media Strategies in Riders x Derechos and Mensakas *<https://doi.org/10.22409/contracampo.v39i1.38404>*." *Contracampo: Brazilian Journal of Communication* 39 (1): 65–83.

Ferrari, Fabian, and Mark Graham. 2021. "Fissures in Algorithmic Power: Platforms, Code, and Contestation *<https://doi.org/10.1080/09502386.2021.1895250>*." *Cultural Studies* 35 (4–5): 814–832.

Foti, Alex. 2017. *General Theory of the Precariat*. Amsterdam: Institute of Network Cultures.

Frey, Bronwyn. 2020. "Platform Labor and In/Formality: Organization among Motorcycle Taxi Drivers in Bandung, Indonesia *<https://doi.org/10.1111/awr.12187>*." *Anthropology of Work Review* 41 (1): 36–49.

Frey, Bronwyn. 2022. "Uneven Mobilities: The Everyday Management of App-Based Delivery Work in Germany *<https://doi.org/10.1080/17450101.2022.2114842>*." *Mobilities* 17 (5): 695–710.

Friedman, Gerald. 2014. "Workers without Employers: Shadow Corporations and the Rise of the Gig Economy *<https://doi.org/10.4337/roke.2014.02.03>*." *Review of Keynesian Economics* 2 (2): 171–188.

Fuller, Matthew. 2008. *Software Studies*. London: MIT Press.

Fuster Morell, Mayo, Ricard Espelt, and Melissa Renau Cano. 2021. "Cooperativismo de plataforma: Análisis de las cualidades democráticas del cooperativismo como alternativa económica en entornos digitales *<https://doi.org/10.7203/CIRIEC-E.102.18429>*." *CIRIEC-España, Revista de Economía Pública, Social y Cooperativa* 102: 5–31.

Gawer, Annabelle, ed. 2009. *Platforms, Markets, and Innovation*. Cheltenham, UK, and Northampton, MA: Edward Elgar.

Gendler, Martín. 2021. "Mapeando la datificación digital y algorítmica: Genealogía, estado de situación y nuevos desafíos *<https://doi.org/10.18861/ic.2021.16.2.3166>*." *InMediaciones de la Comunicación* 37 (2): 1–18.

Gerlitz, Carolin, Anne Helmond, David Nieborg, and Fernando Van der Vlist. 2019. "Apps and Infrastructures: A Research Agenda _<http://computationalculture.net/apps-and-infrastructures-a-research-agenda/>_." *Computational Culture* 7.

Gibson-Graham, J. K. (1996). *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy _<http://www.jstor.org/stable/10.5749/j.cttts7zc>_* (NED-New edition). University of Minnesota Press.

Gillespie, Tarleton. 2010. "The Politics of 'Platforms _<https://doi.org/10.1177/1461444809342738>_.'" *New Media & Society* 12 (3): 347–364.

Gillespie, Tarleton. 2017. "Regulation of and by Platforms." In *The SAGE Handbook of Social Media*, edited by Jean Burgess, Alice Marwick, and Thomas Poell, 254–278. Thousand Oaks, CA: SAGE.

Graham, Steve, and Simon Marvin. 2001. *Splintering Urbanism*. London: Routledge.

Gray, Mary L., and Siddharth Suri. 2019. *Ghost Work: How to Stop Silicon Valley from Building a New Global Underclass*. New York: Haper Collins.

Griesbach, Kathleen, Adam Reich, Luke Elliott-Negri, and Ruth Milkman. 2019. "Algorithmic Control in Platform Food Delivery Work _<https://doi.org/10.1177/2378023119870041>_." *Socius: Sociological Research for a Dynamic World* 5.

Guyer, Jane I. 2016. *Legacies, Logics, Logistics: Essays in the Anthropology of the Platform Economy*. Chicago: University of Chicago Press.

Han, Clara. 2018. "Precarity, Precariousness, and Vulnerability _<https://doi.org/10.1146/annurev-anthro-102116-041644>_." *Annual Review of Anthropology* 47 (1): 331–343.

Helmond, Anne. 2015. "*The Platformization of the Web: Making Web Data Platform Ready _<https://doi.org/10.1177/2056305115603080>_." *Social Media + Society* 1 (2): 1–11.

Helmond, Anne, David Nieborg, and Fernando Van del Vlist. 2017. "The Political Economy of Social Data: A Historical Analysis of Platform-Industry Partnerships." *#SMSociety17: Proceedings of the 8th International Conference on Social Media & Society* 38: 1–5.

Hester, Helen, and Nick Srnicek. 2018. *After Work: The Fight for Free Time*. London: Verso Books.

Huws, Ursula. 2020. "The Algorithm and the City: Platform Labour and the Urban Environment _<https://doi.org/10.13169/workorgalaboglob.14.1.0007>_." *Work Organisation, Labour & Globalisation* 14 (1): 7–14.

Jacob, Ben. 2022, October 10. "Platforms for the People _<https://tribunemag.co.uk/2022/10/platform-capitalism-deliveroo-gorillas-gig-economy-wings>_." *Tribune*.

Joyce, Simon, and Mark Stuart. 2022. "Digitalised Management, Control and Resistance in Platform Work: A Labour Process Analysis _<https://doi.org/10.4337/9781802205138.00017>_." In *Work and Labour Relations in Global Platform Capitalism*, edited by Julieta Haidar and Maarten Keune, 158–184. Cheltenham, UK: Edward Elgar.

Kalleberg, Arne. 2018. *Precarious Lives: Job Insecurity and Well-Being in Rich Democracies*. Cambridge, UK, and Medford, MA: Polity Press.

Kalleberg, Arne, and Steven Vallas, eds. 2018. *Precarious Work*. Vol. 31, 1st ed. Bingley, UK: Emerald.

Kanoi, Lav, Vanessa Koh, Al Lim, Shoko Yamada, and Michael Dove. 2022. "What Is Infrastructure? What Does It Do? Anthropological Perspectives on the Workings of Infrastructure(s) *<https://iopscience.iop.org/article/10.1088/2634-4505/ac4429>*." *Environmental Research: Infrastructure and Sustainability* 2 (1): 1.

Kasmir, Sharryn, and August Carbonella, eds. 2014. *Blood and Fire: Toward a Global Anthropology of Labor*. Vol. 13. New York: Berghahn Books.

Kellogg, Katherine, Melissa Valentine, and Angéle Christin. 2020. "Algorithms at Work: The New Contested Terrain of Control *<https://doi.org/10.5465/annals.2018.0174>*." *Academy of Management Annals* 14 (1): 366–410.

Kenney, Martin, and John Zysman. 2016. "The Rise of the Platform Economy." *Issues in Science and Technology* 32 (3): 1–16.

Langley, Paul, and Andrew Leyshon. 2016. "Platform Capitalism: The Intermediation and Capitalisation of Digital Economic Circulation *<https://doi.org/10.2218/finsoc.v3i1.1936>*." *Published as Early View in Finance and Society*: 1–21.

Langlois, Ganaele, and Greg Elmer. 2013. "The Research Politics of Social Media Platforms *<https://culturemachine.net/wp-content/uploads/2019/05/505-1170-1-PB.pdf>*." *Culture Machine* 14: 1–17.

Lessig, Lawrence. 1999. *Code and Other Laws of Cyberspace*. New York: Basic Books.

Lessig, Lawrence. 2008. *Remix: Making Art and Commerce Thrive in the Hybrid Economy *<https://www.bloomsburycollections.com/book/remix-making-art-and-commerce-thrive-in-the-hybrid-economy/ch6-two-economies.pdf>*. London: Bloomsbury Academic.

Liu, Alan. 2004. "Transcendental Data: Toward a Cultural History and Aesthetics of the New Encoded Discourse *<https://doi.org/10.1086/427302>*." *Critical Inquiry* 31 (1): 49–84.

Marrone, Marco, and Vladi Finotto. 2019. "Challenging Goliath: Informal Unionism and Digital Platforms in the Food Delivery Sector; The Case of Riders Union Bologna *<https://doi.org/10.1285/i20356609v12i3p691>*." *Partecipazione e Conflitto* 12 (3): 691–716.

McAfee, Andrew, and Erik Brynjolfsson. 2017. *Machine, Platform, Crowd: Harnessing Our Digital Future*. 1st ed. New York and London: W. W. Norton.

Morales, Karol, and Antonio Stecher. 2022. "Platform Capitalism and Neo-Normative Control: 'Autonomy' as a Digital Platform Control Strategy in Neoliberal Chile *<https://doi.org/10.1111/ntwe.12258>*." *New Technology, Work and Employment* 38 (2):230–251.

Moral-Martín, José, David Pac Salas, and Jaime Minguijón. 2023. "Resistencia versus destrucción creativa, ¿es posible una alternativa a la actual economía de plataformas? Un estudio de caso de dos cooperativas *<https://doi.org/10.22325/fes/res.2023.176>*." *Revista Española de Sociología* 32 (3): a176.

Narotzky, Susana. 2020. *Grassroots Economies: Living with Austerity in Southern Europe*. London: Pluto Press.

Narotzky, Susana, and Niko Besnier. 2014. "Crisis, Value, and Hope: Rethinking the Economy: An Introduction to Supplement 9 *<https://doi.org/10.1086/676327>*." *Current Anthropology* 55 (S9): S4–S16.

Neufeind, Max, Jacqueline O'Reilly, and Florian Ranft, eds. 2018. *Work in the Digital Age: Challenges of the Fourth Industrial Revolution*. London: Rowman & Littlefield International.

Nieborg, David, and Thomas Poell. 2018. "The Platformization of Cultural Production: Theorizing the Contingent Cultural Commodity *<https://doi.org/10.1177/1461444818769694>*." *New Media & Society* 20 (11): 4275–4292.

Nonini, Donald Macon. 2015. *Getting By: Class and State Formation among Chinese in Malaysia*. Ithaca, NY: Cornell University Press.

Ostrom, Elionor. 2015. *Governing the Commons*. Cambridge, UK: Cambridge University Press.

Ozalp, Hakan, Carmelo Cennamo, and Annabelle Gawer. 2018. "Disruption in Platform-Based Ecosystems *<https://doi.org/10.1111/joms.12351>*." *Journal of Management Studies* 55 (7): 1203–1241.

Parker, Geoffrey, Marshall Van Alstyne, and Sangeet Choudary. 2016. *Platform Revolution: How Networked Markets Are Transforming the Economy—And How to Make Them Work for You*. New York and London: W. W. Norton.

Pasquale, Frank. 2016. "Two Narratives of Platform Capitalism." *Yale Law & Policy Review* 35 (1): 309–319.

Petruzzi, Marina, Valerie Sheppard, and Catarina Marques. 2022. "Positioning Airbnb and Fairbnb in the Sharing-Exchange Continuum *<https://doi.org/10.1080/13683500.2019.1697650>*." *Current Issues in Tourism* 25 (19): 3106–3109.

Plantin, Jean-Christophe, Carl Lagoze, Paul Edwards, and Christian Sandvig. 2018. "Infrastructure Studies Meet Platform Studies in the Age of Google and Facebook *<https://doi.org/10.1177/1461444816661553>*." *New Media & Society* 20 (1): 293–310.

Popan, Cosmin. 2021. "Embodied Precariat and Digital Control in the 'Gig Economy': The Mobile Labor of Food Delivery Workers *<https://doi.org/10.1080/10630732.2021.2001714>*." *Journal of Urban Technology*.

Puschmann, Cornelius, and Jean Burgess. 2013, January 23. "The Politics of Twitter Data *<https://ssrn.com/abstract=2206225>*." HIIG Discussion Paper Series No. 2013-01.

Rahman, Sabeel. 2016. "The Shape of Things to Come: The On-Demand Economy and the Normative Stakes of Regulating 21st-Century Capitalism *<https://doi.org/10.1017/S1867299X00010096>*." *European Journal of Risk Regulation* 7 (4): 652–663.

Reimagining Platforms Symposium *<https://www.sps.ed.ac.uk/news-events/event/reimagining-platforms>*. 2022. School of Social and Political Science, University of Edinburgh.

Richardson, Lizzie. 2020. "Coordinating the City: Platforms as Flexible Spatial Arrangements *<https://doi.org/10.1080/02723638.2020.1717027>*." *Urban Geography* 41 (3): 458–461.

Rieder, Bernhard, and Guillaume Sire. 2014. "Conflicts of Interest and Incentives to Bias: A Microeconomic Critique of Google's Tangled Position on the Web *<https://doi.org/10.1177/1461444813481195>*." *New Media & Society* 16 (2): 195–211.

Riles, Annelise. 2013. "Market Collaboration: Finance, Culture, and Ethnography after Neoliberalism." *American Anthropologist* 115 (4): 555–569.

Rochet, Jean-Charles, and Jean Tirole. 2003. "Platform Competition in Two-Sided Markets *<https://doi.org/10.1162/154247603322493212>*." *Journal of the European Economic Association* 4 (1): 990–1029.

Rogers, Brishen. 2017. "The Social Costs of Uber *<https://doi.org/10.2139/ssrn.2608017>*." *University of Chicago Law Review* 82: 85–102.

Rosenblat, Alex. 2018. *Uberland: How Algorithms Are Rewriting the Rules of Work*. Oakland: University of California Press.

Sanz de Miguel, Pablo, Maribel Casas-Cortés, Amaia Prieto Arratibel, and Juan Arasanz Díaz. 2023. "El empleo irregular tras la Ley Rider: ¿Nueva regulación, idénticas estrategias empresariales? *<https://doi.org/10.22325/fes/res.2023.177>*" *Revista Española de Sociología* 32 (3): a177.

Schilling, Melissa. 2000. "Toward a General Modular Systems Theory and Its Application to Interfirm Product Modularity *<https://doi.org/10.2307/259016>*." *Academy of Management Review* 25 (2): 312–334.

Scholz, Trebor. 2016. *Platform Cooperativism: Challenging the Corporate Sharing Economy*. New York: Rosa Luxemburg Stiftung.

Scholz, Trebor. 2017. *Uberworked and Underpaid: How Workers Are Disrupting the Digital Economy*. Cambridge, UK, and Malden, MA: Polity Press.

Schor, Juliet B., William Attwood-Charles, Mehmet Cansoy, Lindsey B. Carfagna, Samantha Eddy, Connor J. Fitzmaurice, Isak Ladegaard, and Robert Wengronowitz. 2020. *After the Gig: How the Sharing Economy Got Hijacked and How to Win It Back*. Oakland: University of California Press.

Schor, Juliet, William Attwood-Charles, Mehmet Cansoy, Isak Ladegaard, and Robert Wengronowitz. 2020. "Dependence and Precarity in the Platform Economy *<https://doi.org/10.1007/s11186-020-09408-y>*." *Theory and Society* 49 (5): 833–861.

Seaver, Nick. 2017. "Algorithms as Culture: Some Tactics for the Ethnography of Algorithmic Systems *<https://doi.org/10.1177/2053951717738104>*." *Big Data & Society* 4 (2): 1–12.

Seaver, Nick. 2019. "Knowing Algorithms." In *Digital STS: A Field Guide*, edited by Janet Veresi and David Ribes, 412–422. Princeton, NJ: Princeton University Press.

Shapiro, Aaron. 2018. "Between Autonomy and Control: Strategies of Arbitrage in the 'On-Demand' Economy *<https://doi.org/10.1177/1461444817738236>*." *New Media & Society* 20 (8): 2954–2971.

Slee, Tom. 2015. *What's Yours Is Mine: Against the Sharing Economy*. New York and London: OR Books.

Sopranzetti, Claudio. 2017. "Framed by Freedom: Emancipation and Oppression in Post-Fordist Thailand *<https://doi.org/10.14506/ca32.1.07>*." *Cultural Anthropology* 32 (1): 68–92.

Srnicek, Nick, and Laurent De Sutter. 2016. *Platform Capitalism*. Cambridge, UK, and Malden, MA: Polity Press.

Srnicek, Nick, and Alex Williams. 2016. *Inventing the Future: Postcapitalism and a World without Work*. Revised and updated ed. London and New York: Verso Books.

Sun, Yukun. 2022. "The Algorithm-Based Platform Economy: A New Terrain of Control and Resistance *<https://www.atlantis-press.com/proceedings/stehf-22/12597555410.2991/assehr.k.220701.030>*." In *Proceedings of the 2022 International Conference on Science and Technology Ethics and Human Future (STEHF 2022)*, edited by A. Luqman, Q. Y. Zhang and W. Liu, 147–151. Amsterdam: Atlantis Press.

Sundararajan, Arun. 2016. *The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism*. Cambridge, MA: MIT Press.

Tassinari, Arianna, and Vincenzo Maccarrone. 2018. "Varieties of Unionism Meet the Platform Economy: A Comparison of Gig Workers' Organizing Practices and Trade Union Responses in Italy and the UK." In *Industrial Relations in Europe Conference (IREC)*, 10–12.

Tassinari, Arianna, and Vincenzo Maccarrone. 2020. "Riders on the Storm: Workplace Solidarity among Gig Economy Couriers in Italy and the UK *<https://doi.org/10.1177/0950017019862954>*." *Work, Employment and Society* 34 (1): 35–54.

Taylor, Astra. 2014. *The People's Platform: Taking Back Power and Culture in the Digital Age*. London: Fourth Estate.

Todolí-Signes, Adrián. 2017. "The 'Gig Economy': Employee, Self-Employed or the Need for a Special Employment Regulation? *<https://doi.org/10.1177/1024258917701381>*" *Transfer: European Review of Labour and Research* 23 (2): 193–205.

Tomassetti, Julia. 2016. "Does Uber Redefine the Firm? The Postindustrial Corporation and Advanced Information Technology *<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2763797>*." *Hofstra Labor and Employment Law Journal* 34 (1): 1–78.

Tsing, Anna Lowenhaupt. 2015. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton, NJ: Princeton University Press.

Ullrich, Carsten, Kerstin Borau, Heng Luo, Xiaohong Tan, Liping Shen, and Ruimin Shen. 2008. "Why Web 2.0 Is Good for Learning and for Research: Principles and Prototypes." In *Proceedings of the 17th International Conference on World Wide Web*, 705–714. Association for Computing Machinery, New York.

Vallas, Steven. 2019. "Platform Capitalism: What's at Stake for Workers? *<https://doi.org/10.1177/1095796018817059>*" *New Labor Forum* 28 (1): 48–59.

Vallas, Steven, and Juliet Schor. 2020. "What Do Platforms Do? Understanding the Gig Economy *<https://doi.org/10.1146/annurev-soc-121919-054857>*." *Annual Review of Sociology* 46 (1): 273–294.

Van Dijck, José, Thomas Poell, and Martijn De Waal. 2018. *The Platform Society: Public Values in a Connective World*. New York: Oxford University Press.

van Doorn, Niels. (2017). Platform Labor: On the Gendered and Racialized Exploitation of Low-Income Service Work in the 'On-Demand' Economy, Information *<https://doi.org/10.1080/1369118X.2017.1294194>*, *Communication & Society* 20 (6): 898–914.

Vecchio, Giovanni, Ignacio Tiznado-Aitken, Camila Albornoz, and Martín Tironi. 2022. "Delivery Workers and the Interplay of Digital and Mobility (In)justice *<https://doi.org/10.1016/j.diggeo.2022.100036>*." *Digital Geography and Society* 3: 100036.

Velkova, Julia, and Anne Kaun. 2021. "Algorithmic Resistance: Media Practices and the Politics of Repair *<https://doi.org/10.1080/1369118X.2019.1657162>*." *Information, Communication & Society* 24 (4): 523–540.

Vieira, Tiago. 2021. "The Unbearable Precarity of Pursuing Freedom: A Critical Overview of the Spanish *sí soy autónomo* Movement *<https://doi.org/10.1177/13607804211040090>*." *Sociological Research Online* 28 (1): 244–260.

Wood, Alex, Mark Graham, Vili Lehdonvirta, and Isis Hjorth. 2019. "Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy *<https://doi.org/10.1177/0950017018785616>*." *Work, Employment and Society* 33 (1): 56–75.

Woodcock, Jamie. 2021. *The Fight against Platform Capitalism*. London: University of Westminster Press.

Woodcock, Jamie, and Mark Graham. 2020. *The Gig Economy: A Critical Introduction*. Cambridge, UK, and Medford, MA: Polity Press.

Yoo, Youngjin, Ola Henfridsson, and Kalle Lyytinen. 2010. "Research Commentary—The New Organizing Logic of Digital Innovation: An Agenda for Information Systems Research *<https://doi.org/10.1287/isre.1100.0322>*." *Information Systems Research* 21 (4): 724–773.

Yu, Zizheng, Emiliano Treré, and Tiziano Bonini. 2022. "The Emergence of Algorithmic Solidarity: Unveiling Mutual Aid Practices and Resistance among Chinese Delivery Workers *<https://doi.org/10.1177/1329878X221074793>*." *Media International Australia* 183 (1): 107–123.

Zuboff, Shoshana. 2019. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Public Affairs.

Zysman, John, Stuart Feldman, Kenji Kushida, Jonathan Murray, and Niels Nielsen. 2013. "Services with Everything: The ICT-Enabled Digital Transformation of Services *<https://doi.org/10.1093/acprof:oso/9780199917822.003.0006>*." In *The Third Globalization*, edited by Dan Breznitz and John Zysman, 99–129. New York: Oxford University Press.

Zysman, John, and Martin Kenney. 2018. "The Next Phase in the Digital Revolution: Intelligent Tools, Platforms, Growth, Employment *<https://doi.org/10.1145/3173550>*." *Communications of the ACM* 61 (2): 54–63.

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