Mattia Frapporti is a Junior Researcher in the HorizonEurope INCA project at the Department of Computer Science and Engineering, University of Bologna. His main interests are the analysis of the political role of infrastructure and the relationship between logistics and politics. His research has also focused on the platform's world and their impact on political spaces. He is a founding member of the research group Into the Black Box, and he participates in the editorial board of *Zapruder* and in the board of the Foundation Jean Monnet pour l'Europe. His last book is titled *Governo materiale: Il potere politico delle infrastrutture* (2024).
Contact: mattia.frapporti2@unibo.it

Niccolò Cuppini is a lecturer-researcher at the University of Applied Sciences and Arts of Southern Switzerland. His early research stemmed from a history of political thought and urbanization, gradually expanding to encompass logistics and digital platforms over time. He has recently engaged in numerous international projects in various cities through Europe, Africa, America, and Asia. He is a part of research groups such as LUCI (Labour, Urbanscapes, and Citizenship – SUPSI), Scienza&Politica, and Into the Black Box. Additionally, he collaborates with the Academy of Global Humanities and Critical Theory, as well as the Urban Innovation Foundation. His last book is titled *Metropoli Planetaria 4.0 Beta Testing: Genealogie urbane tra infrastrutture e conflitti* (2023).
Contact: niccolo.cuppini@supsi.ch

Maurilio Pirone is a Junior Researcher at the Department of Arts at the University of Bologna, where he teaches political philosophy. He currently works for the Horizon Europe Project INCA, addressing the impact of Big Tech on politics, society and economy. He also participates in the COST Action P-WILL on platform labour. He is member of Into the Black Box research group and participates in the editorial board of the *Work Organisation, Labour and Globalisation Journal.* His interests encompass globalisation, logistics, digital technologies, and labour.
Contact: maurilio.pirone2@unbo.it

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LEVIATHAN(S) 4.0: THE POLITICAL POWER OF PLATFORMS AND OPTIONS FOR LIBERATION*

Niccolò Cuppini
University of Applied Sciences and Arts of Southern Switzerland

Mattia Frapporti
Università di Bologna

Maurilio Pirone
Università di Bologna

LEVIATÁN(ES) 4.0: PODER POLÍTICO DE LAS PLATAFORMAS Y OPCIONES LIBERADORAS

Abstract
Expanding the growing collaboration between platform studies and infrastructure studies, we argue that platforms shape behaviours into a form of algorithmic governmentality through data accumulation. However, we present how the development of digitisation also raises social forces to overturn the power of platforms.

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Counter-behaviours, counter-power, exit or democratisation are four paths that are increasingly widespread within society to appropriate or oppose digital governmentality.

Keywords
infrastructures; platform labour; algorithmic management; data

Resumen
Ampliando la creciente colaboración entre los estudios de plataformas y los estudios de infraestructura, argumentaremos que las plataformas dan forma a las conductas en una forma de gubernamentalidad algorítmica gracias a la acumulación de datos. Sin embargo, mostraremos cómo el desarrollo de la digitalización también trae consigo el surgimiento de fuerzas sociales que intentan derrocar el poder de las plataformas. Contraconductas, contrapoder, salida o democratización son cuatro caminos que hoy están cada vez más difundidos en la sociedad para apropiarse u oponerse a la gubernamentalidad digital.

Palabras clave
infraestructuras; trabajo de plataforma; gestión algorítmica; datos

Introduction

Nowadays digital platforms behave not merely as economic actors but as "technologically integrated ecosystems" whose power infiltrate some sovereign prerogatives. Expanding the growing collaboration between platform studies and infrastructure studies, we argue that platforms shape behaviours into a form of algorithmic governmentality. In other words, conceiving digital platforms as infrastructures of contemporary society allows us to grasp their political role and power. Once this is demonstrated, the focus will shift to subjects that resist them. As the philosopher Sandro Chignola wrote, recalling Michel Foucault, power can be analysed "starting from that who resists it" (Chignola 2022, 22). In terms of platforms, the most relevant forms of resistance are those implemented by platform workers, which may be conceivable as "algorithmic subjectivities", as we will try to show later. This is precisely the reason why we will focus – in the second part of the article – on the various forms in which such workers are engaging on to escape from platform control, therefore constituting a form of work resistance. Furthermore, these efforts can be described as forms of political resistance, since they try to counter the attempt of shaping behaviours that platforms impose through their infrastructural and political role.

In order to demonstrate all the above, the article will be structured as follows. In the first section we will discuss the political power of platforms in relation with the State. The second will draw on platform studies and infrastructure studies literature to show how both these areas are converging and inter-related nowadays. The third section will examine the way in which digital infrastructure exercises a form of governmentality through algorithmic management and data accumulation. It will also show how the other side of such power is the production of subjectivities, which we frame as circulating and algorithmic. Finally, we highlight how the multiple practices of resistance and autonomy that living labour adopts contrast and defy the platforms' political (and infrastructural) power.

In doing so, our aim is to contribute to the existing literature in multiple directions. Firstly, our goal is to stress the political role played by various platforms. Far from being mere economic actors, platforms currently perform a full governmental role due to their technical capacities. This puts them in a position of multiple competition (or collaboration) directly with states themselves, yet it is in the labour field where we should focus our attention. Secondly, we examine how platforms (and digital technology in general) shape subjectivities today. Again, the capacity of platforms to "shape behaviour" is widespread throughout society, but our goal is to show how it is still within the labour arena where such attempts are most explicit, producing what we might call "algorithmic

subjectivities". Finally, we analyse different processes of resistance, aiming to show the various ways in which such subjectivities are producing new forms of challenges.

Platform's Politics and the State

In today's "platform society" (Van Dijck et al., 2018; Srnicek, 2016), an understanding of power cannot overlook platforms. Their political role has increased sharply in recent years, especially after the COVID-19 pandemic. At all latitudes, States have had to reckon with the emergence of platforms as new agents of contemporary govern. As Bratton (2015) affirms, it is not a matter of joining those who believe in "another prophecy of the declining State withering away into the realm of pure networks, but on the contrary, that the State's own pressing redefinition takes place in relation to network geographies that it can neither contain nor be contained by it" (p. 114). In short, the State is not disappearing in any way or capacity; instead, it is deconstructing itself and recomposing with Capital. To understand this process better, we intend to explore how platforms, as infrastructures, may be regarded as sites of governmentality.

Maier (2014) discusses the push from the 1980s towards diminishing State intervention in favour of other (not-just economic) subjects, outlining the possibility for actors such Google to "play a larger public role" (p. 303). Even so, such perspectives should be updated as we must consider the growing role played by digital platforms at different scales. As a matter of fact, we are not just witnessing actors like Google, Amazon or Meta (so-called "infrastructural platforms") conditioning governments in fields such as tax regulations or labour legislations, but also "secondary platforms" like Airbnb, Deliveroo or Uber gaining more and more power in terms of urban governance (e.g., determining housing prices or mobility standards).

If we consider this process, it is anything but new. Over the last twenty years, Hardt & Negri (2001), Sassen (2006), and Mezzadra & Neilson (2020) have demonstrated the multifaceted nature of the relationship between Capital and the State throughout history. More accurately, they highlight the importance of considering the role played by economic actors in governance, even when analysing how the State has evolved over time. As a matter of fact, it seems appropriate to emphasize that the State has certainly never appeared as a monolithic subject, but rather as a complex and stratified form of power with multiple conflicting parties. For this reason, the State can be considered as a unitary model: the "provincialization of Europe" and its outlook proposed more than twenty years ago by Dipesh Chakrabarthy should condition our interpretation of the State, leading us to consider the multiplicity of "state forms" that shape the global landscape (Gherardi & Ricciardi, 2009).

In 2004 geographer Neil Brenner raised similar conclusion too, focusing on the decline of the State's territorial unity: "it is no longer Capital that is to be moulded into the (territorially integrated) geography of state space, but state space that is to be moulded into the (territorially differentiated) geography of capital" (Brenner 2024, p. 16). What is relevant today is the extension of Capital geographies to the digital realm conceived as a further layer of the reality. Colonized by processes and dynamics of value accumulation, the so-called Cloud is governed by protocols, algorithms and platforms. The norms they establish overlap with State prerogatives.

Describing such overlapping of digital and material dimensions, Bratton (2015) coined the image of "the Stack". Defined as an "accidental megastructure" (p. 72) composed by six different layers (Earth, Cloud, City, Address, Interface, User), the Stack is conceived as a model: it is "simultaneously a portrait of the system we have but perhaps do not recognize, and an antecedent of a future territory" (p. 5). Constantly challenging great philosophers of sovereignty (from Hobbes to Weber and Schmitt), Bratton's crucial standpoint is that "our contemporary condition is qualified both by a debordering perforation and liquefaction of this system's ability [established on States] to maintain monopoly on political geography, and by an overbordering, manifest as unaccountable proliferation of new lines, endogenous frames, anomalous segments, medieval returns, informatic interiors, ecological externalities, megacity states and more" (p. 6).

Thus, he understands the Stack as a "scale of technology that comes to absorb functions of the state and the work of governance" (p. 7). In these terms, platforms play as political subjects that could act both in coordination and in competition with the State. As far as coordinated government is concerned, the cases to be recalled could be manifold. To cite just a few examples, think of cases such as Cambridge Analytica involving not only platforms such as Facebook, but also prominent political figures such as Steve Bannon. Another good example is that of the Pegasus Spyware case, i.e. the Israeli company NSO, a leader in spyware production and closely connected to the Ministry of Defense of that country, monitored over 50,000 phone numbers for an extended period. Officially, the aim was counterterrorism. However, it has emerged that those being spied on included, among others, 65 corporate executives, 85 human rights activists, 189 journalists, and over 600 politicians. Among the buyers of these services, several states (including Hungary in the EU, for instance) placed numerous citizens under surveillance, citing national security concerns.

Yet another example of coordination is related to surveillance technology developed by Amazon and offered to police forces and other government agencies. In his latest book, Alessandro Delfanti provides multiple examples in this regard, primarily focusing on the

United States. Digital technologies such as Amazon Ring and the software Rekognition, for instance, have been enhanced by Amazon for the purpose of creating surveillance systems and facial recognition tools, which are actively used by U.S. law enforcement agencies. Furthermore, Delfanti (2021a) notes: "Beyond developing direct surveillance products, Amazon supports existing surveillance regimes through its other services" (p. 150). For example, it provides databases and other web infrastructure for the U.S. Immigration and Customs Enforcement Agency, which are used in organizing "the detention and deportation of immigrants" (*Ibid.*). These developments have sparked numerous protests, not only among Amazon engineers but also from organizations such as the American Civil Liberties Union (ACLU), who raised concerns about racial bias in the algorithms driving these technologies. Other inquiries have arisen regarding the data that Amazon may collect through these technologies, including allegations claiming that these may be sold to private security agencies. In any case, these cases illustrate how artificial intelligence, platforms, and algorithmic technology are sometimes sought after by states to complement their political functions. On the level of competing government, due to the high computational capacity and the accumulation and processing of the data, platforms openly challenge the prerogatives of states in several directions. Firstly, on the digital side, new areas of contention with the State can arise, competing directly with its government. In this sense, it serves to recall the challenge to one of the cardinal principles of the State, i.e. the minting of money: the attempts of some platforms like Facebook, Apple or Amazon to spread a digital currency are meaningful in this regard.

Furthermore, it competes with the State in terms of scientific research, but this is hardly a novelty. Throughout history private firms have always invested in innovative technologies for their own interests. However, today situation is aptly changed, since it may be argued that private interest competes with the States in terms of colonization of the future. Delfanti (2021b) illustrates how, in franticly producing new, Amazon colonizes and privatizes the future by investing millions of dollars in experimenting with technological innovations to outpace the competition and position itself firmly in the market, forcing States and citizens to walk in the path it has laid out once the subject of one of their acquired patents becomes a necessity. From drone deliveries to automated driving systems, from the artificial intelligence of home assistant devices to the digitization of agriculture, today it is the major economic players like Amazon (rather than States) that are revolutionizing our present, not only in material terms but also in terms of imagination. It is the Big Tech companies (particularly in the West, the so-called GAFAM: Google, Amazon, Facebook, Apple, Microsoft) that operate on the frontier between the existing and the imaginable, the internal and the external, the colonized and the colonizable, the internet

and the Metaverse, Earth and Space. Such an outreach exceeds the political and labour related struggles, which usually arise around platforms, compromising even our capacity to imagine a future without them. But before we turn our attention to the different forms of struggles surrounding platforms, it seems important to show how platforms achieved an infrastructural (and thus political) role within contemporary society.

Platforms "Infrastructural Power"

The famous Marx definition of Capital states that "it is not a thing, but a social relation between persons, established by the instrumentality of things" (Marx 2004, 1424). Capitalist relation is built upon "things" either they are natural or artificial. Infrastructures are indubitably particular forms of such artificial things: according to Larkin (2013) they are "matter that enable the movement of other matter" (p. 328). In other words, society moves on the matter which composes infrastructures and gives to them an intrinsic political role: generally speaking, "artifacts have politics" (Winner 1980), and infrastructures play a prominent governmental role.

Digital platforms today can be identified as new contemporary infrastructures, as prominent literature has often done, despite ambivalently. Srnicek (2016) defines platforms as "digital infrastructures that enable two or more groups to interact. They therefore position themselves as intermediaries that bring together different users: customers, advertisers, service providers, producers, suppliers, and even physical objects" (p. 48). Srnicek etymologically refers to platforms as infrastructures because they "position themselves as intermediaries" (p. 57). This definition, however, seems unsound, since it allows for the consideration of every single web platform in infrastructural terms. In contrast, Van Dijck et al. (2018) emphasizes the infrastructural nature of the so-called GAFAM only (Google, Amazon, Facebook, Apple, and Microsoft). According to them, these are the only platforms that enable other platforms to operate: Airbnb, for example, could not work without GoogleMaps. However, this definition seems to be not properly balanced. Indeed, even if GAFAM are infrastructures since they place side by side to their digital role a material one too (with the property of fibre cables, datacentres, or warehouses[1]), this is not

[1] Fiber Cables is a meaningful example. Today, owners of cables are no longer just the "service provider" like Telefonica or other Communication Provider firms, but also what are formally and technically "just users" like Amazon, Meta or Microsoft who expand their infrastructural position. Many references are possible here. Plantin (2018) explains that "in 2016, [Facebook] built a massive undersea cable in partnership with Microsoft, connecting the US to Spain, in line with current trends of internet companies entering the cable industry" (p. 14). The name of this optic fibre cable is MAREA, which is the highest-capacity submarine cable in the world with 200 terabytes per second capacity: it is formally owned by Meta (25%), Microsoft (25%) and Telefonica, the latter of which held 50% but that sold 20% of its amount to Amazon Web Service (AWS) (Qiu, 2019).

necessarily an impediment for other platforms to perform an infrastructural role as well. This is the case, for example, of Airbnb or Uber. As Plantin et al. (2018) clearly highlight, despite platforms and infrastructures originally differing in scale and scope, today "networked computing and changing political sentiment have created an environment in which platforms can achieve enormous scales, co-exist with infrastructures, and in some cases compete with or even supplant them" (p. 301). In other words, we see both a hybridization, i.e. "a "platformization" of infrastructures and an "infrastructuralization" of platforms" (p. 298), and a "contemporary convergence of platforms and infrastructures" (p. 301). This seems a generic-enough definition that, in line with what we shall show, addresses platforms in a fitting framework, allowing to treat them as infrastructure in proper terms.

Once the infrastructural dimension of platforms is assumed, we shall move forward. More specifically, we shall explore and extend what it means to consider platforms as infrastructures in political terms and, ultimately, in terms of power. Indeed, in collaborating or competing with the State, platforms display their politics challenging Leviathan prerogatives. It should be noted that not just GAFAM do so: as a matter of fact, even platforms like Airbnb or Uber "infrastructurised the web", undoubtedly playing a governmental role either directly (influencing or leading political decisions) or indirectly (shaping people life).

Additionally, many platforms (again: not just GAFAM) can implement today a sort of "infrastructural power". According to Michael Mann, "infrastructural power" refers to the "capacity of the State to actually penetrate civil society, and to implement logistically political decision throughout the realm". (1984, p. 113). Differently from the past, Mann asserted, "the State penetrates everyday life more than did any historical state" (p. 114). Nowadays, this capacity is a platforms prerogative: States are not the main repository of people's data today, something crucial in Mann's perspective to impose an "infrastructural power". Rather, platforms seem to be able to "recall immediately a massive amount of information" (a feature that Mann bestowed to State, see Mann 1984, p.114). Further on, we shall examine how platforms currently possess power both to collect user data and to codify any behaviours into data, benefiting from an even higher degree of "infrastructural power" than that of the State, since they can collect and act on more information due to their infringement into the intimacy of user's lives.

Shaping Conducts

Until now we have addressed how digital platforms can be conceived as contemporary infrastructures that have political power expressed in coordination or competition

with that of States. However, the grounding of platforms' power remains unclear. We argue that it is largely based on two features: algorithmic management and data accumulation.

Firstly, we shall discuss algorithmic management and how it acts as law in digital realm. Robert Gorwa (2019) stresses, recalling Lawrence Lessing, that "code is law (…) and the decisions made with respect to design by the curator of an online service effectively correspond to a form of regulation" (p. 859). In a society where many relationships are mediated by platforms and where the latter's penetration into multiple domains has become a *de facto* part of society itself, their power is increasingly tangible. Thus, we see how platforms computational algorithms both support and act independently from political governance. City governance, for example, are increasingly relying on algorithm elaboration capacity: a very interesting case is Lisbon, whose municipality co-created a new urban planning with Uber thanks to "microdata on transit and urban mobility" collected by the platform (Pirina & Tomassoni 2019)[2]. A similar initiative was undertaken by Cincinnati, where Uber data were tapped by district authorities to improve local transit (Satter 2018). Thanks to Uber data sharing platform called "Movement", Uber provided the municipality "Uber's data to help urban planners make informed decisions about our cities" (Gilbertson & Salzberg 2017). The same has been done in Melbourne, Sydney, Perth, Brisbane, Manila, Washington DC, and multiple other cities in the US.

Secondly, we must consider data storage, since creating and processing it is the second decisive source of political power (and economic valorisation) for platforms. The extractive power of Capitalism is nowadays not just conveyed on raw material, as Mezzadra and Neilson (2019) brilliantly demonstrated:

> "[T]oday we do not just mine coal, nickel, and other raw materials; we also mine data. Moreover, the forms of extraction implicit in data mining and other extractive activities that prey on human sociality are ever more at the edge of capital's expanding frontiers" (p. 38).

Platforms have political power primarily because they extract, store, produce, refine and implement data: a process that is far to be new, but which has gained an unforeseen prominence in capitalism since the early Eighties due to innovations in logistics and retail (so called "Logistics Revolution", see Allen 1997; Bonacich & Wilson 2008; Cowen

[2] It must be said that these agreements soon fell due to the scarcity of data shared by the companies, which, despite signing the memoranda, largely relied on the national government to gather said data, effectively rendering the agreements with the municipality void.

2014)[3]. *Datafication* –pervasive data collection and elaboration– exacerbated economic dynamics which started with Retail revolution, advanced with the spread of internet in the 90s and have been enacted through platforms after World economy "crashed" between 2007 and 2008.

We could deepen our understanding of such feature from different angles: the hardware components (smartphones, data centres, etc.), the software tools (AI, cloud, GPS, etc.), the functions it performs (networking, content creation, service providing, etc.) or the subjects captured into platforms (considering their gender, race, class). It may suffice, however, to encompass all the above in the concept of *surveillance capitalism*, as defined by Shoshana Zuboff (2019):

> "Surveillance capitalism as the unilateral claiming of private human experience as free raw material for translation into behavioural data. These data are then computed and packaged as prediction products and sold into behavioural futures markets – business customers with a commercial interest in knowing what we will do now, soon, and later (p. 14)".

Zuboff calls these data "behavioural surplus", human activities datafied and then transformed into value and predictions. In surveillance capitalism, this extraction of data aims both at value accumulation and at governing human behaviours.

Access to data is a decisive element in promoting the political role of platforms insofar as the implementation of public policies is also based on data knowledge and elaboration. It is a matter of behaviours. In Foucauldian terms, it is a matter of governmentality which is "the set of instances that adapt the exercise of power to the centrality of the economy rather that of law" (Chignola 2022, p. 38).

Platform society as a pipeline

In the previous section we explained how algorithmic management and data accumulation are constantly implemented by platforms to govern behaviours. We shall now examine lexicon of computer science and cybernetics, trying to find useful concepts to depict the governmental power of platforms. From this point of view, we may consider

[3] It may be argued that nowadays the relationship between circulation and production has 'reversed', i.e. that it is circulation that 'commands' over production. This does not mean that the problem of commodity production disappears, but rather that capitalism expresses a model in which demands for the fluidity of circulation dictate rhythms of production, as well as standards and models for the production apparatus. Among the many consequences of such shift, the working of machines has profoundly changed, making Internet as crucial as data logistics to organize the entire process, drastically changing the forms of command, where automation deeply affects management (the 'master is an algorithm' - with political implications that have yet to be explored).

the concept of *toolchain, buildchain* or *pipeline*, which are different nuances of the digital version of an assembly line where each piece of software takes packages of information from the one before, processing and passing it on to the following piece. These terms are used in various computer science domains from the *steps* to build a programme from the source code (*buildchain*) to the *steps of* analysing AI data (*pipeline*). In this sense, digital platforms operate as infrastructures through the creation of what we would call *pipelines* through which flows of data are managed to shape behaviours[4].

Reflecting on the analogy between factory assembly lines and software pipelines, we propose to explore the transition "from the factory to the metropolis to the pipeline". This conceptual shift can be investigated starting from a reflection on the urban nature of the processes at hand. This transition resonates with the critical reflections developed by authors such as Negri and Hardt (2001) and is crucial for understanding both the emerging forms of subjectivity discussed in the next section and their relationship to the infrastructural power of platforms in producing behavior.

Why do we argue that platforms operate like pipelines? At first glance, the metaphor may seem misleading. Platforms often appear as fluid, amorphous systems - flexible, networked, and adaptable to context (Altenried & Niebler, in Mezzadra et al. 2024). Seemingly the opposite of a rigid pipeline. However, when viewed through the lens of value extraction, the metaphor becomes more appropriate. Despite their adaptability to the heterogeneous geographies of the planet, platforms operate on the basis of a deeply extractive logic that governs their structure and function (Cuppini, in Mezzadra et al. 2024). It is therefore useful to examine their operations in reverse, shedding light on the underlying functions and logics rather than being distracted by the surface features of their behavior (Marrone & Pirina, in Mezzadra et al. 2024).

In this vein and following the work of Mezzadra and Neilson (2020), we argue that platforms play a key role in reordering the fragmented productive and spatial geographies that have resulted from decades of neoliberal transformation. We briefly attempt to substantiate this claim by examining the urban and economic environments that platforms are actively reshaping.

Urban platformization marks the current frontier in which fragmented yet interoperable and interconnected spatialities - identified in the past fifteen years of critical urban studies - are being functionalized and accelerated. In this sense, it is useful to adapt the conceptual categories developed in the theory of planetary urbanization to this context (Brenner, 2018).

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[4] *Pipeline* is, therefore, a notion we should further investigate. Nonetheless, it seems important to reprise it further on this section and later in the article.

Proponents of planetary urbanization argue for a move beyond the city as a central category, toward a processual and relational understanding of urban phenomena. Their lexicon reflects a metabolic system that includes moments of urban concentration and intensive urbanity (the metropolis); forms of extensive and diffuse urbanization (sprawl, hinterlands, suburbs); and forms of extreme urbanization (mines, mega-infrastructures, operational landscapes, etc.).

Translating this from the urban to the economic domain: instead of focusing on the factory as the central analytical unit, we could instead speak of intensive (warehouses), extensive (metropolitan and planetary logistics), and extreme (mines, major infrastructures, operational landscapes) spaces of production and distribution. This perspective helps us better grasp the pervasive presence of platforms in society. It's not just about the visible elements or public narratives. Like an iceberg, much of the platform's structure lies beneath the surface - a complex, interconnected architecture sustaining their societal centrality. This architecture cannot be understood by isolating any single component.

The crucial insight is that both the diverse urban and productive geographies we've sketched are synthesized through platforms' ability to establish pipelines that simultaneously traverse, connect, and extract value from them.

Accordingly, we believe there is a need to renew the critical lexicon used to analyze current transformations. In urban theory, the traditional image of the "city" as the core analytical object has already been problematized in favor of dynamic and processual visions of urban transformation (Angelo & Wachsmuth 2015). Yet a similar redefinition has not been fully undertaken in regard to productive geographies.

Take warehouses, for example. Many sources describe them as the new factories (Altenried 2022). Can we argue that with Amazon - the most prominent of today's tech platforms - the factory has returned? For some, this idea may provoke discomfort, recalling past struggles aimed at dismantling factory-based exploitation. Still, this framing offers both analytical utility and historical grounding.

However, this "neo-factory" narrative has important limitations - primarily, it reduces Amazon to its warehouses. In reality, Amazon is far more than logistics. It includes AWS, technology development, and much more. Amazon must be understood as a complex ecosystem entangled in transnational space-time and deeply territorialized, where many forms of labor coexist: from near-slavery in resource extraction to click farms, from software development to goods handling, from direct manufacturing to reproductive labor. It operates at the intersection of physical and digital realities (assuming that distinction still holds), employing a wide array of organizational devices. In short, Amazon behaves like a pipeline - interconnecting goods and living labor across

multiple gradients, alternately competing with or collaborating with the state, and shaping behavior as it does so. The warehouse or factory represents only the most intensive layer of this complex system (Into the Black Box, 2024).

These reflections are provisional and exploratory. However, what matters is the effort to reintroduce space-temporal depth into our analysis. We are in fact facing a vortex in which the abstract logics of production and circulation are merging into a new urban matter. Production has historically revolved around value and valorization of commodities within the time of socially necessary labor. This time conditions the reproduction of labor and capital, entailing a struggle over its duration and cost. Once the temporal value of labor becomes embedded in the commodity, it is objectified and spatialized. Circulation, on the other hand, is organized around prices and the realization of surplus value through the movement of goods. It has historically been linked to space. But today, these two processes are no longer clearly distinguishable. It is more effective to think in terms of space/time and overlapping processes.

With this, we turn to the subjective implications of these dynamics, proposing the hypothesis of a new kind of subjectivity: algorithmic or circulating subjectivity.

Algorithmic Subjectivities

At this point is relevant to focus more on the subjectivities, i.e. the production of forms of life through the govern of behaviours. We would qualify such subjectivities shaped by digital infrastructures as algorithmic (Benvegnù et al. 2021; Cuppini et al. 2022, 2023) to underline the role played by data' flows and elaboration: algorithmic subjectivities are all figures of workers "whose labour is mostly organized by an algorithm that lays on a rating system in order to evaluate labour performance and that adopt soft control, tracking system or gamification to articulate and supervise rhythm of labour" (Cuppini et al. p. 293). To be clearer, rather than focusing on the whole citizens plateau, we will narrow the field to some specific coordinates of subjectivation to illustrate what we have in mind: the platform labour in urban spaces.

To better understand the role of algorithms in producing workers subjectivities, we may recall Marx and the distinction between living labour and abstract labour, the labour as capacity in action and the labour as time without features. Today the latter is represented by datafication: everything can be measured, quantified and compared. And for this reason, oriented and planned. To datafy, as said above yet talking in more general terms, means to codify, to assign a sign to a bundle of things or behaviours. It means to simplify a more complex set of variables. On the other side, living labour implements the rationality of the infrastructure into the world,

filling the gap between the measure and the contingency. As reported by Uma Rani and Parminder Jeet Singh (2019):

> "It is often perceived that much of this material [web material] is screened out by algorithms, but in reality, it is done by the "invisible workers," human labor either on digital microtask platforms or in call centers in India, the Philippines or other developing countries" (p. 105).

We can map a city through Google, but it does not guarantee you will find the right direction. Adapting to the contingency implies a reaction time. New data are needed for algorithm to solve the problem. Better said, new data are required for implementing microtasks in the right direction and then solve the problem.

In the labour field, data accumulation is a process that includes tracking, rating and ranking with the help of customers, as well as gamification, rewards and sanctions. All platforms used both punitive measures (sanctions, lockouts, fines) and incentive-based tools. Nevertheless, algorithmic management is generally associated with neo-Taylorism, which employs recurrence, control and punishment:

> "The digital organization of work goes hand in hand with the internalization of behaviour models aimed at enhancing human capital. Big data, new sensors, integrated systems, and machine learning can enable constant feedback loops and real-time control of work processes, while also allowing individuals a margin of action that they must, however, direct very precisely if they want to qualify positively in relation to the platform and consumers – risking marginalization or exclusion" (Pirone 2023, p. 12)[5].

There is an irrefutable asymmetry between the platform as panoptical infrastructure and the individual gaze: one can see everything, the other just fragments of the labour process. Indeed, algorithmic management allows platforms to coordinate multiple subjects through different spaces. This does not mean only that workers cannot "see" the logic of the algorithm (shifts or order distribution, ranking criteria and so on) but just speculate, this also implies that in many cases they cannot see their colleagues, they cannot create a collective body even if they are subsumed under a cooperative process of circulation and production. But it would be unsophisticated and wrong to reduce

[5] See also Aloisi and De Stefano 2022; Altenried 2022; Marrone 2021.

the power of platforms only to pervasive control and flows' management. It is not simply a matter of punishment and circulation. It is also a matter of self-activation. The gamification of labour through platforms is a good example. People are stimulated to invest personal resources on the platforms, to blur private and public life, leisure and working time, to take care of customers, to improve their soft skills. All of these because the workforce is in competition for a good ranking, for piece-working and so on. Gamification is a form of intensification of labour (Huws et al. 2019; Leonardi et al. 2019). As the forms of platform workers reflect the operations implemented by algorithmic management that constantly track and stimulate conducts, the same happens with the circulatory dimension characterizing data flow mirrored by class composition. Indeed, platforms bring to the fore the inherently fluctuating aspect of the labour force, the continuous recourse to turnover, the investment in potential labour they can draw on from metropolitan workforce' pools. Politically, the continuous swinging between jobs (from platform to platform, from gig job to gig job) also expresses a desire for flexibility and autonomy that makes it necessary to imagine a capacity for continuous articulation on multiple levels (Huws 2014). On the other hand, the circulating subjectivity should be thought of in reference to a plethora of subjective behaviours already in place, not only with respect to the insubordination of migratory movements but also to the biased use of turnover – which signals a space of tension, which spills over into the possible practices of struggle (Benvegnù et al. 2021)[6].

On this aspect, in fact, a scenario opens up in which instead of starting from a sort of "common interest" between workers and companies ("I fight to stay there and earn more"), the interest of living labour does not aim to "stay there" but precisely to circulate –from the jump between different platforms to the growing dynamics in many sectors with the phenomenon of "large resignations". It is undoubtedly difficult to intervene with traditional practices of struggle in this cross-section, but this is precisely why it constitutes an uncharted ground for possible experimentation.

If we hypothesise, *contra-Marx*, that nowadays the elements of the machine that simply *crushes* the worker through pure discipline are no longer operating in the same terms, can we rather turn to the idea of a process of "reappropriation of fixed capital" which might have characterized the last few decades? In other words, could the fact that

[6] The hypothesis of a circulating subjectivity refers in the first instance to the continuous circulation of subjects and labor, to the constitutive mobility of the contemporary labor force, and thus to the image of migrations. However, without obviously wishing to diminish the cruciality of "migrant subjectivity" as such, it seems to us that it may be effective to extend and expand this image. Considering the mobile and distributed dimensions of working class, which exists presupposing and in symbiosis with a strong technological dimension, the idea of a circulating subjectivity could also help to reinforce but at the same time complexify the idea of 'circulation struggles' proposed by Joshua Clover.

the workforce is increasingly *cyborgised* on a technical level, innervated with technology, also indicate a widespread, molecular desire and practice of re-appropriation? All of this, of course, exists within a deep ambivalence. On one hand, there's the need to enhance productivity by investing in fixed capital and implementing continuous mechanisms to capture and incorporate cooperation and resistance into machines. On the other hand, there's the constant involvement of money in this process of re-appropriation, alongside the necessary multi-dimensional nature of this machinic aspect, which must also encompass know-how and various other variables.

Liberating Options: Frictions and Glitches

To argue for the possibility to act in favour of our own individual/collective interest within and against platforms (infrastructural) power, one must consider that the control imposed by platforms may appear totally pervasive, unquestionable, always efficient, as theorized by surveillance capitalism' paradigm and as we showed in the first part of this article. Nevertheless, forms to escape, gamify, subvert, seize, democratize, and struggle with the platforms are flourishing as infrastructures fail at absorbing them through processes of surveillance. Indeed, especially for the workforce, resistance oscillates between the risk to be fully assimilated with machines –an "Amazombian" according to Hanaway (2021)– or becoming a cyborg in the Dana Haraway' emancipatory sense as "condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation".

From this point of view, it would be possible to sketch a topography of tactics and strategies of struggle in capitalism proposed in these years, ranging from the possibility of a new planned socialism (Muldoon 2022) to a K-ommunism (Dyer-Whiteford 2013) to neo-luddite images of sabotage (Benoit & Celnik 2022) in the "second machine age", passing through new processes of unionisation and territorial organization (Bessa et al. 2022), between refusal and re-appropriation of algorithms.

Through the concept of "algorithmic subjectivities" we would like to remark the role that forms of life –and living labour in particular– may have in such battlefield as they move along these contradictions and ambivalences. Their definition as algorithmic includes alternatives and antagonisms, not only elements of command and alienation. In short, it is a matter of structuring political research that, in regard of current transformations, aims to identify systemic weak points by reconstructing the chains of value to understand where these may be easier to break, while the subjective strengths inscribed in the current technical composition of the workforce develop possible trajectories of political subjectivation.

Table 1. Types of Living Labour' Frictions to Platforms as Infrastructures

	Opposition	*Appropriation*	
Individual	COUNTER-CONDUCTS	EXIT	*Individual*
Collective	COUNTER-POWER	DEMOCRATISATION	*Collective*
	Opposition	*Appropriation*	

To contribute to this research agenda, we may list a set of different practices that platform workers adopt to exploit the limits of datafication. It is possible to identify 4 main bundles: counter-conducts, exit, counter-power, democratization.

Counter-conducts consist of the aggregation of different individual and shared practices aiming at building up autonomy inside algorithmic management. The practice of multi-apping is common among platform workers. In this case, workers cannot totally move out from platform economy but may jump from a marketplace to another in search of orders and better fares. This form of digital nomadism may be framed as an attempt to lighten workers' dependency from infrastructures. Moreover, platform workers may take advantage of glitches and counter-uses of the technology for their own purposes (Grohmann et al. 2022). For example, we can consider how boot or pirate software is widely used in the food delivery sector to obtain shifts and orders. Such tactics force platforms to constantly update their software to adapt control to workers' misbehaviours (fake accounts, "laziness", timing). Uber drivers have been reported to adopt short-term logoffs, stimulating traffic through artificial orders (that are then cancelled) to avoid unprofitable offers. Deliveroo riders developed strategies for playing the algorithm to their advantage by manipulating attendance statistic (Peterlongo 2022; Batalla 2023).

To exit the infrastructure, on the other hand, constitutes ways to break the platform' power of mediation by establishing direct contacts between workers and users. For example, Helping cleaners who develop long-term relationships with customers may sometimes circumvent the platform informally, as well as Airbnb hosts with frequent guests or Uber divers with passengers. The algorithmic and unpersonal form of

management in which platforms rely, as well as the company's physical absence from the labour process, enables these circumstances, creating a power resource for workers.

Thirdly, counterpower stands for workers staying in their positions on the platform while openly challenging its rules (Woodcock 2020). This liberating resource stands in contrast of the former two, as it is mainly a collective process. A first action that is largely spread through platform workers is the use of self-organized web chats of mutual support: workers are frequently in touch through messaging services such as WhatsApp or social media as Facebook, allowing them to directly exchange information and connecting beyond the scope of the platforms interest: workers constantly share tips on bureaucratic duties, blacklists of customers (Helping, Deliveroo), traffic warnings (Uber), anti-theft aid (Deliveroo), among others. To put it differently, the spontaneous creation of communities of support is a way to break the asymmetry of information on the platform. This circulation of information is a sort of reverse-engineering the opacity and one-way communication imposed by the platforms through their app interfaces. This tendency to self-organization is not limited to mutual aid and info sharing, in some cases upgraded towards the coordination for conflict actions. Protests stop the power of the algorithms to control and coordinate conducts thanks to the log out or the strike. These actions underline how the infrastructure needs algorithmic subjectivities to operate, unable to work in abstraction without living labour.

Finally, workers may opt to directly take the power back on the control of infrastructures through democratisation. These attempts vary from the constitution of cooperative platforms based on more-democratic principles (like food delivery Mensakas in Barcelona), to the development of open software with decentred management (as CoopCyle network). It is a way to build up more transparency and inclusion in the operation of platform services, opposed to the scarce measures of such values present in surveillance capitalism.

Conclusions

In this paper we aimed at framing digital platforms' political power and how it is due to their infrastructural role. Thanks to data accumulation and algorithmic management, such actors shape human behaviour, especially in the case of living labour. However, this is just but a partial sketch of platforms' power in nowadays reality[7], even if it comprises the most important of its elements. As our societies' physical and digital realms become increasingly interwoven, the codes that rule the former are rapidly becoming

[7] Indeed, we should also consider, for example, the aesthetic power of platforms (Frapporti 2024).

comparable to law. This peculiarity makes platform overlap, compete, or collaborate with State prerogatives. Thanks to the governmental character of their operations and the hegemonic positions they often hold, a multitude of platforms (Google, Amazon as well as Airbnb and Uber just to recall a few) are part and parcel of the complex network that makes up contemporary governance. As we saw, such influence is mainly enacted due to the functioning of algorithms and to their extraordinary capacity to accumulate and exploit users' data.

In a hyper-simplified way, we can say that as far as platform capitalism is concerned, we face an ecosystem in which the *brain* is finance, the *surface* is that of commodity exchange, and the *underneath* is that of code, algorithms, the web, and data production. The manipulation of data produces patterns of cooperation that impose themselves and organise social relations. Rephrasing the Marxian sentence which we quoted at the beginning of the article, "platform capitalism is not a thing, but a social relation mediated by algorithms". To put it differently, data does not exist without interactions elaborated by algorithms because, first and foremost, they are a relationship and not a property. For this reason, to analyse the power relation in political economy nowadays means to consider "the dense web of relationships that dislocate it from the form of law to reinvest it in the overall "vitality" of social processes" (Chignola 2022, p. 28).

Nevertheless, we tried to show how the subjectivities produced by digital infrastructures are "not a simple arithmetic sum of individuals. What defines population […] is rather the opaque mass that resists the gaze of the sovereign" (Chignola 2022, p. 36). In this sense, the topography of frictions and glitches spreading through platform capitalism (and particularly in the labour field spread within urban areas) could be an interesting point of view to not simply reframe the relationship between sovereignty/public and Big Tech/private (in the directions of digital sovereignty or state privatization), but to think about the society as a whole.

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