Where platforms meet infrastructures:
digital platforms, urban resistance and the ambivalence of the city in the Italian case of Bologna

Marco Marrone and Gianmarco Peterlongo

Marco Marrone is a postdoctoral researcher in the Department of Sociology and Business Law at the University of Bologna, Italy.
Gianmarco Peterlongo is a PhD student in Sociology and Social Research in the Department of Sociology and Business Law at the University of Bologna, Italy.

ABSTRACT

This article focuses on the central and ambivalent role that cities play in the context of platform capitalism. While on the one hand, urban spaces have become an advanced ground for the operations of capital, on the other they have also become the main stage for resistance movements. The city is thus emerging as a decisive political and socio-economic dimension for understanding the impact of digital platforms on workers and on society. By presenting two Italian case studies from the city of Bologna, we aim to shed light on how cities not only provide the necessary resources and infrastructures for platforms to rise and operate, but also give rise to movements to organise and resist these developments.

KEY WORDS

digital platforms, infrastructures, city governance, precarisation, gentrification, public action, social movements, informal unionism, urban resistance

Introduction

Digital platforms are growing across several sectors in almost all global cities. However, while they have rapidly monopolised urban activities such as food delivery, short-term rentals and domestic work, this development has been accompanied by a mushrooming of protests against their impacts on society. Cities seem to constitute a crucial analytical

dimension in this, being both a key asset that enables platforms to rise and operate, and also a fundamental resource for resistance movements. Nonetheless, while some academic attention has been given to the first relationship, this second one has been underexplored until now. The aim of this article is to pay attention to both, drawing attention to the underlying ambivalence of the relationship between digital platforms and urban spaces.

We begin by discussing the role cities have played in favouring the rise of digital platforms. This is done by drawing on two emerging streams of literature: platform and infrastructure studies. We argue that hybridising them makes it possible to understand how cities provide the material and immaterial resources that influence both the development of platforms and the movements that resist them. We then describe the socio-political transformations that Bologna has faced in recent times during a period in which its urban space has been branded as the 'City of Food' – transformations which have been crucial in boosting platform activities in the key areas of food delivery and short-term rentals.

Finally, drawing on interviews with some of the main actors, we will discuss the experiences of two resistance campaigns, 'Pensare Urbano' and 'Riders Union Bologna', which, despite many differences, share the common feature of having been successful. These two cases are interesting not only because of the way in which their participants organised to confront the impact of digital platforms by building 'urban coalitions' but also for the concrete outcomes they have achieved. In doing so, they demonstrate not only the ambivalence of the city but also the increasing centrality of the urban dimension in the age of platform capitalism.

Digital platforms and urban infrastructures: rethinking the linkages

Since the explosion of digital platforms in our economy, there has been a growing debate about the impact of 'platformisation' on our society. While many have underlined the efficacy this model has in matching supply and demand in the market (Davis & Shibulal, 2018), on the other hand, scholars have highlighted the negative consequences this will have on both workers and society as a whole (Scholz, 2017; Huws, 2014; Srnicek, 2016). Urban spaces seem to be a crucial, if underexplored, dimension for understanding the factors that play a role in this development. Some of the most popular digital platforms, in fact, provide services, such as food delivery, short-term rentals and domestic work that have historically formed a part of informal urban economies. In this perspective, platforms do not just make use of the material infrastructures of cities, such as streets, airports and tourist attractions, but also of immaterial ones, such as the cultural dimensions embedded in the urban environment (Davidson & Infranca, 2016).

The emerging literature on platform urbanism underlines the key role of platform business models and data-driven strategies in reshaping city infrastructures and services (Barns, 2020), to such an extent that platform companies can be understood as new urban institutions, as in the case of Airbnb (Van Doorn, 2019). In this perspective, cities and platforms are in a relationship of mutual influence, whereby urban spaces are continuously codified and recodified to adapt to each other's presence and

transformations. If on the one hand giants such as Google, Amazon and Airbnb, with their capacity for collecting and processing data, are giving birth to a new data-driven governmentality of the urban space, often referred as the 'smart city' (Vanolo, 2014), then on the other hand, in the context of what Rossi defines as the 'platform metropolis', the city is emerging as a 'site of confrontation between high-tech corporations and subaltern subjectivities reclaiming their part in the redistribution of socially produced wealth' (Rossi, 2019:1429).

It is with the aim of understanding such reciprocity that we critically discuss the relationships between platforms and urban infrastructures. In recent times, prompted by technological developments, two distinct streams of literature have emerged. The first of these is that of infrastructure studies, which emerged from science and technologies studies and information studies in the 1980s, using such systems as electric power grids, communication networks or 'cyberinfrastructures' as case studies. These highlight such distinctive features of the infrastructure as ubiquity, reliability, invisibility, gateways and breakdowns. The second stream concerns what could be designated platform studies, developed more recently in the field of media and communications studies, that focus on the socio-technical architecture of computing devices (such as Intel-chip-based PCs) and software environments (such as gaming systems) and have investigated how these affect the characteristics of the application software that is built upon them. Some key features discussed in platform studies include programmability, affordances and constraints, connections among heterogeneous actors and the accessibility of data and logic through application programming interfaces (APIs) (Plantin, Lagoze, Edwards & Sandvig, 2016).

However, as Plantin and colleagues suggest, the distinction between infrastructures and platforms should increasingly be considered as a merely analytical one. Many platforms, as in the case of Google, have now reached a stage where they seem more and more to resemble infrastructure, becoming so ubiquitous and common that they can be described using the same terminology as infrastructures, for example, by the use of adjectives such as 'robust', 'widely shared', 'accessible' and 'essential'. Simultaneously, in the neoliberal scenario, infrastructures have not only been increasingly privatised, but they have often adopted platform-like rhetoric whereby their governance has been reduced to market functionality. In other words, platforms and infrastructures are now proceeding to a convergence, whereby 'digital technologies have made possible a platformisation of infrastructure and an infrastructuralisation of platforms' (Plantin, Lagoze, Edwards & Sandvig, 2016:3).

Our starting point in analysing the ambivalent role of the city in relation to platforms is that infrastructures are not simply 'things, but also the relation between things' (Larkin, 2013:329; as referenced in Borghi, 2020). If the aim of digital platforms is to monopolise the urban informal economy, this means that it is necessary for them to disrupt and rearrange both the material and the immaterial infrastructures in which this is embedded. Thus, if we consider the rating and ranking practices that characterise platform labour process, these are crucial not only to expand the surveillance of workers or introduce it where it did not previously exist (Huws, 2019), but also to introduce new forms of trust-building that impact on consumer behaviours (Yang, Lee, Lee & Koo, 2019). In this regard, to be stable and reliable, platforms need to constantly

Table 1: Infrastructure and platform properties

	Infrastructure	Platform
Architecture	Heterogeneous systems and networks connected via sociotechnical gateways	Programmable, stable core system; modular, variable complementary components
Relation between components	Interoperability through standards	Programmability within affordances, APIs (Application programming interface)
Market structure	Administratively regulated in public interest; sometimes private or public monopoly	Private, competitive, sometimes regulated via antitrust and intellectual property
Focal interest	Public value; essential services	Private profits, user benefits
Standardization	Negotiated or de facto	Unilaterally imposed by platforms
Temporality	Long-term sustainability, reliability	Frequent updating for competitive environment
Scale	Large to very large; ubiquitous, widely accessible	Small to very large; may grow to become ubiquitous
Funding	Government, subscription, lifeline, services for indigent customers, pay-per-use (e.g. tickets)	Platform purchase (device), subscription (online), pay-per-use (e.g. TV shows), advertising
Agency of users	'Opt out', e.g. going off the grid	'Opt in', e.g. choosing one platform instead of another, creating mashups

Source: Plantin, Lagoze, Edwards, & Sandvig 2016:9–10, reproduced by permission.

push workers towards an intensification of their performances that radically transform the way in which food delivery activities have traditionally been conducted in the informal sector (Marrone & Finotto, 2019). Similarly, if we consider the case of Airbnb, we see how this does not simply affect the number of tourists, but also qualitatively transforms their experience. As recent studies have underlined, Airbnb crucially affects the life of its hosts, acting as a form of soft power inducing specific behaviours (Bruni & Esposito, 2019). The expansion of digital platforms therefore leads to a situation whereby cities are more deeply absorbed into the dynamics of global capitalism (Huws, 2019), dispossessing what remains of local informal economies – which have often also served as a buffer for unemployed or other social vulnerable individuals (Borghi & Kieselbach, 2012) – making them increasingly dependent on platforms. In sum, the infrastructuralisation of platforms not only means that they are emerging as stable and reliable assets in the urban economy, but also that this is increasingly organised through them.

Set alongside this development is the fact that digital platforms also have an impact on the same material infrastructures of the cities, which, in the process of becoming more and more functional to market needs, are increasingly becoming 'platformised'. This is not a new process: in the last three decades, as has been underlined by Sassen, global cities like New York and Tokyo have had 'massive investments directed to expand the infrastructure of production rather than that for social reproduction' (Sassen, 1998: 332). Furthermore, the 2008 financial crisis became a turning point for the emergence of a new rhetoric on the city and its economic potential. This can be illustrated by such terms as 'smart cities' (Munoz & Cohen, 2016), the 'creative class' (Florida, 2010) and 'sharing economy' narratives, which resulted in an increasing number of individuals being propelled into improvised entrepreneurship or platform labour. In other words, as Rossi and Wang underline: 'the corporate-driven tech-boom 2.0 of the 2010s, which has followed in the wake of the great contraction of 2008–2009, has enabled an increasingly impoverished middle class to engage with entrepreneurship in accidental, improvised ways that resemble the survival strategies of the urban poor in the South' (2020:2).

Furthermore, the emerging literature around the 'fundamental economy' (Bentham et al, 2013) has underlined how privatisation not only affects the ability of citizens to obtain access to services and infrastructure but also undermines public control of services such as transport, garbage disposal or housing policies that significantly impact urban life. In this regard, local administrations have made large use of a rhetoric that distances them from any responsibility over decision-making in relation to infrastructures. According to Gillespie (2010), this is a pivotal aspect of the rhetoric of platforms which depict themselves as simple intermediators facilitating market exchanges. In sum, when we speak of a platformisation process we do not only mean that infrastructures are becoming increasingly functional to platforms' expansion, but also that a neoliberal framing of the urban space has been adopted for their governance. As we will further see, it is such coexistence between the platformisation of urban infrastructure and the infrastructuralisation of digital platforms that often works as a trigger for resistance movements.

The rise of the 'City of Food': political and socio-economic transformations in Bologna

Bologna has long been known as a leftist city which experienced significant industrial development after WWII. In the literature, the so-called 'Emilian model' has not only denoted an economic system based on cooperatives and small and medium-sized enterprises (SMEs) but also the way in which the Communist Party of Italy (PCI) was able to establish decades of political hegemony in the region (Capecchi, 1989). Nonetheless, the situation nowadays is very different both politically and economically. Like most Italian cities, Bologna has experienced economic change and a major industrial transformation. The city has been subjected to a post-Fordist transformation, bringing to the centre of economic valorisation activities that were previously of only minor importance, such as service-based activities (Zukin, 1987, 1992; Wynne & O'Connor, 1995). Following such transformations, cities have

increasingly becoming a crucial site for the 'operations of capital' (Mezzadra & Neilson, 2019). Because of the specificities of the country, there is a growing literature focusing on the decisive role of urban heritage in the touristification of Italian cities (Semi, 2015; D'Eramo, 2017; Gainsforth, 2019). Other scholars have drawn attention to how cultural heritage works in the 'rediscovery' of the city: encouraging financial and real estate investments (Smith, 1996), renewal processes (Jones & Varley, 1994) and securitisation (Becker & Muller, 2013). These all contribute to making the urban space as profitable as possible. Alongside these developments, new dynamics of valorisation have also emerged, oriented towards a speculative turn, some of which have been described by Boltanski and Esquerre (2015), often boosted by UNESCO heritage classifications (Delgadillo, 2016; Janoschka, 2016). The food industry provides a striking example here. Culinary traditions and local food markets have been valorised as cities have become 'foodified' (D'Eramo, 2017; Cohen, 2018). In sum, especially for Bologna and other Italian cities, the aim of valorising traditional culture has played a fundamental role in boosting touristification and gentrification, making use of both material and immaterial resources, such as local traditions and artistic and architectural heritages, to address them.

Bologna is world-renowned for its urban heritage, as testified by its application for UNESCO World Heritage Site status for its porticoes,[1] but the turning point for its touristification is quite recent. It was confirmed in all the interviews we conducted that the crucial turn was related to developments in mobility infrastructures. These included the relocation of the international airport from Forlì[2] to Bologna and the arrival of low-cost airlines, a new high-speed train station – inaugurated in June 2013 – and the growth of the interurban bus station. As a result, the number of tourists exponentially increased in the ten years from 2008 to 2018 from 800,000[3] to more than 1.5 million, with an increase of 9.4% in the last year for which statistics are available.[4] This increase was crucially important in motivating many to invest in the tourist sector, so providing the ideal environment for the expansion of platforms such as Airbnb. As highlighted by a member of Bologna City Council:

> The point is that Bologna's geographical position and its transport infrastructure make it a place of mass tourism both nationally and internationally. Firstly, because it has an airport that has grown disproportionately, especially with low-cost airlines. On the other hand, Bologna is in a privileged position in Italy because it is connected to Rome, Florence, Venice and Milan, in a maximum of two hours. It seems to me that it is also becoming a platform, a national infrastructure for foreign tourism. If you add to this that it is a city traditionally

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1   The porticoes of Bologna have, since 2006, been listed in the UNESCO 'tentative' list available on its website. Accessed on January 18, 2020 from https://whc.unesco.org/en/tentativelists/5010.
2   Forlì airport (FRL) was definitively closed to commercial flights in March 2013.
3   Statistics on tourism made by the Municipality of Bologna (May 2009). Accessed on January 10, 2020 from http://www.comune.bologna.it/iperbole.
4   Report 'Turismo nella città metropolitana di Bologna' (November 2019). Accessed January 10, 2020 from http://inumeridibolognametropolitana.it/sites/inumeridibolognametropolitana.it/files/turismo/report_turismo_2018_cm_ed2019.pdf.

> *linked to the idea of good food and even the good life, that is a beautiful
> medieval centre.* (Federico Martelloni, Coalizione Civica)

A clear picture emerges from such framing: if the transformations of transport networks have provided the necessary physical infrastructure for digital platforms in the tourist sector to expand, the branding of its culinary tradition has provided an immaterial one. This is signified by the 'Bologna City of Food' (CoF) brand, which, alongside Milan Expo 2015, represents the local marketing strategy to attract investments in related sectors, including those of digital platforms. Nonetheless, the descriptions provided by Bologna's government have been quite few and ambiguous, attracting several critiques related to the controversial consequences of these policies. One example of this comes from the *Camera di Commercio* (Chamber of Commerce) which, in a recent investigation, estimated that there was one food and beverage activity for every 37 inhabitants, representing an increase of 50% in less than ten years in the centre of the city.[5] The same study also found a remarkable 83% increase in take-away food activities over the same period. Tourism has played a key role in this, sponsoring a specific lifestyle where local products can be comfortably consumed in an authentic medieval apartment. This peculiar type of 'food tourism' is also evident in the local 'Airbnb experiences' where most of the available activities concern food-related activities.[6]

The touristification of Bologna has also been criticised for exacerbating the housing problem. First, tourists are concentrated in the city centre where traditionally university students stay, creating a direct conflict for renting apartments. Second, the accommodation sector has been dramatically reshaped by the entrance of short-term rental platform companies that have monopolised it. A recent investigation carried out by HousingBo[7] found that monthly rents in the city centre had reached an average of €409 for a single room and €334 euros for a bed in a shared room in 2019, exceeding the average price of all main Italian cities except Milan. Thus, the concentration of Airbnb hosts in the city centre is undermining the housing market for students, families and tenants. According to the *Camera di Commercio*, the number of Airbnb accommodations doubled in two years, going from 2,227 in 2015 to 5,494 in 2017; and in the same period the ratio between facilities booked and those advertised increased by about 20%.[8] More than half of these are entire apartments, taken out of the ordinary market, and 49% of hosts manage more than one advertised property. As Emily Clancy, a member of city council, and Denise, a young activist of Pensare Urbano, commented:

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5   Data retrieved from the Camera di Commercio official website (accessed on January 10, 2020): https://www.bo.camcom.gov.it/it/statistica-e-studi/home.
6   Among the top 20 Airbnb Experiences in Bologna, 16 are related to the food and wine sector. https://www.airbnb.it/s/Bologna—BO/experiences (accessed March 10, 2020).
7   'HousingBo' is a permanent lab on student housing conditions in Bologna promoted by the University of Bologna and the local Municipality (November 2019). Results are available at (accessed January 10, 2020): http://www.fondazioneinnovazioneurbana.it/images/2019_HousingBO/2019_11_12_HOUSINGBO_Presentazione.pdf?fbclid=IwAR1TR0jgxp3WkLfRUG79aIJvrQZK5gZwhwas0rmVyjb3aQPFR2DoKRF_SD8.
8   Results from CCIAA research on tourism and short-term rental platforms. Accessed on December 28, 2019 from https://www.ucer.camcom.it/comunicazione/notizie/pdf-2018/Abstract_Studio.pdf.

Through an exaggerated and overly-stressed concept of the City of Food, the local government is only looking at the historical city centre. It is an idea of tourism that only benefits few streets, a vision that is unable to redistribute the wealth that tourism can bring to the city. That is also the problem with short term rental platforms, and with 'problem' I do not mean those who share a room or a small apartment to support their income, but multi-owners who own entire buildings as well as intermediary agencies [. . .]. They're interested in maintaining a polished version of the city, tidy and orderly so that tourists may find it appealing. (Emily Clancy, Coalizione Civica).

The city is saturated with food. They have to put a stop necessarily because everything in the old town is turning into food activities. An overload, an excess that even the city administration has noticed. Clearly, this CoF is very important but it is also a bit overestimated. It is clearly a political intention to transform the city to make it attractive to tourism at a time when tourism is changing. So it is no longer enough to have a historic university, monuments, a city atmosphere that entices foreigners to visit Bologna, but it also requires one more thing: the foodification. But secondly it is important to keep in mind that this is like an excuse to justify that from an economic point of view was necessary the advent of mass tourism. (Denise, Pensare Urbano)

These two quotations clearly underline how CoF became an umbrella covering neoliberal transformations affecting the government of the urban space in order to make it productive for the emerging sectors boosted by platform capitalism such as tourism. Moreover, CoF has not only indirectly contributed to the rise of digital platforms, but also directly. CoF was set up as an umbrella initiative under which public funds were given to innovative and start-up companies through tenders and other initiatives, thus directly pushing platforms. In many cases, in fact, these grants have been given to companies, often those that form part of what was more popularly named as the 'sharing economy'.

One of the most famous of these initiatives is 'Incredibol!', set up with the stated aim 'to support growth in creative and cultural sectors in the city of Bologna'.[9] This received funding from institutions such as Bologna City Council and the Emilia-Romagna regional government, but also from other economic actors such as employers' associations, private foundations and even networks of cultural associations. While these funds were initially given to social and no-profit projects, in the following years they were given to an increasing number of start-ups referred to as examples of excellence in the sharing economy sector, which have been supported by the provision of pilot funds, communication and financial services, real estate and other resources. In the third round of funding, in 2012, the winners included a start-up named Sgnam, described as 'a platform for web and mobile home delivery food products from best restaurants in town in less than 35 minutes', according to the Incredibol website. Despite the competition from multinational platforms such as Deliveroo and Glovo,

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9   As available in the website (accessed March 25, 2020): https://www.incredibol.net/cose-incredibol.

this is still in operation, after merging in 2018 with another Italian platform named My Menù, employing nearly 250 food delivery workers as estimated by representatives of the Bologna Riders Union (RUB). We can conclude that Bologna's foodification represents part of a general economic transformation related to the new crucial role of food which, by attracting tourists and boosting digital platforms both directly and indirectly, has also facilitated the spread of bad jobs, accelerating gentrification and dispossessing the prerogatives of urban stakeholders. As Denise underlines:

> *The CoF leads to very negative consequences for the urban fabric and its labour market. From hospitality to food delivery, they all rely a lot on tourist demand. There are many tourists who stay in their Airbnb in the evening and call food couriers, and this has boosted precariousness and job insecurity. These clearly are two sides of the same coin.* (Denise, Pensare Urbano)

Pensare Urbano and the Public Inquiry on Housing Deprivation

Pensare Urbano (PU) may be defined as a network which was developed recently to counteract the housing crises affecting Bologna following the expansion of Airbnb.[10] It is described in the following terms on its website:

> *The Lab for the right to the city Pensare Urbano* [Think Urban] *is a discussion space animated by associations, trade unions, collectives, squats, students and teachers, researchers. Born in the autumn of 2018 following the serious housing emergency especially affecting students of the University of Bologna. From there, it has also paid attention to all the problems related to urban transformations especially those related to the effects of unregulated growth of tourism in the city.* (PU official website)

A turning point for PU was 2018, when students' housing problems were widely reported by local and national media. As mentioned above, students had historically stayed in the city centre, but the exponential growth of rental prices forced many to leave or to move to the suburbs. Some local politicians and activists argued that this was related to the impact of Airbnb and its rapid growth, especially in the city centre. Following this, students, meeting in one of the activist hubs of the city named 'Ritmo Lento', decided to address the problem of short rent platforms and their links to Bologna's housing crisis in a broadly focused approach with the aim of building an urban coalition.

> *At that time, we understood that there was a need to broaden the discourse, in the sense that there was a need for building up coalitions. This discourse moves, let's say, with alliances made with political collectives, with associations, environmental committees, student groups, university professors. Therefore, an absolutely heterogeneous composition.* (Fabio, PU)

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10 The empirical data in this section come from six semi-structured interviews conducted with privileged observers: respondents were members of the Bologna City Council groups of Coalizione Civica (Civic Coalition), opposed to the local administration and closely linked to two different political groups: Pensare Urbano (PU) and the Riders Union Bologna (RUB), who were also interviewed for this article.

PU started to attract affiliation and support from other individuals and organisations, successfully becoming an urban coalition aiming to influence housing policies. The first public initiative was a big conference named 'Think Urban', which was held at the University of Bologna in February 2019, gathering together academics and activists from all over Italy. After this, they decided to find a way to act which would concretely obstruct Airbnb's expansion in the city. This was found in the Istruttoria Pubblica sul Disagio Abitativo[11] (public inquiry) which would not only enable PU to enlarge its support among the citizens of Bologns, but also make use of the power of coalition.

The organisation of the public inquiry began in the first months of 2019 and it represented a key moment in the mobilisation. PU was inspired by a previous movement that had been set up to oppose an urban plan that would have led to the disappearance of a large green area, called Prati di Caprara, in the western section of the city and which had also called for a public inquiry. In pursuit of this goal, they decided to collect the necessary signatures to carry out the initiative, reaching a total of 2,200 signatures. During our fieldwork, the activists we interviewed highlighted the importance of this moment as an opportunity to raise awareness and interaction with citizens. Subsequently, after the presentation of the public inquiry campaign,[12] PU promoted an action that took place in the main square of the city during the convocation of the first session. On September 20, 2019, PU invited people to camp in the municipal square to protest against the housing problem and to press for a regulation of short-term rentals. Dozens of people participated, especially students, while local newspapers and televisions reported the initiative.

The public inquiry was held in the City Council on October 28, 2019. It made several recommendations to the municipality including: stopping the sale of public assets and land for short-term rental use; financing a guarantee fund for rent support; implementing the agreed rental lease for students; and integrating off-site students among the beneficiaries of Social Residential Housing. Short-term rentals were to be regulated through the introduction of a unique identification code: 'a tool for regulating and controlling short-term rentals allowing – once the implementation methods have been defined – all types of short rents to be recorded in a reliable manner; to monitor and control the regularity of the phenomenon'.[13]

According to PU activists, the establishment of this urban coalition worked as an 'infrastructure of resistance' (Shantz, 2010) and was decisive in achieving this result:

> *The public inquiry has 'rocked the boat' of an important issue. That's why we looked outside for alliances that played a greater role in both campaigning for the public inquiry and to other processes we did. We considered it – the making of a urban coalition – very important, both to involve the social fabric, then the various*

11   In Italy, the Istruttoria Pubblica (Public Inquiry) is one of the tools used by municipalities to promote participation and to enhance the forms of consultation of inhabitants and citizens. In the case study the topic was that of house deprivation.

12   On September 4 a public assembly was organised at the Montagnola Park to launch the political campaign of the Istruttoria.

13   The agenda approved by the City Council. Accessed January 15, 2020 from: http://www.comune.bologna.it/media/files/odg_indirizzi_consiglio_comunale.pdf.

types of activism dealing with the housing problem in Bologna, but also tenants' unions, squats, associations, anyone who had interest in this and could give us a hand, becoming, let's say, one of us. The support of Coalizione Civica was also very important in providing crucial skills and knowledge. [. . .] In my opinion, the greatest success of Pensare Urbano has been that of being able to bring all these groups together on the common front of housing rights. (Denise, PU)

In this analysis, Denise stressed the importance of urban coalitions both for achieving the Istruttoria Pubblica and for motivating the local administration to act accordingly. Initially, in fact, while the PU campaign achieved wide support from public opinion, the local government of the Democratic Party did not seem to have welcomed the initiative. This was evident both in its refusal to sign the proposals of Coalizione Civica and in its denial of the coalition's emergency rhetoric that it dismissed as 'fake news'. Indeed, Virginia Gieri, city councillor for housing, declared during the public inquiry that there was a situation of 'housing serenity' in Bologna.[14] We may say, using the same words of PU activists, that the development of a convergence of opinion among such a broad and diverse alliance of different groups – for example, Catholic organisations, student unions, tenants' and citizens' associations as well as major institutions such as the University of Bologna and others – created a situation in which 'the local government passively suffered the inquiry process' (Emily, Coalizione Civica). After this inquiry, the local administration was forced to recognise the PU's claims at least partially.

Thus, despite limitations inherent in the public inquiry system itself (which is considered as merely consultative), the crucial outcome in this case was that it facilitated the formation of an urban coalition with enough power to motivate the local administrators to change their initial positions. Moreover, PU is an interesting case which draws attention not only to how cities provide regulative tools which may be used in addressing the expansion of platforms but also to how these tools can be used to promote and develop a coalition power which is key in making them effective.

RUB and Bologna's Bill of Rights of Digital Workers in Urban Contexts

Since it was formed by food delivery workers and local activists, including students and others, Riders Union Bologna (RUB) may also be considered an 'urban coalition' more than being just a labour union. The initial meetings from which it sprang were stimulated by the rise of workers' protests in Europe (Cant, 2019; Leonardi, Murgia, Briziarelli & Armano, 2019), and in other Italian cities (Tassinari & Maccarone, 2017), but, once the initial nucleus of the coalition was formed, with the support of activists and through leafleting organised in front of some of the most popular restaurants of the city, the group grew rapidly. Initial organising was also facilitated by the relatively small size of Bologna compared to that of other European cities where platform workers have organised.

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14   The Councilor's speech is available online (accessed January 16, 2020): https://www.youtube.com/watch?v=ueYmEcd0SXs&fbclid=IwAR0Rt8aIGwX6Q46DSJ6XVMe_DFlR7ZMhFYxwu9uKCEcSuOEbnwcwA_0aOc8.

Thus, even though platform the labour process tends to a massive individualisation of the workforce, in Bologna, RUB was able to overcome obstacles to organising by using the power of coalition. Despite this, the initial activities of RUB were conducted without making platforms aware:

> At the beginning, it was not easy to organise. We knew that some of the guys protesting in Turin have been disconnected. Many said that they were worried to lose their job, while others said that this is a 'lavoretto'[15] that is not worth fighting for. (Riccardo, RUB)

Existing studies emphasise how the difficulties provided by food delivery platforms are usually challenged through the development of in-work solidarity practices (Tassinari & Maccarone, 2019; Emilio, Zamponi, & Caciagli, 2019). Similarly, this is how organising strategies developed in Bologna, but with a key role in the development of an 'infrastructure of resistance' provided by local activists. First, thanks to the support of some popular activists groups in the city – such as 'Ritmo Lento' and 'Làbas' – they initiated a self-organised bike repair workshop in their rooms, aiming to support each other in covering the costs of their bikes, which are not reimbursed by platforms. Second, students and researchers organised an information point for delivery workers, sharing their knowledge to provide access to legal and financial information. Finally, a map of 'solidarity spaces' was also distributed among workers, pointing to shops, squats, bars and other urban activities that could provide possible shelters and recharging points for riders while they were waiting for orders. In sum, the sparkling activist environment in the city of Bologna worked both as a support and a trigger in unionising food delivery workers:

> At the beginning, we realised that it was necessary to break up the loneliness characterising this job. We used to see people in the street dressing like us, doing the same job, without knowing each other. It was really sad, trust me. . . That was the very first thing we had to break up. (Riccardo, RUB)

However, it was almost two months before this assisted organisation led to RUB's first strike, which took place on November 13, 2017. On that day, an unexpected snowfall made it difficult and risky to deliver food, while the number of orders grew enormously. Then, after workers had demanded that the service be closed, the negative response of all the operating platforms caused a spontaneous city strike and the service was shut down. This was a crucial moment for RUB which alerted the public to its existence, with the action widely reported by both local and national media.

> That strike for the first time gave notice that workers in Bologna were organising. Thus, from there, since we all knew problems and contradiction of our work, we started to discuss how we should get something concrete in return. (Lorenzo, RUB)

The strike of November 2017 was the trigger for the ongoing struggle of the RUB. However, it was clear from the very beginning that getting 'something concrete in return' would not be easy. First, the impossibility of obtaining access to rights and

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15   *Lavoretto* – literally meaning 'small job' – is an Italian way of describing an occasional working opportunity taken up in order to collect a small income. An English equivalent may be a 'gig' or work 'on the side'.

guarantees related to their subordinate worker status deprived workers of protections such as a minimum wage or public insurance and also made it impossible to gain access to traditional union rights. This not only complicated the possibility of obtaining support from traditional unions but also necessitated a strategy that could overcome the peculiar asymmetry that characterises digital platform working environments. Second, because of the large scale of their operations, as well as the tight relationships such platforms have with financial investors, it was clear that adopting traditional practices such as striking would not take them too far:

> If we strike for a couple of hours during Sunday, platforms may lose some money, but they don't really care. As a worker once told me, they exist in America, Africa, Asia, they don't really care if we strike here in Bologna. Thus, we had a necessity to have a credible perspective. We may say that the bill was born there. (Lorenzo, RUB)

To overcome such difficulties, RUB started to direct its efforts at targeting the city and its administration by using their urban coalition power. Such a strategy is nothing new. As has already been reported by scholars investigating the struggles of informal workers in Asia (Agarwala, 2013), precarious workers in the EU (Tapia & Turner, 2018) or migrant workers in the USA (Fine, 2006), when asymmetries make it impossible to use workers' power to influence corporate decisions, targeting public opinion and government may provide a means to exert pressure over them that otherwise would not be possible. Thus, despite the relatively weak powers local administrations have in regulating employment relationships, in contrast with what has happened in other food delivery protests, the claim was made that action needed to be taken by the municipality while citizens were supporting the cause. When, following public protests, the matter was brought to the attention of the mayor's office, RUB was invited to the negotiating table, alongside the food delivery platforms. As pointed out by Federico Martelloni, the head of Coalizione Civica:

> The case of the Bill makes it evident that the choice of RUB to involve Bologna's municipality was successful. Differently to what has happened in other cities where workers have protested under the offices of Deliveroo, they have decided to refer to those who somehow own their workplace, which is the streets of the city. And they have done it well, because even if it is true that the city administration does not have many tools to use, they have successfully acted as mediator bringing moral persuasion to bear. (Federico Martelloni, Coalizione Civica)

Nonetheless, the multinational platforms refused to participate in these negotiations, although the already mentioned local platform Sgnam did so. A key role was also played by the finance received via Incredibol!, which obliged the local administration to face the contradiction raised by the fact that they were providing support to one of the companies that was accused of exploiting its workers. In this perspective, the CoF brand, which played such a large role in facilitating the rise of the food delivery platforms, was turned in favour of workers, resulting in a powerful argument to motivate the action of the local administration. The negotiations lasted for several months, and ended in the signature of Bologna's 'Bill of Rights of Digital Workers in

Urban Areas', which was also signed by Domino's Pizza one year later. This is how Lorenzo describes the bill and its effects:

> *A metropolitan agreement that guarantees a minimum level of protection for food delivery workers operating in Bologna. This means having better contracts, a more direct relationship with the company, because they recognise you as representing their workers; there is an insurance, an hourly wage connected to national contracts, union rights, as that of having 10 hours of paid meetings for workers participating in it.* (Lorenzo, RUB)

However, although the bill was crucial in facilitating RUB unionisation, the main result was probably that of attracting the interest of the recently elected Italian Ministry of Labour and leader of Five Star Movement, Luigi Di Maio. Thus, after promoting negotiations between platforms and workers – which soon failed – he promoted a law which somewhat extends Bologna's Bill at a national level:

> *After that, a new scenario was opened at national level with Luigi Di Maio announcing, on his first day as minister of labour, that he wanted to give rights to food delivery workers. From there, the government has changed its ideas several times, but after one year and a half something came out. It has both interesting points and others which are ambiguous and potentially dangerous, but surely it is a step ahead from Bologna's bill. (Riccardo, RUB)*

In short, the close relationship between the RUB's struggle and the city may be seen from at least two sides. First, it provided activists with access to skills and spaces to support the development of RUB's solidarity network. In this perspective, the peculiar activist background of Bologna played a crucial role in overcoming the difficulties workers face when attempting to organise in the kind of hostile environment that typifies digital platforms. Moreover, in a context in which many of the informal unions that have developed in this sector in other cities have often collapsed after some months of struggle, RUB's capacity to endure over time may also be related to the support received from the urban coalition that formed around their action. Second, the decision to direct their claim to the local administration and not only to platforms enabled RUB to make use of the city as a sounding board to develop a more effective action. By doing this, they not only avoided the asymmetry of power that generally characterises the employment relationship in food delivery platforms but they also managed to achieve a local regulation of a local service which was then reinforced by a national law.

Conclusions

As in other cities, digital platforms are increasingly structuring themselves in Bologna, undermining existing social relationships that are then reorganised around their central role. This is a process that does not just impede the redistribution of the benefits of technological innovation, but it is seriously limiting the 'right to the city' for an increasing number of people. Thus, it is not surprising that, alongside digital platforms, resistance movements and urban coalitions are mushrooming everywhere to challenge their hegemonic control of urban space.

Nonetheless, our case studies show that platforms, as well as activating new dynamics, seem also to exacerbate existing ones, such as touristification, precarisation and gentrification, in the process often opening up new possibilities for resistance movements to challenge them. In this perspective, by expanding the dynamics of accumulation, they also deepen contradictions such as housing deprivation resulting from touristification and the loss of labour rights in the context of platformisation. We can thus identify, in the coexistence of the 'infrastructuralisation' of digital platforms and the 'platformisation' of urban infrastructures, a double perspective in which the same development gives rise not only to the development of platforms, but also to resistance movements against them. In the process of 'infrastructuralisation', platforms tend to dispossess what remains of local economies and to reinforce a specific institutionalised social order. In the case of Bologna, the shift from being the manufacturing capital of Emilia-Romagna to becoming the Italian CoF did not simply imply a transformation of economic activities but also a structural change in its governance. In other words, it is under the framework of CoF that Bologna has experienced an acceleration of neoliberalisation of the urban space.

In this context, our research focus on PU and RUB was undertaken not just to present their point of view on the impact of digital platforms on urban spaces but also as a means to study the ambivalent role of the city. Despite their differences, they are both coalitions organised at a city level resulting from an alliance between residents, workers and activists, formed to resist the impact of digital platforms in their common urban space. In this sense, the city played a role in at least two directions: firstly, by providing crucial resources to develop activism and solidarity, which have been decisive in building up 'infrastructures of resistance' (Shantz, 2010); and secondly, by making it possible to perceive the city not as a mere agglomeration of people, but as an ideological artefact and a decisive political ground where coalition power can be used effectively against platforms.

Finally, the outcomes of these campaigns represent an interesting case study on how traditional local government tools may be used creatively to make resistance more effective. The assertion of a necessary political government of the urban economy, somehow rooted in the memory of the city, has been able to open a breach in neoliberal urban governance. In such a context, cities are becoming a crucial stage for the operations of capital, not solely a space of solidarity and resistance, but a key dimension of the struggle to realise Baldwin's vision of making 'urban policies the new industrial policies' (2016:59).

ACKNOWLEDGEMENTS

acknowledge all our interviewees, both for contributing to the article and for their commitment to guaranteeing the right to the city for all the people of Bologna.

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