



Digital platforms and socio-spatial justice in the (post-)pandemic city: Introduction to the special issue

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Platform geographies and the pandemic

Digital platforms are radically changing the way places are shaped, inhabited, practiced, imagined and governed. The functioning and implications of digital technologies and the 'platform economy' has consequently captured the attention of hundreds of critical spatial thinkers, up to inducing some sort of 'digital turn' in geographical scholarship and related disciplines, which is "provoking new questions and opening up new lines of geographical inquiry" (Ash, Kitchin, & Leszczynski, 2018), as the launch of the journal *Digital Geography and Society* also testifies (Kinsley, McLean, & Maalsen, 2020).

The increased pervasiveness of digital platforms is also one of the most enduring effects of the Covid-19 pandemic. An unprecedented condition of lockdowns, quarantines, reduced mobility and prolonged isolation have been partially alleviated by the possibility to perform some of our routine activities on, or thanks to the intermediation of, digital platforms. The threshold between what can be done online and offline has considerably shifted in favour of the former, both in terms of scope (work, education, recreation, sociality, shopping, etc.) and reach: individuals and social groups that were previously more hesitant or marginal were somehow obliged to experiment with platform-based solutions and services. This condition amplified our dependence on the internet's hard and software infrastructures (Certomà, 2020), raising further the huge economic and socio-political power of companies providing them.

Digital platforms, moreover, have a peculiar relationship with crises. The platform economy is not just the invention of a new business model or of some new services. It is the core of an entirely new regime of accumulation whose diffusion is directly related to the great recession. The decline in profitability provoked by the 2007–2009 financial crisis induced 'big techs' as well as traditional manufacturing or service industries to fully exploit the high cognitive content, close-to-zero marginal costs and huge margins which can be obtained in the specific

segment of the value chain connected with the collection, control, and distribution of online information (Srnicek, 2017). As such, this new system of accumulation is partly an acceleration of previous, long-term dynamics, particularly a prosecution of post-Fordism, and partly a new disposition for the accumulation of value, market power, profits and rent (Langley & Leyshon, 2017). Some of its distinguishing features are an extremization of the tendency to outsource anything that has to do with the materiality of production; the exploitation of those 'networks effects' which give the biggest platforms monopolistic advantages; the heavy reliance on organizational routines based on digital automation and algorithmic management (Issar & Aneesh, 2022); the substitution of direct and hierarchical control over production with indirect and heterarchical forms of digital reputation (Celata, Capineri, & Romano, 2020) and surveillance (Zuboff, 2019); the extraction of value from the 'free' and 'affective' labour of platforms' users (Hearn, 2010; Terranova, 2000) – crowdsourcing, user-generated contents, digital traces, personal profiles, reviews, ratings or likes. Any crises of capitalism cannot but accelerate these tendencies and an open question is how such acceleration occurred as a consequence of the pandemic.

Covid-19 not only contributed to accelerating the 'platformisation' of societies - i.e. the "penetration of infrastructures, economic processes and governmental frameworks of digital platforms in different economic sectors and spheres of life, as well as the reorganisation of cultural practices and imaginations around these platforms" (Poell, Nieborg, & van Dijck, 2019, p. 1). The pandemic functioned also as some sort of natural experiment that allows observing with particular clarity how digital platforms works, what are their present and potential effects, and what are the actually existing alternatives. It also allowed reviewing or testing some of the findings and reflections produced within previous research on these topics, which has been literally burgeoning in the recent years.

Geographical and STS studies, further than critical internet and media studies, can be counted among the research streams that most

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actively contributed to exploring the consequences of digitalisation and platformisation (Ash et al., 2018). Platforms can be defined as “(re-)programmable digital infrastructures that facilitate and shape personalised interactions among end-users and complementors, organised through the systematic collection, algorithmic processing, monetisation, and circulation of data” (Poell et al., 2019, p.3), and the internet as a whole can be interpreted as a mega-platform for social interaction. The popularity of digital intermediation resides in the capacity to direct connection between users and providers of a good or a service, and to offer personalized services bypassing cumbersome institutional procedures and costs, as well as traditional social and economic intermediaries. The pandemic, and the radical changes it induced, is an unprecedented occasion to see how platforms penetrated the core of societies and our daily practices, affected markets and labour relations, socio-political institutions and processes.

Digitalisation, further than raising criticisms towards big techs and profit-oriented services, also opened a space for the mushrooming of alternatives to corporate platforms, often based on pre-existing urban social networks or platform cooperativism, to experiment and hack existing expertise and infrastructures with the aim of redistributing public goods and services through civic and grassroots initiatives. The contributions collected in this special issue also aim to explore how the pandemic influenced the world of local, non-corporate, alternative platforms, and their problematic relationships with platform capitalism.

Platformisation and urban (in)justice amid the pandemic

The special issue wishes to contribute to the literature on the new urban geographies produced through and by the digital, focusing on how platforms reproduce or alter socio-spatial hierarchies and inequalities, and entangle categories of identity, race, gender, class, and location, in light of the consequences of the Covid-19 and the changing organization of cities and urban life in the (post-)pandemic scenario. The pandemic permits exploring with particular depth how the ownership, management and use of digital (hard and soft) infrastructures interact with the physical, economic, and social life of the city, and what the consequences are.

The Covid-19 pandemic has already inspired tens of geographical interventions as well as entire special issues (see, for example: Aalbers, Beerepoot, & Gerritsen, 2020; Rose-Redwood et al., 2020; Sparke & Anguelov, 2020; Budnitz & Tranos, 2022; Cockayne, 2021; Lin, 2022). Our aim is to contribute to this research through a specific and systematic focus on the relation between the pandemic crisis, platformisation and cities.

Cities are probably the privileged sites for experimenting platform-based solutions in a variety of domains: mobility, housing, tourism, food distribution, work, finance, education, planning and administration, etc. The platformisation of individual and social life is therefore particularly evident in urban spaces. The socio-physical structure and functional logic of cities proved to serve as ideal hotbeds for experimenting digitalisation and platformisation (Sadowski, 2020). Our own experience and practice of the urban has been significantly impacted by the penetration of online services.

Conceived as a laboratory for testing brand-new organizational processes, cities expose the performative capacity of platforms against the persistence of the physical settings. This determined a sort of expansion of the urban space by merging its material dimensions with the virtual one (de Waal, 2014) - a sort of “hypercity” (Massey & Snyder, 2015), or “augmented city” (De Cindio & Aurigi, 2008). Digital processes are never immaterial or separate from social relations but reflect and reproduce existing or emerging power relations (Elwood, 2021), in tight connection with the geographical context of their operation. A platform, in fact, needs the urban space in which it operates. It capitalises on the already existing urban infrastructure and only subsequently expands into new spaces or domains, via a parasitic attitude that is key to understanding so-called platform urbanism (Electronic

Publication; Barns, 2019).

It is therefore not surprising that companies managing popular platforms are heavily entering the urban governance sphere by taking a seat at the decision table or generously offering ‘smart’ solutions to new and old urban challenges. For instance, delivery platforms - after having changed our space-time constraint with on-demand goods availability - are regarded as legitimate actors to intervene in the definition of mobility plans or workers' conditions, and “achieve this power through a strategic deployment of ‘conjunctural geographies’ – a way of being simultaneously embedded and disembedded from the space-times they mediate” (Graham, 2020, p.453). What this example shows is the apparent paradox of a digital sphere that seems to operate on a very different space than that of platforms' users or workers, yet continually intervenes on urban spatialities and affects sociospatial practices by disrupting and displacing a substantial part of the urban economy whilst aggressively imposing its own logics.

Cities were also the places where the impact of the pandemic has probably been the most visible. This is typical of any crisis but also particular to this crisis, as it challenged the two dispositives upon which (big, wealthy, ‘creative’) cities have thrived in recent years: mobility and socialization. The pandemic crisis has also been, if not primarily, an urban crisis (Florida, Rodríguez-Pose, & Storper, 2021). Cities were pressed to envision both long-term, post-pandemic scenarios marked, for example, by an increasing reliance on remote-work, and to experiment short-term solutions, technologies of government, or so called “non-pharmaceutical interventions” to contain the spread of Covid-19. Most of those interventions were actually similar to those experimented in pandemic cities through the centuries. Others were new and mostly based on, or made possible by, the Internet; remote-work is an excellent example in this regard.

All of the above is particularly relevant when viewed from the perspective of sociospatial inequalities. Spatial justice is a crucial point of view to address the logics and effects of digitalisation. The algorithmic management of huge amounts of user-generated information may at first sight induce to interpret the inner functioning of digital platforms as neutral, although often opaque and even mysterious. As critical geographical and urban research showed very vividly, such neutrality is obviously pious illusion (Graham, Zook, & Boulton, 2013; Zukin, Lindeman, & Hurson, 2017). Critical research on the relations between the digital and geographical space has repeatedly denounced how platforms reflect and amplify peculiar regimes of visibility/invisibility, empowerment/disempowerment, enrichment/impoverishment. This research has been crucial in recent critiques to their predatory and disruptive business model that extracts value from users (Mezzadra & Neilson, 2017), and their operative routines that distribute such value unevenly among individuals, social groups, cities and different parts of the city (Celata et al., 2020).

Tensions also arose due to the fact that, while acting as efficient mediators of technical or organization services (for whose provision they claim costs), platforms are frequently owned by private companies who are managing key (digital) infrastructures for the city, despite often behaving in undemocratic and unaccountable ways (Graham, 2020). As a consequence, in the enactment of the platform city, the technology-enthusiast rhetoric of the hyperconnected society, or of the smart city, leaves room for potential dystopian outcomes (Söderström, Paasche, & Klausner, 2014), emerging from monopolistic appropriation, infrastructure control and power imbalances (de Waal, 2014), not to mention opinion manipulation (Nielsen, 2006), (cyber)control censorship (Loukis, Charalabidis, & Androutopoulou, 2017), limitation of freedom and social dissensus, trust and legitimacy (Caulier-Grice, Davis, Patrick, & Norman, 2012).

Alternative, non-commercial, grassroots experimentations with digital platforms are also often related to issues of social and spatial justice. Many of these initiatives are in fact aimed to improve the conditions of the less privileged, or a response to the predatory logics and distributive effects of commercial ones (see, for instance, the repository of initiatives

mapped by the EU project DSU4EU).

Inequalities and injustices are also crucial to understanding the pandemic. Its direct and indirect effects have been obviously highly selective among places and social groups (see, for example, [Huang et al., 2022](#); [Herod, Gialis, Psifis, Gourzis, & Mavroudeas, 2022](#)). Even the epidemiology of Covid-19 is deeply entangled with sociospatial inequalities ([Jeanne, Bourdin, Nadou, & Noiret, 2022](#)), as long as the conditions that make the virus medically threatening “are clustering within social groups according to patterns of inequality deeply embedded in our societies”, Covid-19 is not a pandemic but a “syndemic” ([Horton, 2020](#)). The emergence, spread, effects and implications of Covid-19, both during the height of the emergency and in the post-pandemic, cannot be abstracted from the materiality of social processes, geographical spaces and spatial relations it intersects.

Outline of the special issue

In the first article, Natasha Webster and Qian Zhang perform an ethnographic content analysis of how Swedish-language newspapers narrated platform-mediated work, on-demand services and the gig economy, during – and in relation to – the pandemic. The aim is to see how understandings of the platform economy are temporally and contextually built, and how they intersect other societal issues such as labour conditions, sociospatial inequalities and segregation, and the role of the (welfare) state. The theoretical lens is that of intersectionality, in order to highlight the role of power structures in shaping the multiple dimensions of labour injustices ([Elwood, 2021f](#)). The poor working conditions of digital workers are inherent to the functioning of the platform economy – albeit such dimension is substantially absent from the media – but also reflect broader societal and labour inequalities. “To understand the role of digital spaces in lived lives” – the authors argue – “we must extend our sites of inquiry beyond technology and its explicit (intended) use” ([Webster & Zhang, 2022](#), p. 11). Moreover, recent attempts to regulate the gig economy will not be sufficient. The reconfiguration of working and social relations, spaces and places, induced by the platform economy, require a renegotiation of the relations between the state, capital and labour.

The second article is also about platform-mediated work, particularly online food-delivery platforms, from the perspective of both providers and users. The aim is to reflect upon how the pandemic influenced the sociospatial dynamics surrounding the platformization of food distribution and consumption. Through qualitative interviews with company officials, delivery workers, union representatives and restaurant owners, Yannick Ecker and Anke Strüver reconstruct how platform-mediated food services developed in Graz (Austria) before and during the pandemic. The authors challenge the narrative of capital-driven and pervasive platformization induced by techno-capitalism alone, highlighting the role of other long-term enabling conditions such as neoliberal restructuring, financialization, the crisis of social reproduction, changes in the organization of work, in societal values and workers' rights. From this perspective, the article engages critically with scholarly debates about platform urbanism and highlights the insufficiency of actually existing alternatives to corporate platforms.

Non-corporate initiatives and platform urbanism is also the starting point of the third article, by Filipe Mello Rose. The contribution aims to investigate how local non-corporate platforms develop and function, focusing on how these “glitches” in platform capitalism ([Leszczynski, 2020](#)) persist, notwithstanding the competition of transnational and larger ones. The case studies are two very different initiatives in the sphere of opensource software-based platforms and platform cooperativism, originating in Amsterdam and Barcelona, and focus on how they are created, maintained, implemented, disseminated and managed. The article explains that the (seemingly) puzzling persistence of those platforms is due to their network embeddedness – i.e. intense relationships and cooperation with other entities – and local embeddedness – i.e. their attention to contextual, cultural, political, normative, and institutional

conditions.

In the fifth article, Yung Au takes the discussion of local platforms vis-à-vis corporate ones to Honk Kong, in light of both the Covid-19 pandemic and the ongoing protests against the introduction by the Hong Kong government in 2019 of the extradition bill. Some of the several local digital initiatives which flourished in the city during those years – and particularly local social media, digital city guides and ride-hailing services – are compared to larger, transnational platforms, in terms of their scale, data extraction routines, moderation styles, data sharing policies, political neutrality, ownership, and local embeddedness. The strength of local platforms, it is argued, resides in their sensitivity to a very peculiar context and their ability to provide tailored services to a specific and smaller user-base for which anonymity, privacy and decentralisation is vital. Such a specific conjuncture permits highlighting what the platform economy could look like when the extraction of value and accumulation of profits is not the only priority.

Inka Santala & Pauline McGuirk, in the sixth article, reflect upon those ‘communal sharing’ initiatives that emerged as a more or less direct response to the pandemic. By drawing upon research on transformative social innovation and post-capitalist alternatives, the article proposes a post-structuralist understanding of communal sharing platforms and practices, as interdependent social relations between cities' inhabitants, economies and governments. Those forms of sharing, it is argued, cannot be understood only as a response or resistance against neoliberal restructuring, as they are both shaped by and producing new understandings of being, doing and thinking the city. This approach allows for a more comprehensive and generative appreciation of the potential of communal sharing vis-à-vis the accelerations of platform capitalism.

The following two articles are both about the ‘dark side’ of what has been defined as the ‘sharing economy’, and the segment of the platform economy that is probably the more disruptive for cities: online short-term rentals platforms.

Deviating from the other cases discussed in this special issue, Antonello Romano considers how the acceleration of platform-mediated tourism has been temporarily paused by Covid-19. The article takes this occasion to provide an empirical and spatial analysis of how the pandemic shock affected the number, characteristics, location of, and demand for, short-term rental listings in some of the main Italian touristic cities. The analysis highlights the peculiar spatial distribution of Airbnb listings' deactivation, as well as where the demand for this form of accommodation decreased the most. Further than providing detailed empirical data and maps, the analysis is also an occasion to reflect upon the potential long-term consequences of the pandemic in light of the changing spatiality of digital intermediation.

The penultimate article presents a debate between Agustín Cocola-Gant, Simone Tulumello, Chiara Iacovone, Dimitris Pettas and Myrto Dagkoulis-Kyriakoglou about what the perspectives are for short-term rentals and related digital platforms in the (post-)pandemic city, also considering previous signals of change in their spatialities and institutional settings. Travelling from Lisbon (Portugal) to Athens (Greece), the debate engages with many crucial critical issues such as digital disruption, the platformization of cities, how it reacted and adapted to the pandemic, the de-regulation of housing and rental markets, the professionalization of the sharing economy, the implications of remote work and of the increasing digitally mediated deterritorialization of labour.

In the final article, Niccolò Cuppini, Mattia Frapporti and Maurizio Pirone outline a conceptual and methodological proposal aimed to investigate the territoriality and impact of digital platforms in cities through what they define a “trans-urban approach”. Drawing upon the socio-historical development of the platform economy and its relations with the restructuring of capital and urbanization, the article merges reflections about the role of technology from a cyborg perspective, critical research on the reconfiguration of geographical scales, a reinterpretation of the concept of the “world-ecology”, and debates about planetary urbanization.

Far from being exhaustive, the collection touches upon some concepts, themes and reflections that were crucial in previous debates about platformization and/in cities, and that - we believe - are particularly important in light of what happened during the pandemic, and in order to speculate about what a post-pandemic scenario may look like.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

- Aalbers, M. B., Beerepoot, N., & Gerritsen, M. (2020). The geography of the COVID-19 pandemic. *Tijdschrift voor Economische en Sociale Geografie*, 111(3), 201.
- Ash, J., Kitchin, R., & Leszczynski, A. (2018). Digital turn, digital geographies? *Progress in Human Geography*, 42(1), 25–43.
- Avermaete, T. (2020). The Places of the Platform: Urban Space and Platform Urbanism. <https://www.platform-austria.org/en/blog/the-places-of-the-platform-urban-space-and-platform-urbanism>.
- Barns, S. (2019). *Platform urbanism: Negotiating platform ecosystems in connected cities*. Springer Nature.
- Budnitz, H., & Tranos, E. (2022). Working from home and digital divides: Resilience during the pandemic. *Annals of the American Association of Geographers*, 112(4), 893–913.
- Caulier-Grice, J., Davis, A., Patrick, R., & Norman, W. (2012). *Defining social innovation*. TEPSIE, European Commission Brussels.
- Celata, F., Capineri, C., & Romano, A. (2020). A room with a (re)view. Short-term rentals, digital reputation and the uneven spatiality of platform-mediated tourism. *Geoforum*, 112, 129–138.
- Certomà, C. (2020). Digital social innovation and urban space. A critical geography agenda. *Urban Planning*, 5(4), 8–19.
- Cockayne, D. (2021). The feminist economic geographies of working from home and "digital by default" in Canada before, during, and after COVID-19. *The Canadian Geographer/Le Géographe canadien*, 65(4), 499–511.
- De Cindio, F., & Aurigi, A. (2008). *The augmented urban space*. London: Routledge.
- Elwood, S. (2021). Digital geographies, feminist relationality, Black and queer code studies: Thriving otherwise. *Progress in Human Geography*, 45(2), 209–228.
- Florida, R., Rodríguez-Pose, A., & Storper, M. (2021). Cities in a post-COVID world. *Urban Studies*. <https://doi.org/10.1177/004209802110180>
- Graham, M. (2020). Regulate, replicate, and resist—the conjunctural geographies of platform urbanism. *Urban Geography*, 41(3), 453–457.
- Graham, M., Zook, M., & Boulton, A. (2013). Augmented reality in the urban places: Contested content and the duplicity of code. *Transactions of the Institute of British Geographers*, 38(3), 464–479.
- Hearn, A. (2010). Structuring feeling: Web 2.0, online ranking and rating, and the digital 'reputation' economy. *Ephemera*, 10(3/4), 421–438.
- Herod, A., Gialis, S., Psifis, S., Gourzis, K., & Mavroudeas, S. (2022). The impact of the COVID-19 pandemic upon employment and inequality in the Mediterranean EU: An early look from a labour geography perspective. *European Urban and Regional Studies*, 29(1), 3–20.
- Horton, R. (2020). COVID-19 is not a pandemic. *The Lancet*, 396(10255), 874.
- Huang, X., Lu, J., Gao, S., Wang, S., Liu, Z., & Wei, H. (2022). Staying at home is a privilege: Evidence from fine-grained mobile phone location data in the United States during the COVID-19 pandemic. *Annals of the American Association of Geographers*, 112(1), 286–305.
- Issar, S., & Aneesh, A. (2022). What is algorithmic governance? *Sociology Compass*, 16(1), Article e12955.
- Jeanne, L., Bourdin, S., Nadou, F., & Noiret, G. (2022). Economic globalization and the COVID-19 pandemic: Global spread and inequalities. *GeoJournal*. <https://doi.org/10.1007/s10708-022-10607-6>
- Kinsley, S., McLean, J., & Maalsen, S. (2020). Editorial. *Digital Geography and Society*, 1(1), 1–3.
- Langley, P., & Leyshon, A. (2017). Platform capitalism: The intermediation and capitalisation of digital economic circulation. *Finance and Society*, 3(1), 11–31.
- Leszczynski, A. (2020). Glitchy vignettes of platform urbanism. *Environment and Planning D: Society and Space*, 38(2), 189–208.
- Lin, W. (2022). Automated infrastructure: COVID-19 and the shifting geographies of supply chain capitalism. *Progress in Human Geography*, 46(2), 463–483.
- Loukis, E., Charalabidis, Y., & Androutsopoulou, A. (2017). Promoting open innovation in the public sector through social media monitoring. *Government Information Quarterly*, 34(1), 99–109.
- Massey, J., & Snyder, B. (2015). The Hypercity that occupy built. In J. Geiger (Ed.), *Entr'acte. Avant-Gardes in performance*. New York: Palgrave Macmillan.
- Mezzadra, S., & Neilson, B. (2017). On the multiple frontiers of extraction: Excavating contemporary capitalism. *Cultural Studies*, 31(2–3), 185–204.
- Nielsen, J. (2006). *The 90–9–1 Rule for Participation Inequality*. Social Media and Online Communities, October 9, 2006. Nielsen Norman Group. <https://www.nngroup.com/articles/participation-inequality/>.
- Poell, T., Nieborg, D., & van Dijck, J. (2019). Platformisation. *Internet Policy Review*, 8(4), 1–13.
- Rose-Redwood, R., Kitchin, R., Apostolopoulou, E., Rickards, L., Blackman, T., Crampton, J., Rossi, U., & Buckley, M. (2020). Geographies of the COVID-19 pandemic. *Dialogues in Human Geography*, 10(2), 97–106.
- Sadowski, J. (2020). Cyberspace and cityscapes: On the emergence of platform urbanism. *Urban Geography*, 41(3), 448–452.
- Söderström, O., Paasche, T., & Klausner, F. (2014). Smart cities as corporate storytelling. *City*, 18(3), 307–320.
- Sparke, M., & Angelov, D. (2020). Contextualising coronavirus geographically. *Transactions of the Institute of British Geographers*, 45(3), 498–508.
- Srnicek, N. (2017). *Platform capitalism*. Polity Press.
- Terranova, T. (2000). Free labor: Producing culture for the digital economy. *Social Text*, 18(2), 33–58.
- de Waal, M. (2014). *The City as Interface: How new media are changing the City*. Rotterdam: NAI010 Publishers.
- Webster, N. A., & Zhang, Q. (2022). Intersectional understandings of the role and meaning of platform-mediated work in the pandemic Swedish welfare state. *Digital Geography and Society*. <https://doi.org/10.1016/j.diggeo.2021.100025>. this issue.
- Zuboff, (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. New York: Public Affairs.
- Zukin, S., Lindeman, S., & Hurson, L. (2017). The omnivore's neighborhood? Online restaurant reviews, race, and gentrification. *The Journal of Consumer Culture*, 17(3), 459–479.