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Coordinating the city: platforms as flexible spatial arrangements

Abstract
The problems and possibilities of platforms in cities lie in their constitution in urban space, thus moving away from a focus purely on the platform as company, and its on-screen interface and algorithm. The geography of urban platforms is distinct from both the space of a network and the place of node, although it draws on both. The platform is a flexible spatial arrangement that does not have a fixed territory but rather draws on other territorialised networks to actualise in urban form. The capacity for the platform to act therefore occurs through its ability to articulate together more or less territorialised urban elements. It implies a reorganisation of urban operations (such as transport, housing and so on) not through new physical infrastructures, but instead through novel technologies of coordination of those already existing. At present, discussion of platforms in cities is dominated by the platform as company, which generates private value from the coordination of differently networked actors. However, appreciating the urban geography of the platform as a flexible spatial arrangement indicates that platforms can hold much promise for the organisation of cities but requires a more equitable distribution of the value generated by coordination of urban actors.

Key Words: Platforms, flexibility, agency, arrangement, urban space

Both the problems and the possibilities of platforms in cities can be better understood by examining how they manifest through urban space. This departs from the dominant foci of critical study of platforms to date, which has emphasised the platform as company and the platform as on-screen interface and hidden algorithm. The perspective of the platform as company is exemplified in Srnicek's (2017) elaboration of "platform capitalism". For Srnicek, platforms are first and foremost understood as companies; "economic actors" that pursue particular courses of action for business needs, unfolding within a changing but nonetheless relatively linear logic of capitalism. The latter focus on the platform as on-screen interface and algorithm is apparent in questions of "platform labour" (van Doorn 2017), which consider the problematic forms of disembodied control that workers are subjected to when engaging in paid tasks assigned through platform companies. Without dismissing these perspectives outright, platforms nonetheless cannot be reduced to the organization of a company, but rather are manifest in cities through the *coordination* of urban networks (e.g. Davies et al 2017; McLaren and Agyeman 2015). Existing and sometimes new urban networks are coordinated to manifest as *flexible spatial arrangements* that are territorialised through a range of networked urban entities beyond that of the interface and the algorithm.

(i) More than the company: platforms as coordinating urban networks

To limit understanding and critique of the platform to a company risks attributing the agency of platforms to a single, bounded organization. In part, this is a problem of language where a basic distinction has not been upheld in common parlance between the name of the company – e.g. "Deliveroo" - and an urban process – e.g. food delivery - established through a technology of coordination developed by that company. This is a distinction that, at times, is in fact insisted upon by platform companies themselves so as to diminish their responsibilities; arguing that beyond their coordinating technology, the action of and impacts on entities such as labour, property and so on, lies outside of their control. However, an examination of the technical constitution of platforms from a computational perspective indicates that there is some legitimacy to this claim by the companies. Computer platforms are entities that can be programmed by external actors. For example, the social media *platform* is distinct from the social network *site* because of its Application Programming Interface (API) that allows structured access to a website and its data, thus turning it into "a

platform that others can build upon" (Helmond 2015, 4). The social media platform therefore operates as a programmable space in which differently networked entities, such as different user's content, can be articulated together, for example as "feeds". The integration of these different networks relies upon apparently contrary logics of decentralisation and recentralisation, where the production of the data underpinning social media platforms is decentralised, occurring beyond the platform itself, but data collected as a result of entities (e.g. users) engaging with the platform is recentralised (Helmond 2015). The platform then provides the conditions of visibility for the articulation of different *decentralised* networks, and further, reflexively creates relationships between these differently networked participants in a *recentralised* projection based on their real-time changing activities.

Whilst for the social media platform this manifestation is primarily the renewal of visible content via a website or application, for Deliveroo it is first and foremost the achievement of meal delivery. Deliveroo articulates different networks of food service production through restaurants and recentralises relationships between these networked sellers and consumers via the platform interface through a projection of real-time measures of the delivery route. The platform thus draws upon the capacities to act of the different entities that are engaged with it and their networks, and is manifest in the coordination of these actions through urban space. Such a form of urban space has parallels to that underpinning what have been termed "post-structural" approaches to the city (Storper and Scott 2016). This perspective, albeit not necessarily a coherent one, emphasises the distributed nature of agency and the contingencies of individual actions through a constructionist approach to urban space that draws upon notions of actor-networks and, particularly prominently, assemblages (McFarlane 2011). In French, *agencement* (from which the English "assemblage" is often translated) offers a sense of spatial arrangement, but not one that is static or fixed (Callon 2016). Rather, agencement denotes the processes of bringing together elements, but this processual form still has a capacity to act as some sort of whole with some identity and claims to a territory (Wise 2013). This bears parallels to the urban manifestation of the platform, which rather than simply being an actor – a company – is a collection of differently networked actors operating in concert.

(ii) More than the interface and algorithm: platforms as flexible spatial arrangements
An investigation of urban platforms beyond the company, therefore also means extending the foci of study beyond the interface and algorithm. Instead, the platform can be understood as *flexible spatial arrangement* whose action arises through coordinating networked entities acting with differing degrees of independence. This arrangement is territorialised through these differently networked entities, which themselves are mobile rather than fixed. Returning to Deliveroo: the platform is not simply a virtual framework of spatial and temporal coordination of restaurant and customer, but rather territorialises this link through the delivered meal. Such territorialisations of the platform – the delivered meal, the hailed ride, the space to sleep – are not in any simple sense "objects", but rather are materialisations of the flexible spatio-temporal arrangements that occur through the calculated coordination of the different actors. The platform thus implies a reorganisation of urban operations (such as transport, housing and so on) not through new physical infrastructures, but instead through novel technologies of coordination that can reterritorialise those already existing. By providing a framework where different networks are visible to each other, the platform produces a new form of collective or public infrastructure, albeit neither free to use nor provided by the state. At present, these technologies of coordination are dominated by the platform as company, which generates private value from the coordination of differently networked elements and tends to disguise forms of labour involved. As Langley and Leyshon (2017) argue in relation to online platforms, the intention is to encourage forms of economic circulation in order to generate value by increasing their network effects.

For platform companies operating in an urban context then, value is accrued through their capacities to organise different network functions and to realise them in discernible commodities such as the delivered meal. Further, in order to do this, platform companies necessarily standardise the way in which different actors engage with the platform as a coordinating technology (Langley and Leyshon 2017). So whilst the arrangements of platforms produce similarities to the spatial form of an "agencement" with its distributed capacities to act, the current predominance of the platform as company invites critique that focuses on concentrations of agency. The urban platform therefore invites an approach to critique that necessarily retains some of the "structural" elements that are sometimes found wanting in post-structural approaches to the city. This is because of the unequal distribution of value generated from the roles of different actors in the arrangement, including those of labour, together with the requirements of those actors to meet certain standards so that they can participate. In other words, whilst the actors constituting the flexible spatial arrangement all retain degrees of independence, the enactment of the flexibility of the platform places heightened demands on certain actors – such as riders in the case of Deliveroo - so that others elsewhere in the arrangement can be more independent (Richardson 2019). Together then, appreciating the urban geography of the platform as a flexible spatial arrangement indicates that platforms can hold much promise for the organisation of cities (e.g. as sustainable) but requires a more equitable distribution of the value generated by coordination of urban actors that lie outside the platform as company.

References
1. Callon, M. 2016. "Revisiting Marketization: From Interface-Markets to Market-Agencements." *Consumption Markets & Culture* 19 (1): 17–37.

2. Davies, A., Edwards, F., Marovelli, B., Morrow, O., Rut, M., & Weymes, M. 2017. "Making Visible: Interrogating the Performance of Food Sharing across 100 Urban Areas." *Geoforum* 86 (November): 136–49.

3. Helmond, A. 2015. "The Platformization of the Web: Making Web Data Platform Ready." *Social Media + Society* 1 (2).

4. Langley, P. & Leyshon, A. 2017. "Platform Capitalism: The Intermediation and Capitalisation of Digital Economic Circulation." *Finance and Society* 3 (1): 11–31.

5. McFarlane, C. 2011. "The City as Assemblage: Dwelling and Urban Space." *Environment and Planning D: Society and Space* 29 (4): 649–71.

6. McLaren, D., & Agyeman, J. 2015. *Sharing Cities: A Case for Truly Smart and Sustainable Cities*. Urban and Industrial Environments. Cambridge, MA: MIT Press.

7. Richardson, L. 2019. "Platforms, Markets, and Contingent Calculation: The Flexible Arrangement of the Delivered Meal." *Antipode*, June [online first].

8. Srnicek, N. 2017. *Platform Capitalism*. Theory Redux. Cambridge: Polity.

9. Storper, M., & Scott, A. 2016. "Current Debates in Urban Theory: A Critical Assessment." *Urban Studies* 53 (6): 1114–36.

10. Van Doorn, N.. 2017. "Platform Labor: On the Gendered and Racialized Exploitation of Low-Income Service Work in the 'on-Demand' Economy." *Information, Communication & Society* 20 (6): 898–914.

11. Wise, J. 2013. "Assemblage." In *Gilles Deleuze: Key Concepts*, 91–102. Acumen Publishing Limited.