# Infrastructure Power, Circulation and Suspension

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This brief commentary begins with the premise that infrastructures are not neutral technical platforms upon which more interesting social activities (such as various kinds of mobility) occur. Instead, infrastructures are more productively understood as bundles of socio-technical relations, and these relations shape in often unintended ways the social, political, economic, and environmental effects of infrastructural configurations. *Infrastructural power*, then, is understood as a relational form of power emergent within infrastructural configurations themselves, rather than simply as pre-existing state power channeled through infrastructures. This approach suggests that mobility is more than just a social construction or an outcome of state policy, but is generated through infrastructural power. Drawing on research on new town development in China, I argue that new patterns of mobility – what I call 'suspended circulation' – emerge as effects of the spatial configurations created by infrastructures that have preceded urbanization in these places. These new patterns of mobility involve the continuous circulation of precarious labor throughout ever-expanding spaces of urban development. While this aligns in many ways with the modernist and developmentalist projects of the state, it also indexes a form of material power over which the state has limited control.

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Infrastructure is, by definition, a mobility platform. As Brian Larkin (2013) has put it, infrastructure is matter that enables the movement of other matter. In his extended etymology of the term, Ashley Carse (2017) tells us that in the early 20th century infrastructure referred to the organizational work required before railroad tracks could be laid. Mobility is, in many ways, the whole point of infrastructure: getting something from here to there. In the infrastructures that I have explored in my own research in China – mostly new roads and highways, high-speed rail lines, as well as new digital infrastructures – the intent of their construction has been to establish new scales of mobility (such as facilitating faster commutes, expanding labor markets, and enabling e-commerce in far-flung hinterlands). This has been viewed as necessary for the large-scale urban

regions being built throughout China to function as economically integrated spaces. Again, mobility is the point of all this massive investment.

But infrastructure is not a neutral, technical platform upon which more interesting social activity (like mobility) occurs; it is a socio-technical assemblage of human and non-human things. As Carse's etymology suggests, infrastructure is a system of organization, a relation among things. Organizations have certain dispositions, or propensities, to do things that may or may not align with the declared purpose of the organization. The dispositions of infrastructures derive from the spatial relations of their various components. As Keller Easterling (2014) puts it, "physical objects in spatial arrangements, however static, also possess an agency that resides in relative position. Disposition is immanent, not in the moving parts, but in the relationships between the components" (p. 72). This suggests a question: to what extent do the dispositions of infrastructures built to enhance mobility complicate or work against their primary intent? To what extent do relational dispositions create *uneven* patterns of mobility? Or new blockages? To what extent are older patterns of mobility *rendered immobile*, even as new patterns of mobility emerge?

In some ways, it is no surprise that, for instance, a new multilane limited-access highway would enhance mobility for some while limiting it for others. This has been demonstrated empirically in China (for example, Zhu & Hu, 2019). And I have noticed many instances of this in my own fieldwork, where new highways have sliced through farmland, separating villagers from their fields, obliterating their older access roads. While these questions help us link the relational power of infrastructural formations to certain social effects, I am interested in pushing beyond the effects of infrastructural dispositions to consider the ways these relate to state power. Infrastructural power is often *captured* by the state (especially in China), but also *exceeds* the state, given its emergence within the organizational relations of infrastructures themselves. This means that infrastructural formations cannot always be relied upon to produce their intended effects for the state.

The massive infrastructure investments undergirding rapid urbanization and economic development in China are not merely the outcome of the state's fundamental belief that infrastructure investment needs to run ahead of demand (Li et al., 2017). Infrastructure is itself a field of power through which the state wields authority and asserts domination over society. State power in China is, at least in part, constituted through infrastructure. As Lampton et al. (2020) have argued, Beijing believes that "infrastructure provides the pathways along which power in its coercive, economic, persuasive, and ideational forms moves. Infrastructure is the grid through which all forms of power move. Infrastructure lies at the core of China's future power and welfare" (p. 57). But if we are to take seriously the argument that infrastructural power emerges from its relational and dispositional characteristics, then whatever "Beijing believes" is secondary to what infrastructure *actually does*.

In these terms, infrastructural power might be thought of as a materialist reframing of what Foucault (2004) calls biopower. If biopower involves tactics and mechanisms of power that focus on life, infrastructural power involves the technologies that shape access to basic goods and services, to systems of provision and mobility. Here we might return to a broader definition of infrastructure, again provided by Larkin (2008): "the totality of both technical and cultural systems that

create institutionalized structures whereby goods of all sorts circulate, connecting and binding people into collectivities" (p. 6). This definition has the benefit of not reducing infrastructures to strictly technical systems, as it includes cultural practices, institutional structures, and the fact that social formations are an outcome of these. This is both a *processual* and *relational* definition. Drawing on this, we could say that infrastructural power determines who and what is authorized to move, whose lives and what materials are valued. By capturing this kind of power, infrastructure states like China build themselves into the lives of citizens in fundamental ways, shaping access to the city, to transport, to public goods, to work (Byler, 2020).

In his analysis of the historical shift from despotic to infrastructural states, Michael Mann (2003) suggests that infrastructural power is the state's capacity to penetrate (rather than oppress) civil society and autonomous social life, that is, to 'territorialize' social life. The state, he argues, does this via transport and communication infrastructures, standards and regulations, provision of education, and so on. The extent of the state's control of the infrastructures of social life is the extent of its infrastructural power. Keller Easterling's (2014) version of infrastructural power is quite different from Mann's, since – as already mentioned – it derives from the distributed agency (the dispositions) of infrastructural configurations. Easterling thus counterposes the dispositional logics of infrastructures, particularly in the spatial formations of special economic zones, with the logics of statecraft and finds in them a form of "extrastatecraft".

Mann's version of infrastructural power actually tracks better with most critical analyses of Chinese statecraft than Easterling's, which neglects the administrative and territorial power that the Chinese state holds over infrastructure space. But both approaches share an understanding of infrastructural power as distributed, as emerging not from the state *per se* but rather from the social relations that revolve around infrastructure development and provision. Both, in other words, offer a fundamentally *relational* understanding of infrastructural power, of power emerging in the socio-technical relations that constitute infrastructural systems and organizations. This means that infrastructural power does not itself emerge from the state but rather that state power is co-constituted through infrastructural configurations.

The question then becomes: to what extent has the state been able to capture infrastructural power and direct it to its own benefit? And, to what extent, and in what instances, has the state been *unable* to control infrastructural power? These questions have significant bearing on how we think about infrastructural power and mobility because they require that we separate analytically the state from the infrastructures themselves.

In my own work on infrastructural urbanism in China, I have been fascinated by the ways new patterns of urbanization associated with the infrastructures of special economic zone development have raised questions about whether we can really think about urbanization as a linear process of transition from 'rural' to 'urban', with something recognizable as 'the city' occupying the endpoint of this transition. In China's National New Areas, such as Gui'an, where I was conducting ethnographic fieldwork before the pandemic, a 'city-to-come' was promised by the infrastructural grid of roads and communications that was laid out on an otherwise largely rural landscape. This city-to-come, residents were told, would be sustainable and smart; it would be a model

for other cities; it would cure the ills of China's 'urban sickness'; it would occupy the end-point of a transition from rural to urban, from poverty to wealth, from backwardness to civilization. Here, one might think, was the infrastructural power of the state, expressed in its sheer audacity to build an entirely new city from scratch.

But if we consider the dispositions of the infrastructures that preceded this city-to-come, we are confronted with a space where processes of change are driven not by the state *per se* but by the spatial configurations created by those infrastructures themselves. Here is where we find infrastructural power at work. In this particular case, I found that a logic of (what I call) *suspended circulation* held sway, where the survival of the previously rural residents of the city-to-come depended on unsettled innovation, transience, and provisionally making do in a space that seemed to function more like a platform. Gui'an's 'purpose', in other words, might be rethought less in terms of the policy prescriptions that were laid out for it as an experimental demonstration site for digitally mediated poverty relief, ecological sustainability, and smart city development. Instead, its purpose – for the people who live there and carry out their livelihoods there – was *circulation*. And the dominant experience for these people has become one of *suspension*, a state of temporal indeterminacy, but also a state of remaining *in solution*, not settling.

Gui'an is now a kind of operational landscape where precarious labor is maintained through an infrastructure that facilitates the informalization and platformization of that labor; Gui'an has turned into a kind of mobility platform. While the city-to-come envisioned a new kind of place to dwell, the infrastructural power of the space produced, instead, a space of perpetual motion. What was imagined – in the renderings and planning statements – was a city where enhanced mobility (broad multi-lane avenues, state-of-the-art expressways) would attract middle-class tech workers looking to escape the dreary confines of Shanghai, Shenzhen, or Beijing. What the infrastructures actually did, instead, was induce mobility for a newly uprooted precariat of former villagers. That the infrastructures did this should not be surprising. To study a city, Ritajyoti Bandyopadyay (2022) reminds us, is to study the social production of motion. We might amend this to say cities are socio-technical assemblages of mobility (Amin and Thrift, 2017). But Bandyopadyay's argument is also instructive for his consideration of motion as an *involuntary* aspect of urban society and economy because it is compelled by the movement of capital. In this situation, blockage of mobility – or refusal to move – becomes an act of disruption and resistance to class power.

Foucault (2004, p. 30) understood modern governance, in part, as a question of the *circulation* – rather than the territorialization – of power. Modern governance emerged, he suggested, in urban infrastructure projects that sought to maximize circulation for the purposes of improved hygiene, more efficient trade both within the town and between the town and the broader economy, and new forms of surveillance that were necessary to maintain control over the increasing numbers of bodies in circulation. As a configuration of infrastructures, Gui'an has a propensity to facilitate circulation; mobility has, in turn, become the *necessary* means with which to make the New Area beneficial to one's life. The roads are *inviting*; people *want* to be on the move; they do not want to settle in the housing developments that have been built to replace all the demolished villages.

As a mobility platform, Gui'an reminds us that infrastructures of circulation are necessary for platforms to work. Circulation is necessary for what Tadiar (2016) calls the 'vital infrastructure' of surplus-value extraction. Just as the circulation of capital is necessary for extracting value, so is the circulation of bodies a necessary infrastructure for value extraction. For Tadiar, expressways are the infrastructure that turns a city into a zone for the global urban economy; they facilitate the core work that defines the city – that is, circulation. "Expressways are the technological-infrastructural means of sublation of the (once rural) provinces into a world-wide 'trans-territorial city', or, uber-metropolis" (Tadiar, 2016, p. 61). For Tadiar, vital infra-structures facilitate the circulation of disposable bodies.

The blockage of mobility might be viewed in some places as an effort to counteract the propensity of infrastructure power toward perpetual motion (Clover, 2016). But in China people have overwhelmingly sought to do whatever they can to access the mobil-ity promised by new infrastructural formations. Here, immobility is feared as a kind of imprisonment, a denial of the opportunities that China's growing economy promises as long as one is willing to hit the road and chase them. And yet, even in mobility, there is a kind of suspension of that promise. As Xiang Biao (2021) has written, 'suspension' – or 悬浮 in Chinese – is a keyword of contemporary life in China, but one that signals a popular unwillingness to contest the infrastructural power within which people live. "In suspension," Xiang (2021) notes, "people move frequently and work tirelessly in order to benefit from the present as much as possible, and escape from it as quickly as they can. It follows the motto: 'Make as much [money] as you can now, then move on quickly'. Little energy is invested in systemic changes here and now, as people keep moving without an end in sight. The condition is structurally compelled but also self-inflicted. It partly explains why we see tremendous entrepreneurial energy in daily life in China but few bottom-up initiatives for social and political change" (p. 234).

There are two distinct but overlapping meanings of the English word suspension. One is the idea of something hanging, stuck perhaps, or *temporarily immobile*. This is the city-to-come that remains just out of reach, waiting to happen. Henri Lefebvre (1995) once compared the modernist new towns of post-war France to a cake waiting to be made, waiting for its ingredients, waiting in suspension. But the other meaning derives from mobility rather than blockage. This is the idea of particles in solution: a state of being dispersed in fluid, *suspension in circulation*.

Both of these meanings of suspension are felt in the indeterminacy of Gui'an as a promised city-to-come. Both offer compelling metaphors for living in the infra-structure space of contemporary China. But the second meaning captures better the actual lives of formerly rural people who have been compelled to become mobile because their livelihoods now depend on it. Infrastructures induce mobility; they unsettle settlement (largely through demolition); they create suspended circulation; that is their disposition.

To conclude, there are two aspects of the relationship between mobility and infrastructure running through this brief commentary. The first is relatively simple: mobility is more than just a social construction (cf. Urry, 2000; Sheller & Urry, 2006) or an outcome of state policy; it is more fundamentally a socio-technical effect of infrastructure. This aspect, we might say, derives from paying more attention to the ways the social is co-constituted by non-human materialities (Coole & Frost, 2010).

The second is more complicated: mobility is an effect of *infrastructural power* and, as such, emerges from the spatial relations of infrastructural formations. Infrastructure power is often captured by the state and often aligns with the state's priorities. But it also exceeds the state and produces social and political effects that may not always align with those priorities. In Gui'an, I have argued here, this has happened in that the state's infrastructural urbanism has produced more of a circulation machine for sustaining precarious labor than the city that was promised.

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## DISCLOSURE

The author declares no conflict of interest.