

Intensity, infrastructure, aquatectonics

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Abstract

This article uses the Belt and Road Initiative to theorize the relation between *intensity* and *infrastructure*. It makes two theoretical claims. First, intensive flows simultaneously reveal and give rise to infrastructural formations. Second, infrastructural formations functionally re-channel the intensities that reveal or give rise to them in the first place. The article introduces the notion of *aquatectonics* to explore the confluence between intensive flows and infrastructural formations in the context of the Belt and Road Initiative. It argues that an account of this flows–formations nexus is necessary for understanding China’s infrastructural aspirations, while enabling broader, potentially planetary considerations of the ‘old’ intensive roots of putatively ‘new’ infrastructural formations.

Keywords

Infrastructure, intensity, mobilities, semiotics, Belt and Road Initiative

Introduction

The Silk Road by land and the Spice Route by sea are romantic names to describe the trade arteries that ran between the West and the East. *Neither was planned*, and both *grew by stages* for caravans and caravels alike – P. J. Rivers (2004) (emphasis added)

Scholars engaged in the so-called infrastructural turn often go out of their way to rhetorically capture the putative ‘newness’ of ‘new’ infrastructural formations, or the newly ‘experimental’ or ‘emergent forms of life’ they enable or engender (Fischer, 2005; Jensen and Morita, 2017). Yet, these rhetorical sleights of hand do not fully highlight the ways in which ‘new’ infrastructures are often formulated as historical inheritances, explicitly linked by states to much ‘older’ historical processes. From Xi Jinping’s ‘belt and road initiative’, to Indonesian President Joko Widodo’s ‘global maritime fulcrum’, to U.S. President Donald Trump’s ‘big beautiful wall’, infrastructure initiatives are often envisioned by those who formulate them not simply as ‘new’ concerns in the here-and-now of shifting global power configurations, but as ‘newly’ emergent tokens of ‘older’ historical types. They are contemporary ripples or reflections emerging from the whirlpool of historically intensive flows of people and values across wide swaths of space and time.

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This article – viewed with an eye to the series of papers of which it is a part – attends to new infrastructures in an era of shifting power configurations. We are not concerned with ontologically ‘new’ infrastructures per se, but are instead ruminating on the relative ‘newness of old things’ (Bate, 2009).¹ After all, and as Rivers (2004) suggests with respect to the development of the Silk Road by land and the Spice Route by sea, those intensive forces like winds, currents and monsoons that haphazardly shaped ancient ‘arteries of interaction’ (Xi, 2017) are as old as time.² Across historical-cum-interactional time-scales, flows of people, goods and values carved semi-regular routes out of otherwise tempestuous terrains, much like how the flows of rivers and attendant processes of erosion carve perduring canyons out of fluctuating geological landscapes. As infrastructural formations, then, the Silk Road and Spice Route were precipitates of intensive, ‘anexact but rigorous’ (Delanda, 2002; Deleuze and Guattari, 1987: 367) flows of caravans and caravels across vast steppes and seascapes.³

In this sense, ‘infrastructures’ are assemblages of ‘affordances’ (Gibson, 1977) that enable and constrain trajectories and intensities of flow. Simply put, they are grounds against which certain flows come to figure. And yet, the nature of infrastructural formations is only indexically revealed or apperceived through recourse to such flows. As Rivers (2004) reminds us with respect to the ancient Silk Road by land and Spice Route by sea, participants in ever intensifying flows across steppes and seascapes came to intuit something about the infrastructural formations immanent to the environments they traversed. That is to say, intensive flows simultaneously revealed and gave rise to ever mutating ‘arteries’ – in President Xi’s (2017) parlance – whose aggregate rhythms, trajectories and intensities would eventually serve as inspiration and ideal for the contemporary BRI.

Intensive flows reveal and give rise to *infrastructural formations*. However, why the focus here on ‘infrastructural formations’ as opposed to the ‘infrastructural forms’ (Anand et al., 2018) explored elsewhere in the infrastructure studies literature? Theoretical work on the ‘poetics of infrastructure’ (Larkin, 2013; Wuebben, 2017) has explored how infrastructure’s aesthetic form becomes ‘loosened from technical function’ (Larkin, 2013: 336), demonstrating in compelling ways how infrastructures ‘exist as forms separate from their purely technical functioning’ (Larkin, 2013: 329). Yet, inspired as they are by Jakobson’s (1960) work on the poetic function of language, these approaches overlook a key insight of the linguistic anthropology from which they draw: the poetic is as pragmatic as it is aesthetic.⁴ This oversight has led, predictably, to a focus on the aesthetics of abstracted infrastructural ‘forms’ (Larkin, 2018), as opposed to the pragmatics of immanent, processual ‘formations’ (note the presence of derivational suffix ‘-ation’, linked to ‘action’ or ‘process’). So, too, this analytic emphasis on aesthetic ‘form’ over technical ‘function’ inadvertently obscures a key, if not foundationally ‘poetic’ technical function of infrastructure itself. Namely, infrastructures reflexively re-channel or re-scape the intensive flows that reveal or give rise to them in the first place, functionally ‘directing them or deflecting them, tapping them or capping them’ (Kockelman, 2016: 409). How, then, to theorize the relation between intensities and infrastructures? How to capture the relation between flows and formations? How to characterize the ‘immanent reflexivity’ (Kockelman, 2017: 75) that obtains within this flows–formations nexus?

I offer the adjectival notion of ‘aquatectonic’ (and its nominal form, ‘aquatectonics’) to characterize this pragmatic and processual confluence of flows and formations. Featuring the prefix ‘aqua-’ (referring to ‘water’ and ‘flow’) and the suffix ‘-tectonic’ (referring to ‘terrestrial crust’, ‘building’ and ‘formation’), ‘aquatectonic’ admits of a duplex, two-fold interpretation.⁵ First, on an empirical level, ‘aquatectonic’ intuitively refers to the formulation and formation of aqua-centric infrastructures like the BRI or Global Maritime Fulcrum that have captivated the geopolitical imagination in an era of shifting power

configurations. Second, on a conceptual level, its scope extends beyond the sea- or water-based, referring more broadly to the dialectical relation between intensive flows and infrastructural formations. To a certain degree, ‘aquatectonics’ bears an affinity with Deleuze and Guattari’s (1987) ‘assemblage’, insofar as it highlights the processual, provisional, immanent or emergent nature of infrastructures. Assemblage-theoretic accounts in geography and anthropology, however, have typically privileged flows over formations, incoherence over coherence, the intensive over the extensive or the smooth over the striated.⁶ In contrast, ‘aquatectonics’ motivates a more balanced understanding of the underlying organization or architectonics of emergent infrastructural formations, and the ways these formations come to re-channel or *intensify* the flows from whence they came.

I turn here to one infrastructure project that – in the various senses outlined above – is fundamentally aquatectonic in nature: China’s BRI.

The aquatectonics of the BRI

President Xi’s 2013 visits to Kazakhstan and Indonesia and respective calls for a ‘Silk Road Economic Belt’ (丝绸之路经济带) and ‘Twenty-First Century Maritime Silk Road’ (二十一世纪海上丝绸之路) may be read as baptismal events for the invocation and articulation of the BRI’s geopolitical vision (see Lin et al., 2019; Sidaway and Woon, 2017). Here, however, I turn to his more recent 2017 formulation of the BRI qua infrastructural imaginary to get a sense not only of how Xi (2017) explicitly articulates the newness of old things, or invokes the so-called Silk Road Spirit, but also how he tacitly theorizes the relation between intensity and infrastructure:

Over two thousand years ago, our ancestors, trekking across vast steppes and deserts, opened the transcontinental passage connecting Asia, Europe, and Africa, known today as the Silk Road. Our ancestors, navigating rough seas, created sea routes linking the East with the West, namely, the maritime Silk Road... These routes enabled people of various civilizations, religions and races to interact... Today, ancient cities of Jiuquan, Dunhuang, Tulufan, Kashi, Samarkand, Baghdad and Constantinople as well as ancient ports of Ningbo, Quanzhou, Guangzhou, Beihai, Colombo, Jeddah and Alexandria stand as living monuments to these past interactions... The ancient silk routes were not for trade only, they boosted the flow of knowledge as well... The ancient silk routes witnessed the bustling scenes of visits and trade of land and ships calling at ports. Along these major arteries of interaction, capital, technology and people flowed freely, and goods, resources and benefits were widely shared.

During his speech at the Belt and Road Forum (BRF) for International Cooperation in Beijing, President Xi highlighted three, tacitly interlocking arguments worth highlighting here.

His first (and arguably most explicit) point is that historical, infrastructural exemplars or prototypes serve as orienting anchors and objects of aspiration in the here-and-now of shifting power configurations. As ‘living monuments’ (Xi, 2017), these exemplars – from the ancient city of Jiuquan to the ancient port of Alexandria – are indexical traces of ‘past interactions’ (Xi, 2017), serving as orienting guideposts that map the speculative futures of the BRI. Indeed, and as *The Economist* has pointed out, in the absence of any official BRI map, the maps that do exist ‘show the belt and road as lines that trace the routes of ancient “Silk Roads” that traversed Eurasia and the seas between China and Africa’ (Lin et al., 2019; *The Economist*, 2018: 7).

Second, Xi tacitly proffered what we might call a ‘folk’ or ‘ethno’-aquatectonics. That is to say, he theorized the relation between intensity and infrastructure by linking ever-increasing intensities of flow (themselves shaped by certain environmentally embedded gradients) with the emergence of increasingly potent infrastructural formations. Ancestral efforts at tacking and trekking across aquatic and terrestrial domains necessarily grappled with naturally occurring intensities: from latitudinal, altitudinal and temperature gradients across vast steppes and deserts, to recurring rhythms of monsoons, undertows, tides and celestial phenomena at sea. These various intensity gradients – ‘phenomenologically embodied’ by travellers as much as they were ‘physically embedded’ (Kockelman, 2016: 337) in the terrains traversed by those travellers – shaped and constrained intensive flows of peoples and values on a planetary scale. They gave rise to quasi-regular flows across seas and steppes, which in turn came to be regimented and recognized as infrastructural formations.

Third, Xi spoke of how these infrastructurally regimented flows came to impact population gradients and intensities of interaction across ‘bustling’ cities and ports. It was within and across these newly networked nodes, Xi (2017) explains, that ‘capital, technology and people flowed freely, and goods, resources and benefits were widely shared’. Conceived of as networks of channels, these ‘major arteries of interaction’ (Xi, 2017) functionally re-channelled what Xi (2017) has called ‘The Silk Road spirit’ of ‘peace and cooperation, openness and inclusiveness, mutual learning and mutual benefit’. That is to say, intensive flows of capital, technology and people gave rise to infrastructural formations, which enabled the networked conditions of possibility for re-channelling – or *intensifying* – such flows for the purpose of ‘mutual benefit’ (Xi, 2017).

Conclusion: Towards a geography of the aquatectonic nexus

Appadurai (2004: 69) has suggested that the ‘capacity to aspire’ is foundationally a ‘navigational capacity’, one that enables us to map our possible movements across far-flung terrains. With respect to China’s infrastructural aspirations and the BRI, President Xi has already-existing maps at the ready – maps in which *newly* proposed ‘arteries of interaction’ (Xi, 2017) by land and by sea are effectively laminated onto decidedly *ancient* ones. In this sense, the BRI – a simultaneously ‘new’ but ‘old’ infrastructure – was always already there.

Telescoping into the past, the infrastructural formations that came to be known as the Silk Road by land and the Spice Route by sea were always already there for Xi’s (2017) seafaring and wayfaring ‘ancestors’ as well. Environmentally embedded in the form of geographical and meteorological gradients, these formations were ready and waiting for wayfarers and seafarers alike, who came to identify them on the basis of the intensities of flow they afforded. These flows were elaborated and parasited upon, giving rise to ‘secondary infrastructure’ (Turner and Johnson, 2017: 6) (e.g. land and sea vehicular capacity) and urban nodes that enhanced access to increasingly networked infrastructural formations. Today, ‘living monuments’ (Xi, 2017) to these aquatectonic assemblages shape the speculative horizons of the contemporary BRI, licensing new efforts to re-scape and re-channel modern iterations of ancient flows on a planetary scale.

This paper has brought an incipient anthropology of intensity and gradients (Carruthers, 2019,2017; Kockelman, 2016; Sapir, 1944) to bear on the political geography of infrastructure, suggesting how the latter cannot effectively be done without the former. The task remains, then, for a geography of the aquatectonic nexus – in other words, of the confluence between intensive flows and infrastructural formations. Such a geography must throw into stark relief the intensive roots of infrastructural fruits, and the ways in which infrastructures

functionally re-channel the vectors and trajectories of caravans, caravels and much else besides.

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Notes

1. I derive this phrase from Bernard Bate's (2009) discussion of oratorical modernity in Tamil Nadu.
2. See Delanda (2005) on the intensive–extensive distinction. See also semiotic work on how attunements towards intensity gradients causally shape navigational capacities and movements in the world (Carruthers, 2019,2017; Kockelman, 2016; Sapir, 1944)
3. 'Anexact' refers to something that is essentially, rather than accidentally inexact.
4. Indeed, Kockelman (2017: 58) suggests that to speak of the poetics of infrastructures is to speak of 'an aesthetic and pragmatic means of revealing their secrets'.
5. See Rand (2012) for an alternative use of 'aquatectonic.'
6. See Anderson and McFarlane (2011) for an overview of 'assemblage' in geography.

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