

Governing Infrastructure Interfaces - Research Note 01 (June 2018)

ANTHROPOLOGY OF INFRASTRUCTURE

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Until recently, anthropologists saw the study of infrastructure as unexciting and irrelevant. Infrastructure was boring. Susan Leigh Star observed that the workings of infrastructure are “frequently mundane to the point of boredom, involving things such as plugs, standards and bureaucratic forms” (Star: 1999: 377). Such disinterest was a result of the efficacy of modernist representations of infrastructure as inert, nearly invisible and functional. Modernist understandings of technology effectively insulated infrastructure from the gaze of anthropologists, as a domain of technical solutions and arrangements that were independent of the political and the lived experience (Graham, Thrift 2007).

Yet, periodic breakdowns and malfunction undermine representations of infrastructure as inert, functional and invisible, making clogged pipelines and potholes matters of ethnographic investigation (Marvin, Medd 2009; de Boeck 2012). Infrastructure becomes visible through its shortcomings (Star 1999), revealing the fragility of the modernist promise of efficiency and functionality (Latour 1993). However, anthropologists’ own discovery of infrastructure has not just explored infrastructure through failure (Larkin 2013). Anthropologists have explored how infrastructure is the foundation of aesthetical experiences of the built environment, hardwiring our sense of self and place in the world in the form of wires, pipelines and cement structures (Larkin 2015; von Schnitzler 2015; Jensen, Morita 2017). As such, modernity itself is not just made of visions and assumptions, but is a specific material experience on which individuals, nations and societies ground identities, aspirations and

expectations (Scott 1998; Gandy 2014; Dalakoglu 2010; Bear 2007).

Infrastructure provides fragile foundations for modernity and people’s sense of the self, however, often undergirding highly segmented and fragmented societies. The term infrastructure evokes ideals of inclusion, integration and a vision of an all-encompassing totality. As a result, building “infrastructure” has often been seen an effective means to serve the “public good”, being both inclusive and necessary for a society to function as a whole (Batt 1984; Beeferman, Wain 2014). However, as ethnographers and geographers have pointed out, building infrastructure is not a neutral endeavor. While continuing to embody visions of progress, pipelines, highways and electric lines serve vested interests, enforce regimes of control, and create geographies of abjection and segregation (Lefebvre 2003; Anand 2012; Graham 2004, 2010; Graham, Marvin 2001; Smith 1986; Harvey, Knox 2015; Mbembe 2004; Caldeira 2001; Rodgers, O’Neill 2012)

Reading infrastructure politically does not merely mean seeing pipelines and highways as consequences of politics. Conversely, considering infrastructure has also entailed rethinking the nature of the political (Barry 2001). Building on Foucault (2008), scholars of techno-politics have examined how infrastructure and technical knowledge, often embedded in calculation, abstraction and generalization, have shaped government actions and political processes (Collier 2011; Bennett 2010; Mitchell 2002). Furthermore, infrastructure has not only shaped ideas of the public good, but also informed people’s experiences and understandings of citizenship as a right to infrastructural provision and connectivity

(Appel, Anand, Gupta 2015; Anand 2012; Humphrey 2003). In other words, while infrastructure might serve powerful interests and produce geographies of segregation, infrastructure also provokes claims and demands from below (Barry 2013; Das 2011; Holston 2008), showing how dissent and conflict can coexist within a shared appreciation of infrastructure as the necessary material foundation of society (Cross 2014).

The centrality of infrastructure as the nervous systems of contemporary life also reveals the contingency and unpredictability of collective existence. Infrastructure remains a term to describe that assemblage of people, objects, practices and institutions on which both the realization and distribution of patterns of connectivity, movement, flow and presence are dependent (Latour 1993, 2005; Deleuze, Guattari 1997; Ong, Collier 2005). Infrastructure as an idealized totality reveals precariousness and not completion. Assemblages make the world contingent not only on how humans relate to each other, but also on how the substances

travelling through pipelines and wires gain agency to affect human assemblages, often through the flaws and the shortcomings of infrastructural design and planning (Gandy 2006; Graham 2009).

With such a focus on contingency and materiality, the study of infrastructure has inspired anthropology and geography's most recent imaginations of political alternatives. Studies have highlighted the material and spatial underpinnings of politics, framing it as a struggle over the control of both space and flows (Soja 2010). The study of infrastructure has suggested that the achievement of just societies does not depend on relations alone, but on the nature of these relations between people and with their environment (Gandy 2003). Infrastructure, as a bundle of relations, can be an agent of oppression. Hence, what makes the difference is the extent to which grids of splintered connectivity and differentiated provision are transformed into platforms for a politics of redistribution and collective responsibility (Young 2011; Beauregard 2015).

Acknowledgement

The author acknowledges the support of the *Cities & Infrastructure Programme* run by the British Academy on behalf of all the National Academies, as part of the Global Challenges Research Fund. Any findings, interpretations, and conclusions presented in this research note are entirely those of the author and should not be attributed in any manner to any of the aforementioned entities.

References

- Anand, N. 2012. Municipal disconnect: on abject water and its urban infrastructures. *Ethnography* 13: 487-509.
- Appel, H., Anand, N., Gupta, A. 2015. Introduction: the infrastructure toolbox. *Cultural Anthropology*. Accessed on 3 September 2018: <https://culanth.org/fieldsights/714-introduction-the-infrastructure-toolbox>
- Barry, A. 2001. *Political Machines: Governing a Technological Society*. London: Continuum.
- Barry, A. 2013. *Material Politics. Disputes along the Pipeline*. London: Wiley Blackwell.
- Batt, H. 1984. Infrastructure: etymology and import. *Journal of Professional Issues in Engineering* 110: 1-6.
- Bear, L. 2007. *Lines of the Nation: Indian Railway Workers, Bureaucracy, and the Intimate Historical Self*. New York: Columbia Univ. Press
- Beauregard, R.A. 2015. *Planning Matter: Acting with Things*. Chicago, IL: University of Chicago Press.
- Beeferman, L., Wain, A. 2013 Infrastructure: defining matters. SSRN. Accessed on 2 September 2018: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2714308
- Bennett, J. 2010. *Vibrant Matter: A Political Ecology of Things*. Durham, NC: Duke Univ. Press
- Caldeira, T. 2001. *City of Walls: Crime, Segregation, and Citizenship in São Paulo*. Berkeley: University of California Press.

- Collier, S.J. 2011. *Post-Soviet Social. Neoliberalism, Social Modernity, Biopolitics*. Princeton, NJ: Princeton University Press.
- Cross, J. 2014. *Dream Zones: Anticipating Capitalism and Development in India*. London: Pluto Press.
- Dalakoglou, D. 2010. The road: an ethnography of the Albanian–Greek cross-border motorway. *American Ethnologist* 37: 132–49.
- Das, V. 2011. State, citizenship, and the urban poor. *Citizenship Studies* 15: 319-333.
- De Boeck, F. 2012. Infrastructure. *Cultural Anthropology*. Accessed on 3 September 2018: https://culanth.org/curated_collections/11-infrastructure/discussions/7-infrastructure-commentary-from-filip-de-boeck
- Deleuze, G., Guattari, F. 1997. 'City-state.' In: L. Neil (Ed.) *Rethinking Architecture*. London: Routledge.
- Foucault, M. 2008. *The Birth of Biopolitics: Lectures at the College de France 1978–1979*. Basingstoke: Palgrave Macmillan.
- Gandy, M. 2003. *Concrete and clay: reworking nature in New York City*. Cambridge, MA: MIT Press.
- Gandy, M. 2014. *The Fabric of Space: Water, Modernity, and the Urban Imagination*. Cambridge, MA: MIT Press.
- Graham, S. 2004. 'Constructing urbicide by bulldozer in the occupied territories.' In: Graham S (Ed.) *Cities, War, and Terrorism: Towards an Urban Geopolitics*. Oxford: Blackwell, pp. 192–213.
- Graham, S. 2010. *Disrupted Cities: When Infrastructure Fails*. London: Routledge.
- Graham, S., Marvin, S. 2001. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. London: Routledge.
- Graham, S., Thrift, N. 2007. Out of order: understanding repair and maintenance. *Theory, Culture & Society* 24: 1-25.
- Harvey, P., Knox, H. (2015). *Roads: an Anthropology of Infrastructure and Expertise*. Ithaca, NY: Cornell University Press.
- Holston, J. 2008. *Insurgent Citizenship: Disjunctions of Democracy and Modernity in Brazil*. Princeton, NJ: Princeton University Press.
- Humphrey, C. 2003. 'Rethinking Infrastructure: Siberian Cities and the Great Freeze of January 2001.' In J. Schneider, I. Susser (Eds.) *Destruction and Reconstruction in a Globalized World*. New York, NY: Berg Publishers.
- Jensen, C.B., Morita, A. 2017. Introduction: infrastructures as ontological experiments. *Ethnos* 82: 615-626.
- Larkin, B. 2013. The politics and poetics of infrastructure. *Annual Review of Anthropology* 42:327-43
- Larkin, B. 2015. Form. *Cultural Anthropology*. Accessed on 3 September 2018: <https://culanth.org/fieldsights/718-form>
- Latour, B. 1993. *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.
- Latour, B. 2005. *Reassembling the Social: an Introduction to Actor-Network Theory*. New York, NY: Oxford University Press.
- Lefebvre, H. 2003. *The Urban Revolution*. Minneapolis, MN: University of Minnesota Press.
- Marvin, S., Medd, W. 2010. 'Clogged cities: sclerotic infrastructure.' In S. Graham (Ed.) *Disrupted Cities: When Infrastructure Fails*. London: Routledge.
- Mbembe, A. 2004. Aesthetics of superfluity. *Public Culture* 16: 373-405.
- Mitchell, T. 2002. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press

- Ong, A., Collier S.J. 2005. 'Global assemblages, anthropological problems.' In A. Ong, S.J. Collier (Eds.) *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Hoboken, NJ: Blackwell.
- Rodgers, D., O'Neill, B. 2012. Infrastructural violence: introduction to the special issue. *Ethnography* 13: 401-412.
- Scott, J. 1998. *Seeing Like a State*. London: Yale University Press.
- Smith, N. 1996. *The New Urban Frontier: Gentrification and the Revanchist City*. New York: Routledge.
- Soja, E. 2010. Spatializing the urban, Part I. *City* 14: 629-635.
- Star, S. 1999. The Ethnography of Infrastructure. *American Behavioral Scientist* 43: 377-391.
- von Schnitzler, A. 2015. Ends. *Cultural Anthropology*. Accessed on 3 September 2018: <https://culanth.org/fieldsights/713-ends>
- Young, I.M. 2011. *Responsibility for Justice*. Oxford: Oxford University Press