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2014

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## Recommended Citation

Campbell, Jeremy M. 2015. "Nature, Infrastructure, and the State: Rethinking Development in Latin America." *The Journal of Latin American and Caribbean Anthropology* 19 (2).

# Nature, Infrastructure, and the State: Rethinking Development in Latin America

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THE CONCEPT OF INFRASTRUCTURE has a long pedigree in social theory, beginning with Marx's much-abused distinction between base and superstructure. In the critical theory spawned by this intervention, infrastructure is one of many analytic tricks with which to refocus explanatory attention, claiming priority for a particular set of phenomena over others: relations of production help explain ideology, civil society gives rise to the state, "habitus" serves as foundation for discourse, "conditions of possibility" allow for historical changes. Since the early 1990s, however, a novel approach to infrastructure has emerged from science and technology studies, partly due to an empirical refocusing on the materiality of built environments. Susan Leigh Star is perhaps best known for having reappropriated the concept "ecologically," in the sense that for Star and Rhuedeler (1996) infrastructure is always contextual and based on the analytic problem at hand. Whether conceptualized through the metaphors of substrate, background, or invisible frame, infrastructure becomes that which is both a crucial organizer of a given situation and has become routinized to the point of banality or invisibility. Social analysis is therefore always a kind of "infrastructural inversion," bringing out that which has disappeared into routine. This powerfully flexible way of understanding the concept makes it apposite for the study of electrical grids and software but also classification systems (Star and Bowker 1996) and underappreciated phatic labor (Elyachar 2010).

Although this theoretical shift is well known, there has been relatively little discussion about how this new way of conceptualizing infrastructure emerged alongside a new way of envisioning infrastructure projects in economic development. LatinAmerica is an ideal place to think through this relationship, where,

from the mid–20th century, infrastructure projects both material and immaterial have rearranged peoples, ecologies, and the conceptual tools through which social science apprehends them. One aspect that Star's definition of infrastructure as "background" does not account for particularly well is the primary experience of infrastructure that many people in the developing world have historically had: public building projects have offered spectacular proof of the presence of states, colonial powers, or multinational lenders. Infrastructure projects such as giant dams, highways, and canals, all of which were key to mid–20th century strategies of economic development, were hardly recognized as "invisible" by those who were touched by them (cf. Harvey 2005; Larkin 2008). Part of what was at stake here was all about visibility, about establishing the hand of human intervention in areas that were considered too "natural" and therefore developmental failures. While some infrastructural projects may have eventually become part of the landscape, at least as often they remain as monuments of bad deals, uninterested lenders, or questionable governance in the years after they initially appear.

But the character of infrastructure in development in Latin America was to change in the 1980s and 1990s for two separate reasons: first was the rise of new economic philosophies among the major lending banks that pushed efficiency, small (but good) government, and market-based strategies to achieving economic growth; second was the rise of environmentalism, particularly concerned with conserving natural landscapes in the "Global South." From around 1990, infrastructural investment would no longer be about marking the landscape with monuments to human intervention that might spur sluggish national economies; infrastructure instead would become a subtler affair, leading states to emphasize their role as scaffolders of human and natural capacities. Latin American states became governmental in the Foucauldian sense. From that moment on, the word "infrastructure" was as likely to refer in development to things such as human capital, regulations, or accounting software as it was to electrical grids. Histories of development stopped emphasizing singular lines toward growth and started using terms such as path dependency, a model of historical change that picks out unexpected historical causes of mundane routines. That is to say, if the original critical theoretical understanding of infrastructure coincided with an ideal industrial society with its tiered built environment, then the one that emerges with science and technology studies was contemporaneous with development models that had become far more flexible in their understanding of historical direction. The question that spurred the present collection of essays was, *what does this specific historical plot help us to understand about the concept of infrastructure more generally and its use in anthropology?*

Each of the four papers presented here is concerned with mapping how societies throughout Latin America are affected by the shift in infrastructural thinking that condenses in neoliberal and environmentally explicit brands of

developmentalism. Though each is an in-depth study of a particular ethnographic scene, an interesting overlap emerges in how these papers engage explicitly with the frontier, and in so doing straddle the change in conceptions of infrastructure quite neatly. Cohen's fascinating portrait of women miners in Colombia is perhaps the starkest example, where the infrastructure of resource extraction is a tenuously held collusion between state-built environments, violent dislocation, and women's sexual self-regulation. In all of these papers frontiers act as spaces of transition conceived as natural and disorderly but structured through the ideal of progress or civilization. However, this collection demonstrates how frontiers are themselves changing. It is no longer merely the state's role to impose itself on the landscape, erasing the natural, but rather to marshal the productive forces of nature and of the unruly people who live in its midst.

In classic ethnographic form, each of these papers shows that the understanding of the frontier is not monolithic, nor necessarily dichotomous, but plays on subtle variations in ways of knowing and intervening. In Lyons' paper, Colombian farmers with no interest in official agronomic classification pursue an affective disposition to the organic relationships of the forest, something these farmers call "having eyes for her." The contrast evokes the difference between mapping and walking first popularized by Michel de Certeau (1984). The relationship between these two forms of infrastructure is also a relationship between political projects, hopes, and temporal and spatial scales.

In this way, infrastructure is also always about the future, or different futures. Departing somewhat from the science and technology studies literature that emphasizes infrastructure as substrate of processes in the present, infrastructure in these frontier spaces continues to be entangled with promise, hope, possibility, and fear. Hetherington's article explores how the Paraguayan state uses the argument that surveying underpins agricultural development to extend and defer the development demands of landless peasants. In Campbell's article, Brazilian pioneers and forestry officials commit themselves, at considerable cost, to practices of measurement and standardization in anticipation of a new regulatory order just over the horizon. Whether it is the subject of speculation or the embodiment of a kind of promise, infrastructure in these papers is always explicitly about either conjuring better futures or staving off worse ones.

Though not an exhaustive view of the region, these papers reflect on changing infrastructures of government and circulation in Brazil, Colombia, and Paraguay. Emerging infrastructures that map out how citizens and states articulate with nature depend on less visible structures than the typical brick-and-mortar infrastructures brought to mind by both developmentalism and classic materialist philosophy. Though less visible, these infrastructures are indeed material and stunningly consequential. These processes and procedures are often quite literally infra—*below*—structural in that they defy scrutiny or escape debate as they

accompany neoliberal reforms, development "solutions," or forms of environmental politics that reach for the global register. Our efforts here are directed at pulling out the shapes and tendencies of powerful, future-oriented world-making projects that reorient states, citizens, and environments in subtle and profound ways.

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