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Introduction: Architecture and Urban Infrastructure Landscapes

Madlen Kobi and Nadine Plachta

Over the past two decades, infrastructure has emerged as a central concept within the larger conversation about architecture, landscape, and urbanism (Allen 1999; Delalex 2006; Nijhuis, Jauslin, and Hoeven 2015). Infrastructure has surfaced as a principal field of investment for creating sustainable and livable urban landscapes. It has become both a public endeavor and an integrated part of architectural and design projects, as Kelly Shannon and Marcel Smets (2016) emphasize in their study on how the architecture of infrastructure both affects and generates social environments. Architecture, the process of designing, constructing, and inhabiting buildings and public spaces, relies on infrastructure. And infrastructure, the material components and social connections that provide foundational services for citizens, depends on architecture. In this themed issue we argue that conceptualizing architecture without thinking about infrastructure is out of the question.

Infrastructure's alliance with architecture is often expressed in the form of a complex system of technologies, flows, and networks in contemporary cities, such as the design of the utilitarian grid that connects buildings and their inhabitants to transport, energy, and sewage systems. Buildings evoke images of vertical spaces that enclose

the "horizontal flows" (*Fliessräume*, Erben 2020: 73) of infrastructures in the material process of territorial transformation. But infrastructure and architecture are more than just materially connected. Constituting the basic fabric of urban landscapes, they are also used as vehicles for political, social, and economic agendas (Seewang 2013).

The architecture of transport infrastructure in Milan (Italy).
Photo: Madlen Kobi, 2017.

This *Roadsides* collection proposes a perspective on cities that interrogates how architecture and urban design function as and with infrastructure, intersecting and rearticulating spaces, places, and the power relations embedded therein. With contributions from social anthropologists, human geographers, and practicing architects, it draws particular attention to the topics of anticipation and affective economies, power structures and the appropriation of space, and temporality.

Anticipation and affective economies

Recent scholarship has demonstrated that states and governments use architecture and the design of large-scale infrastructure programs – for instance the construction of airports, power plants, roads, or high-speed trains – to communicate the image of a modern and prosperous future (Apter 2005; Appel 2012; Harvey and Knox 2015). Citizens sometimes learn and internalize these discourses of development, vesting hopes for economic wealth into the built environment; at other times, they contest such speculative government planning. As Vincanne Adams, Michelle Murphy, and Adele

Clarke convincingly argue, anticipation is more than betting on the future. It is also "a moral economy in which the future sets the conditions of possibility for action in the present" (2009: 249). Collective practices of anticipation are used to encourage and coordinate speculative investment, and to plan, calculate, and predict the unknown (see also Cross 2015).

Two contributions to this collection attend to these "affective economies" (Ahmed 2004), in which states and citizens work and live toward the future. Juliane Müller examines how, in El Alto, Bolivia's second-largest city, colorful Neo-Andean Architecture merges with the regional cable-car infrastructure to create an urban landscape that uses Indigenous legacies to communicate future economic growth and profit. In a similar manner, Jessica diCarlo explores practices of anticipation in the Boten Special Economic Zone in northern Laos. Conceptualizing urban development as palimpsest, diCarlo shows how rubbles of past infrastructures, visual culture, and vernacular architecture are all employed to transform the region into an attractive place for capital investment. Both articles demonstrate that there are definite frictions between the aspired constructions toward a better future and their actual material, economic, and socio-cultural outcomes.

Power structures and the appropriation of space

Entangled with practices of anticipation are mechanisms of political control and communication. Adding an architectural perspective to infrastructure studies reveals how buildings and spaces not only symbolize power relations but are, in fact, the very design of power. Airports, apartment buildings, and worker neighborhoods are shaped by political, technological, and ideological factors that guide their design and implementation. Once constructed, urban infrastructures communicate certain ideas and images about society. They are potent vectors of power and, as such, they create and maintain structural inequalities. They reproduce ethnic, class, and other boundaries, and their form and symbolism engender uneven heritage-making processes. At the same time, citizens actively appropriate and carve out spaces for themselves in unforeseen ways, reinforcing local identities of place or inscribing new meanings into urban structures (Schwenkel 2017).

Looking at the port city of Lobito in western Angola, Jon Schubert's article reflects on colonial ideals and aesthetics visible in the built environment. He contends that Lobito's contemporary architecture produces and maintains a distinct social order, where past and present forms of extractive capitalism have materialized. The power of postcolonial modernism to shape urban life is also noticeable in Bärbel Högner and Jürg Gasser's contribution on the Indian city of Chandigarh. The functionalist vision of Le Corbusier in the 1950s has manifested in the urban grid and architecture, but also in state-of-the-art infrastructure implemented by Indian administrators and engineers, including low-rise buildings, public green areas, sewage systems, and comprehensive road networks.

The manifestation of power in built structures can also beget unforeseen appropriations of space. Focusing on light installations at Accra Airport City in Ghana, Naomi Samake calls attention to the ways in which street vendors occupy places in the shadows of the modernist airport lighting infrastructure. Temporary food stands and waiting areas did not feature in the construction plans of the Airport City, but have come to constitute important places for the everyday life of Accra residents. Anna-Maria Walter and Anna Grieser similarly analyze how women create female spaces, such as beauty parlors, that provide for conviviality and cohabitation within the men-dominated public townscape of Gilgit, Pakistan. In this case, women appropriate existing infrastructures and turn them into *intrastructures* that nest within prevailing gender hierarchies.

Temporality

Buildings and infrastructures are continually evolving, and their inhabitation and usage expose a certain ineluctable quality. In their study on the life of buildings after construction, Mohsen Mostafavi and David Leatherbarrow (1993) demonstrate how, despite the common perception that buildings are complete and persist in time, they in fact do not. The constant exposure to rain, wind, and sun acts on the surface of all buildings, resulting in the failure of materials and the breakdown of infrastructures. Ceilings and walls crumble, door and window frames erode, pipes are rendered dysfunctional. This material deterioration requires continual human labor, maintenance, and repair (Schwenkel 2015; Strebel, Fürst, and Bovet 2019). Complex political, social, and economic considerations determine if capital is invested to keep a building or infrastructure intact or whether it will be abandoned and, ultimately, fall into ruin (Graham and Thrift 2007; DeSilvey and Edensor 2012). Including the aspect of temporality allows us to reconsider infrastructure "through time horizons, lifespans, rhythms and cycles of the environment, materials, capital, humans, discourses, technology, the state and other agentive forces that make and unmake it" (Joniak-Lüthi 2019: 6).

Two contributions to this collection stand in conversation with these reflections on the afterlives of buildings. Looking at historical narrow-gauge railroad infrastructures in Italy, Andrea Alberto Dutto and Nadine Plachta attend to the factors that led to the adaptive repurposing of dilapidated and rust-covered tracks, tunnels, and bridges into green and sustainable bike paths. The authors show how developmental decisions inspire landscape infrastructures that follow environmental and social considerations. While abandoned infrastructures are reused across the Italian peninsula, they fall apart in southwestern China. Tim Oakes' article interrogates how aspirations for development have led to rapid transformation of the urban landscape in Gui'an New Area, where fleeing capital has informed the creation of architectural ruins along a sprawling grid of new roads. In Gui'an New Area, infrastructural anticipation and failure coalesce in unexpected and disconcerting ways, producing long-term social and economic effects on local residents.

Conceived as a constantly evolving fabric that connects bodies and things in time and space, architecture and infrastructure are symbolic of the temporality of all material life. Buildings are altered and adapted through dwelling and appropriation, and they

change their appearance through erosion, maintenance, and repair. The authors of this edited collection offer captivating articles in the form of textual, visual, and audio commentaries that demonstrate the built environment to be inherently political, social, and dynamic, extending beyond its merely functional value. This themed issue thus opens up a horizon to think architecture and infrastructure together in order to provide an alternative perspective on the conditions, negotiations, and challenges of contemporary urban landscapes.

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