Roadsides

Architecture and/as Infrastructure

Edited by: Madlen Kobi and Nadine Plachta

Roadsides is an open access journal designated to be a forum devoted to exploring the social, cultural and political life of infrastructure.

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Table of Contents

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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Rebuilt Indigeneity:
Architectural Transformations in El Alto

Juliane Müller

The colorful façades are best seen from the Blue Line of Mi Teleférico, the aerial cable-car network that has been the backbone of urban transport in the metropolitan area of La Paz and El Alto since 2014. From above, the multistory buildings internationally known as Neo-Andean Architecture can be admired in their distinctive splendor, rising over the sober and nearly treeless landscape of El Alto, Bolivia's youngest and Latin America's foremost indigenous city. Populated through rural–urban migration since the early twentieth century, but only founded as an independent municipality in 1985, El Alto has been devoid of monumental sites. These buildings and the new cable-car system are the first structures with sufficient aesthetic and symbolic qualities to evoke positive reactions from residents and tourists alike. In this essay, I approach them through an architectural lens. The cable-car infrastructure is not primarily conceptualized as a network but rather analyzed through its historically informed symbolism and as a series of distinctive material forms with specific social and political effects (Seewang 2013). I show that the Neo-Andean Architecture and the cable-car station buildings not only reshape the city's landscape but are themselves materializations of an urban understanding of indigeneity that embraces infrastructural development and accommodates social difference.

Neo-Andean Architecture

Regardless of its broad denomination, Neo-Andean Architecture originated in El Alto and is associated with a single name, the Aymara Freddy Mamani. Aymara is one of the thirty-six Indigenous nations and native peoples defined as such in Bolivia's Constitution of 2009.[1] Mamani makes use of a wide array of influences, mainly patterns and geometric forms borrowed from precolonial ceramics, weavings, and the archeological complex at Tiwanaku, located halfway between El Alto and Lago Titicaca,[2] but also from contemporary Bolivian popular culture, mass-media figures, and Chinese decorative elements (Salazar Molina 2016: 68ff.). He self-identifies as an architect-artist who works as a craftsman to satisfy the taste of his affluent private clientele: upwardly mobile entrepreneurial families and import/wholesale traders. The buildings in question are part and parcel of their business model. The first two or three floors are usually packed with stores, goods depots, sports facilities, and fiesta venues, followed by rented apartments. The owners live at the top in a separate area, in chalet-like duplexes which usually follow a European style. Construction materials are non-traditional. As with wealthy Indigenous houses in other parts of the Andes (Colloredo-Mansfeld 1994; Leinaweaver 2009), these buildings incorporate foreign influences and materials even as they enact native symbols and relational forms.

Neo-Andean building with a decorative mask of the Diablada (devil-dance), an allegory of the riches and dangers of Bolivian mines.
Photo: Herland Jarro Arteaga, El Alto, August 2020.

Between 2014 and 2016, Neo-Andean Architecture featured in South American mass media and in major North American and European newspapers and magazines. Numerous short videos (e.g. New Andean: a new indigenous architecture by *Architectural Review*) and at least one full-length documentary have been made about Mamani. Another wave of international reporting on Mamani and the Neo-Andean accompanied the 2018/2019 exhibition Southern Geometries in Paris.

From an architectural perspective centered on boundaries, form, and symbolism (Seewang 2013), the edge – where the façade meets its less conspicuous surroundings – could not be more salient. These buildings stand out in a sea of unpainted red brick and simple concrete. The façades look all the more futurist as they protrude above the dry topography of the Altiplano against the backdrop of high mountain peaks and amid a grid of fan-shaped asphalted avenues that lead into and out of the city. In terms of form, each house is a replicated singularity: different from all the others but similar enough to be decipherable as part of a cogent overarching style, multiplied through the narrow space of one city. Read as a symbolic statement of new Indigenous pride and wealth, Neo-Andean Architecture is a materialization of the persistent economic growth experienced under President Evo Morales. It is also an architectural expression of the changing language of indigeneity in contemporary Bolivia.

Indigenous politics and economic development

During the leftist government of Aymara president Evo Morales from 2006 to 2019, Indigenous heritage-making was foregrounded. Like former presidents in the region, Morales strengthened his political authority through ancient cosmological rituals,[3] but in addition he systematically deployed the language of indigeneity for strategic national purposes (Canessa 2006). This conflation of indigeneity and national economic development was not completely new in Bolivia. In the early 2000s, Indigenous legacies and telluric deities, such as Mother Earth (Pachamama), had been mobilized for protests not only against the privatization of water supplies but over gas exports to Chile during the so-called Gas War in El Alto in October 2003 (Canessa 2006; Lazar 2008). Protests were not directed against the extraction of gas per se but the construction of a pipeline toward Chile. This meant a resignification of highland Bolivian indigeneity, away from definitions focused solely on traditional identity, rural territorial autonomy, and the protection of natural resources and in the direction of broader issues such as resource nationalism and infrastructure development (Albro 2005). During the Morales government, state-owned enterprises for technology and network development have been making use of Indigenous terms. Quipus, the public enterprise for assembling laptops and mobile phones, for example, derived its name from a precolonial record-keeping device in the form of knotted strings. Mi Teleférico employs for its logo a stylized Tiwanaku stele placed in a circle of geometrical forms and its station names use Aymara toponyms along with Spanish names.

Mi Teleférico consists of eleven cable-car lines that connect El Alto and La Paz, surmounting nearly a thousand meters of altitude difference between the two cities.

***El Alto street view with
the station building of
the Purple Line of Mi
Teleférico and scattered
Neo-Andean buildings.***
Photo: Herland Jarro
Arteaga, El Alto, August
2020.

***Station building of
the Yellow Line of Mi
Teleférico.***
Photo: Herland Jarro
Arteaga, El Alto, August
2020.
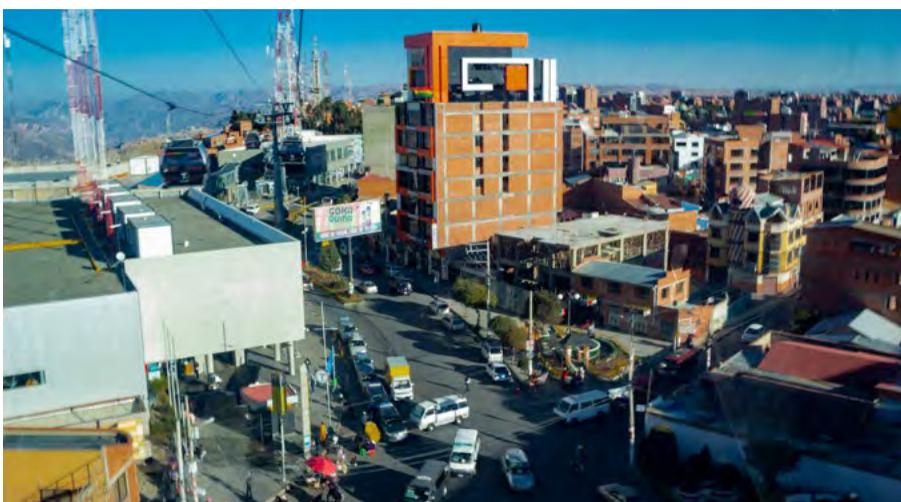
***Station building of the
Yellow Line with taxi rank
and a few vendors.***
Photo: Herland Jarro
Arteaga, El Alto, August
2020.

The system has been embraced enthusiastically by the population and is used for daily commuting. Apart from providing connectivity, the transport system of Mi Teleférico was a major architectural intervention: the eleven lines are sustained and interconnected by no less than thirty station buildings, all of them spacious and the busiest ones with commercial galleries, food plazas, and adjacent green areas. The stations all have a similar cubic form and prominently show the color of the line they sustain.

Two months after inauguration of the El Alto-based station building for the Yellow Line, called Mirador ('viewpoint' in Spanish) and Qhana Pata ('the true and honest high place' in Aymara) because of its view of La Paz, neighbors condemned the presence of street vendors in the immediate vicinity of the station. The process of removing these vendors, some of whom had been selling on this terrain for as long as three decades, seems to have been untypically harsh for El Alto, infamous for being a petty commercial city with strong street-vendor unions that protect traders' rights. Municipal officers confiscated stalls and items at short notice (Debric 2018). Meanwhile, local residents were concerned with the presence of rural-born vendors who apparently disrupt the newly achieved urban order, security, and hygiene.[4] This is a manifestation of social stratification among El Alto residents (Debric 2018). Although replete with Indigenous symbols, the station building projects an idea and aesthetic flair of modernity that is at odds with the livelihoods of poorer Aymara. It is a formal architectural space with franchise shops and a taxi rank that is not totally displacing but gradually encroaching upon the adjacent streetscape.

Rebuilt indigeneity

Neo-Andean Architecture is part of wider social and material transformations currently underway in El Alto. Disparate elements make up these changing constellations. While the more consolidated neighborhoods receive Neo-Andean buildings and a cable-car connection, peripheral areas continue to have to mobilize for basic public buildings and infrastructural works. Disparities are not only communicated via ostentatious houses and expressed in conflicts over the use of restructured urban space, but actively created through such material forms. The novel buildings and spaces affect people's perceptions of the city and how they move through it, and will most likely have an impact on future urbanistic interventions. The cable-car system is less intrusive than terrestrial massive urban transport, but it engenders new visual corridors with a view from above that had been unknown to El Alto. All this is putting the city's central areas with their novel forms of Indigenous iconicity in plain sight. An outward-oriented image of the Aymara local elite, this is all the more powerful and authoritative as it is built into the urban environment and meant to endure.

Notes:

[1] Over a million people in Bolivia identify as Aymara.

2 Tiwanaku was a political and religious center between approximately 600 and 1000 CE and is seen as a precursor of Aymara culture.

3 In 2001, Peruvian president Alejandro Toledo held an inauguration ceremony at the well-known Inca site Machu Picchu. Since the beginning of the twentieth century, Indigenous heritage has increasingly been used for purposes of nation-building in Mexico and the Andean countries, while Indigenous individuals and groups have continued to be marginalized in social, economic, and political terms.

4 The area had been rather unsafe at later hours of the day and during the night (oral communication, Herland Jarro Arteaga).

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Development as Palimpsest:
Infrastructures Revived in Boten's Architecture

Jessica DiCarlo

走进磨丁时间——
静谧与活力交融之下的枢纽新城

倘若给她贴上一个单一的标签、会显得既不客观又不准确。
磨丁绝非纯粹的旅游区域、也并非冷峻的工业化基地。

磨丁宛如仙境的热带雨林化身成绿色海洋荡漾于此。
在繁茂原始森林的掩映下、现代化高楼显得格外有活
力，磨丁这座城市将原始风情和现代风范巧妙地融为
了一体、具有视觉冲击力的妙趣景象跃入眼帘。

从拂晓到黄昏、再到暮、地平线上的磨丁一直
在平衡着生态自然与建设发展之间的尺度。
森林、楼、要有；生态、经济、都要。

Enter Boten Time—
A new hub city blending tranquility and vitality

If she is given a single label, it would appear neither objective nor accurate.
Boten is by no means a pure tourist area, nor a grim industrial base.

Boten is like a fairyland, tropical rainforest transformed into a green
rippling ocean. Under the canopy of lush virgin forest, the modern high-
rise buildings are particularly vibrant. The city of Boten cleverly blends
original and modern styles into one, with visually striking impact.

From dawn to dusk and back to morning twilight, Boten on the horizon
balances ecological nature and construction development. There
must be forests and tall buildings; both ecology and economy.

Advertising shared on WeChat by Haicheng Group, a Yunnan-based conglomeration of real estate, construction,
tourism, and logistics companies, and developer of the Boten SEZ in Laos. May 2020. Translation by author.

"A city is rising out of the jungle," remarks my Lao colleague Siphong, eyes wide as we approach Boten and the tops of buildings emerge from behind the red hillsides. It is July 2019; the summer air is heavy and thick with dust as dump trucks buzz between construction sites. We soon hear what will become the familiar sound of explosives used to level the mountainous landscape. There is a stark difference between the razed red earth and dense green forests along our drive here. Boten—a Special Economic Zone (SEZ) in Laos at the border with Yunnan, China—is being built by Chinese developers primarily for Chinese investors, and like most SEZs it offers trade, tax, and investment incentives. This was Siphong's first visit to the zone and she quickly determined: "I've never seen anything like this. It's not Laos anymore"—a common conclusion where the use of the Chinese currency, language, and time zone have prompted intense debates over sovereignty and overlapping state power (Laungaramsri 2019). Tan (2012), for example, argues that this dynamic creates Chinese enclaves in Laos that actually reinforce Lao state power, while others contend that sovereignty lies with private corporations that borrow legitimacy from both states (Nyíri 2012).

Explosives used to clear hills and forest.
Photo: Jessica DiCarlo, 2019.

Designated an SEZ in 2003 by the Lao government, Boten developed a lawless reputation as a casino border town near China and Thailand, where gambling is illegal. Reports of violence, kidnapping, and the murder of gamblers who were unable to repay debts led to its shutdown in 2011 by the Lao government at the behest of the Chinese state. However, following the agreement to construct the Laos–China Railway, the respective central governments dubbed Boten a high-level project, and both the SEZ and railway have become flagship infrastructures under the Belt and Road Initiative, China's gargantuan infrastructure project that spans over one hundred countries. After four years of planning and negotiation, reconstruction began in 2016 and Boten has swiftly become a space of anticipation founded on promises of regional connectivity. Haicheng Group, a Yunnan-based developer with a US$10 billion+, fifteen-year construction plan, is reviving the city for real estate, tourism, and logistics, with a strict no-casino policy.

The zone model is often viewed as a blank slate for urban development (Bach 2019) or a city without history (Oakes 2019). Like many Chinese SEZs in and outside of China (Yueng et al. 2009; Bräutigam and Xiaoyang 2011), Boten is modeled on Shenzhen SEZ. Established in 1979, Shenzhen was an experimental area for China's 1978 Reform and Opening policies. As the country's first and exemplary SEZ, it ballooned from a 30,000-person town to a metropolis of 12 million with a GDP that recently exceeded that of Hong Kong (for a history of Shenzhen's transformation see O'Donnell et al. 2017). Images of Boten as a new Shenzhen adorn billboards on the main thoroughfare declaring: "This is the Shenzhen Special Economic Zone in 1979. Different times, the same great cause."[1] Yet the dust that blankets the bottom of these billboards, along with the adjacent decaying and vacant buildings diminish this spectacle and challenge the ahistorical, blank-slate notion of the SEZ.

Development as palimpsest

While portrayed as a city-making tabula rasa, Boten is built on the rubble of past infrastructures as well as on visions of modernity. Here, infrastructures encompass not only the pipes, concrete, and materials that make up the previously defunct casino town, but also the local and regional topological and cultural contexts that existed before SEZ construction. Facets of these contexts are replicated in the new city architecture and deemed essential to reviving Boten. Some are hidden: casinos transformed into shops and workers' residences. Others are resurrected and made visible through the layering of architectures that accentuate certain cultural and ecological aesthetics: Buddhist temples and the reproduction of the Lao village that was displaced to make way for the SEZ. Haicheng Group's use of these layers produces the effect of Boten's development as palimpsest—something reused or altered that bears visible traces of earlier forms. A similar notion of palimpsest in urban planning conceptualizes land as artifact, project, and product shaped by human processes that "tirelessly erase and rewrite … the soil" (Corboz 1983: 17).

As all infrastructure, from cities to roads, generates meaning (Larkin 2008; Harvey and Knox 2012; Larkin 2013), so architectural aesthetics evoke awe or desire that engender new norms in city-building (Ghertner 2015). While Shenzhen's built environment

was designed to reflect globality and a modern China (Cartier 2002), Boten relies on both modern and vernacular architecture.[2] Here, architecture overlaps with and reproduces previous infrastructure to promote the city-to-be as one of "economy and ecology; tranquility and vitality". Architecture—both its design and its representation—is inseparable from infrastructure as it generates visions for the future by reinscribing infrastructure of the past.

Turning an architectural lens on Boten reveals juxtapositions in design plans; far from cohesive, these amalgamate as a multicultural mix meant to render Boten investable as a global city. Encapsulated in the slogan «看见磨丁看见世界» ("See Boten, see the world"), it is a place where you can 'have it all': high-rises, villages, and pristine nature. The SEZ is divided into four sub-zones: a central business district, a cultural park, a tourism area, and the free trade zone. Plain, box-like high-rises tightly line the business district streets, while architectural flourishes decorate some structures, approximating their Southeast Asian-ness. Design plans draw on Buddhist symbols, colonial architecture, and the sweeping roofs of Lao and Thai temples to develop a sense of the exotic or authentic through material connections between people, places, and times.

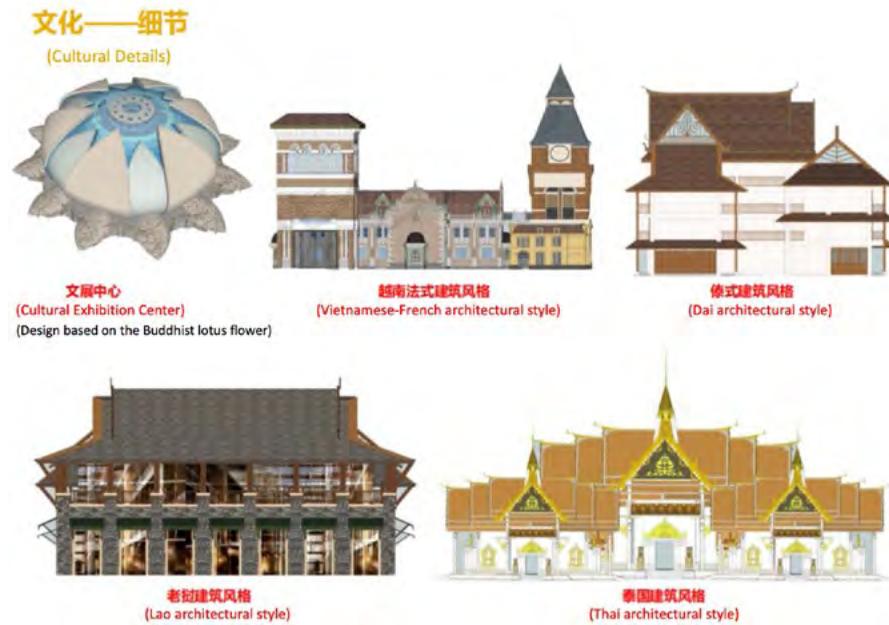*A temple under construction with Boten's city center in the distance.* Photo: Haicheng Marketing, 2020.

Replica of That Luang stupa at the Lao border checkpoint. Photo: Jessica DiCarlo 2019.

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Yet static cultural appeals—those that idealize Laos as simple and rural, neglecting the ever-evolving aspects of culture—can have contested meanings (Lees 2008; Su 2011). For example, That Luang stupa is considered to be Laos' most important religious and national monument. In contrast to its esteemed location in Vientiane, a replica at the Boten border checkpoint is inundated by trucks and dwarfed by half-built high-rises. Other vaguely Buddhist replicas, including Lao-Thai-style temples, are under construction.

文化——细节
(Cultural Details)

文展中心
(Cultural Exhibition Center)
(Design based on the Buddhist lotus flower)

越南法式建筑风格
(Vietnamese-French architectural style)

傣式建筑风格
(Dai architectural style)

老挝建筑风格
(Lao architectural style)

泰国建筑风格
(Thai architectural style)

Architectural design plans and styles shared by Haicheng (translations by author).

Along with exhibiting representations of culture, village architectures signify proximity to nature. In my interviews, Haicheng employees, potential investors, and homebuyers (all from China) expressed desires to live in a clean environment. Yet amidst the ongoing construction, removal of vegetation, and leveling of land, this sought-after environment was very much elusive. I inquired about this conundrum with members of Haicheng's tourism team, with whom I spent time throughout my fieldwork. They proposed that we visit Ban NanThong (*ban* or *baan* is the Lao word for village), a recently completed reproduction of a Lao village, which would provide the nature and culture they envisioned.

As our beat-up jeep rattled along a freshly cleared dirt road toward NanThong, a shared relief at escaping the relentless drone of construction filled the vehicle. I had little idea what sort of village façade to expect after spending fifteen months tacking between various construction sites and the Lao, Khmu, and Hmong villages that surrounded them. We meandered up a stone path and crossed a wooden bridge over a pond to see ten 'traditional', nondescript bamboo and wood homes. They were surrounded by areas for tourists to eat, drink, and play games. The apartment sales team was also present, rehearsing their pitch on the village's 'authentic reconstruction'—this, I learned, was their first experience in such a place. They described the benefits of the

Lao environment: local culture and mountainous landscapes just a short drive from the bustling, economic center of the SEZ and the border with China.

Similar to China's cultural tourism sites that were promoted in the late 1990s as part of state-led development projects (Oakes 1998), so the Lao village has been turned into a simulacrum to be consumed. Haicheng has hired Lao people from Luang Namtha province to live in NanThong and demonstrate traditional crafts such as weaving and basket-making. The main attraction is a replica of the old salt factory with local production techniques on display. The original cracked concrete pumphouse stands next to a new open-air pavilion where drawings of elephants and idyllic, rural communities hang on the walls. The architecture here mimics infrastructure removed for SEZ construction in the early 2000s, making NanThong an exhibition space that represents notions of, yet is separate from, ongoing processes of local culture.

Like reproductions of Western architecture in China (Bosker 2013) or tourist yurts in Inner Mongolia (Evans and Humphrey 2012), design choices that imitate Southeast Asian aesthetics position Boten as a locally and culturally embedded city. While estranged from their original context, layers of meaning are revived through architecture and aesthetics to render the city-in-the-making investable. Architectural flourishes, replicas, and the juxtaposition of village and high-rise point to multiple imaginaries of Laos and notions of what is desired by potential investors, homebuyers, and tourists from China. Reading Boten as palimpsest of infrastructure and/as architecture tells us about past landscapes and future visions for the SEZ, underscoring the fact that new cities, even those advertised as built from scratch, are never constructed on untouched space but depend on and are layered with historical, cultural, and material artifacts.

Notes:

[1] Chinese posters use "Borten" (with an "r") due to its pronunciation by Mandarin speakers. In this essay, I use the Lao spelling "Boten."

[2] See Vellinga 2011 for a discussion on critical anthropological approaches to vernacular architecture.

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Colonial Resonances

Jon Schubert

In this essay I chart the resonance of colonial urbanism in contemporary urban renewal projects in the Angolan port city of Lobito. I trace how the city's aesthetics and design reflect and produce its social, material, and economic connections throughout the cyclical ups and downs of its fortunes. Riffing off Christina Schwenkel, we can study the "lingering affectations and sentimentalities" of past economic and political regimes through a city's bricks and their affective resonances (2013: 254–55). While Angola has undergone profound political, ideological, social, and economic change since the beginning of the twentieth century, Lobito's architecture still echoes with the logics and needs of extractive capitalism. I begin with a brief history of the port and railway in the city, then work through the affects of former railway and port workers to consider the transformation of the built environment following Angolan independence in 1975.

At the entrance to the neighbourhood of Compão and across from the workshops of the Benguela Railway, stand three slightly crumbling, off-white buildings with distinctive exterior staircases. The Três Pisos (Portuguese for 'three floors'), as they are known in Lobito, were built in the late 1950s as company housing for railway workers. Emblematic of the way the city was planned and built, the Três Pisos reflect a colonial aesthetic

and the spatial engineering of the Portuguese colonial regime, where companies such as the Benguela Railway (Caminho de Ferro de Benguela, CFB) or the Port of Lobito sought to mould worker subjectivities.

While neighbouring Benguela, the provincial capital, had been a centre of the Portuguese Atlantic (slave) trade since the 1600s, Lobito is very much the product of twentieth-century colonial extractive capitalism. The city was built around the port, taking advantage of a natural deepwater bay sheltered from the open ocean by its Restinga (sandspit); this orientation still marks the spatial layout of the city today. The port served as terminus of the Benguela Railway, which by 1931 linked the Zambian Copperbelt and the mines of Katanga with the Atlantic coast and further to the European industrial heartlands. So from the outset, the city was geared towards the needs of the port and the railway.

The iconic Três Pisos buildings of the CFB in Compão.
Photo: Jon Schubert, May 2019.

New flats for port workers near the Military Academy.
Photo: Jon Schubert, May 2019.

Portuguese colonialism shifted into high gear after the Second World War, cloaking the intensified settlement and economic exploitation of its Overseas Provinces (colonies, in effect) in the mantle of a civilizing mission. This translated into a flurry of modernist urban construction, in Angola mainly in the capital Luanda (Gastrow 2020: 101; see also Buire, forthcoming) but also in provincial towns. In Lobito, colonial power needed to cultivate a readily available Indigenous workforce while upholding racial segregation. Combined with the paternalistic impulses typical of company towns, this induced "spatial engineering" (Herod 2011): the establishment of designated neighbourhoods to promote specific social formations and to mould Africans to new forms of industriousness, individual advancement, and urban sociality (Byerley 2011: 492).

In Três Pisos, *papá* Mpanzu, a retired machinist of 71 years, told me how, when he joined the CFB, he had received a flat there: "These were mainly for the drivers and the men of the station. The company did this because when the company was working at its fullest, the *chamador* [the caller, who went around the houses to rouse the workers] could come at any hour to call you. And the flats here are good. In Bairro da Praia, the houses are much smaller. Here it was always higher-up people (*gente superior*). And on the Restinga, that was for the directors" (Fieldwork interview, May 2019). This is still the case, with the higher cadres of parastatals, public administration, and international companies enjoying the airy villas that line the peninsula.

Central Lobito.
Map: Jon Schubert.
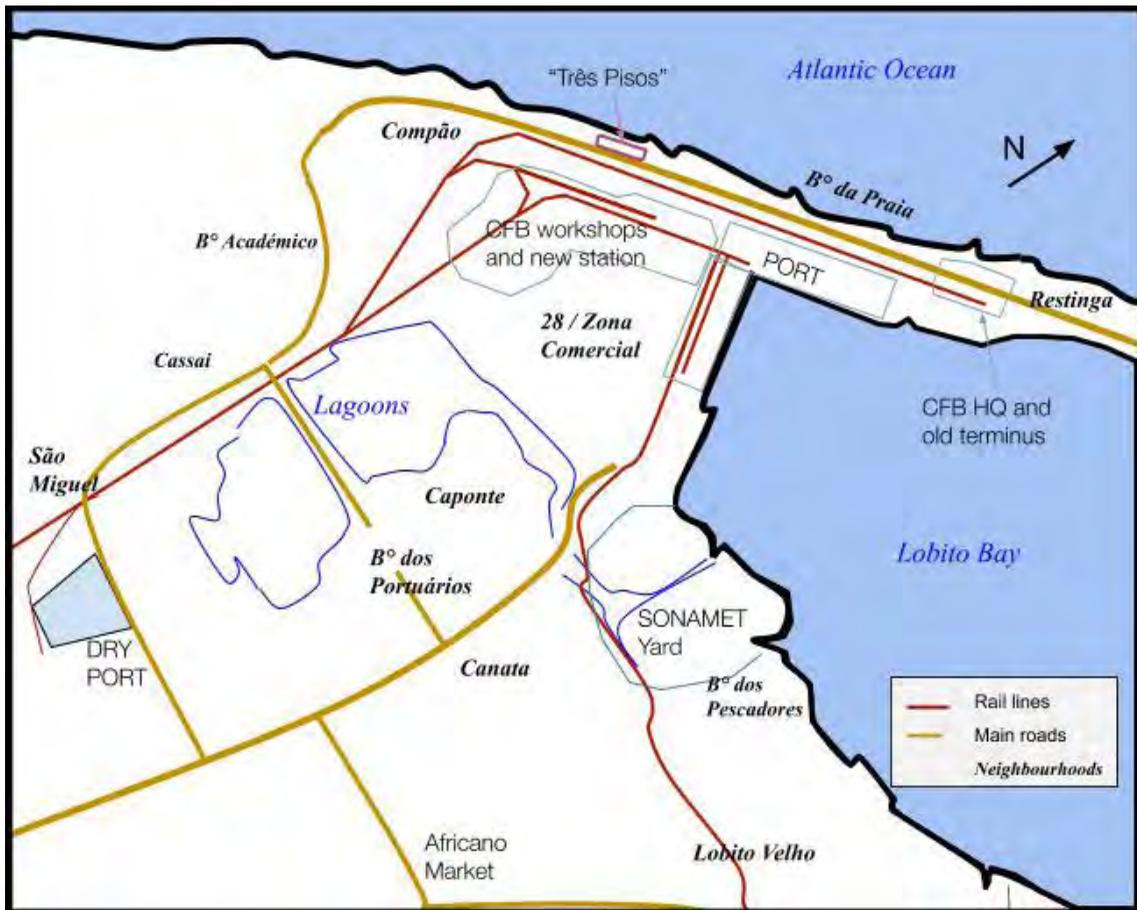
By contrast, basic workers – welders, carpenters, mechanics – were given smaller, red-painted houses in São Miguel. This neighbourhood was a bit farther away, without tarred roads, but the living was good here back in colonial times, as former workers reminisced fondly: "The streets were all landscaped. And irrigated, with a lot of water. There was a fountain, and the streets were illuminated. This was a beautiful *vila* (hamlet)" – so *papá* Milreis, a retired waggon technician in his seventies, told me as we sat in the now slightly run-down but still carefully swept small public garden in the heart of São Miguel.

Like most of his contemporaries, Milreis had come down from the central highlands in the late 1960s, to be apprenticed into a technical profession with the Benguela Railway or the port: "Coming here was a great pampering [in the beginning]. With those who came in after the plague that was the war [1975-2002], the *bairro* (neighbourhood) was choked; they started using things anarchically, throwing rubbish down the drains and toilets, breaking the water pumps." Even in its current state of relative neglect, to its residents São Miguel feels like a privileged location compared to the dusty, beige *musseques* (shantytowns) that mushroomed, largely unplanned, on the hillsides and plateau during the civil war.

Diana Bocarejo suggests that, in Colombia, banana plantation workers "have learned to understand the spatial order embedded in railroads [...] and the layout of their houses and neighbourhoods. Seeing and hearing these infrastructures is akin to reliving the loud history of the peasants' struggles [...] – their endurance, dreams, expectations, joys and resentments" (2018: 3). In Lobito, too, citizens have learnt to read the urban landscape as an expression of a specific kind of social order. Following the divisions of labour, class, and race imposed by Portuguese colonialism, in independent Angola this has been an order and vision of development shaped by one ruling party, the MPLA (Movimento Popular de Libertação de Angola). A former liberation movement turned Marxist vanguard party turned capitalist dominant party, the MPLA in many cases ended up mimicking modes of domination, exploitation, control, and social stratification inherited from the coloniser (Schubert 2017: 84–90).

After independence in 1975, the country was plunged into civil war, when, exacerbated by the Cold War, the MPLA was pitted against another anticolonial liberation movement, UNITA (the National Union for the Total Liberation of Angola). The Benguela Railway fell into disrepair and disuse due to UNITA's repeated attacks on the railway line. The port thus became a crucial lifeline for the southern part of the country, allowing for the import of essential foodstuffs when the cities were cut off from the agricultural hinterland. After the end of the war in 2002, the MPLA government, uncontested and flush with oil money, embarked on a massive national reconstruction drive (Schubert 2015). The rehabilitation of the CFB and modernisation of the port were at the heart of these ambitions.

The port of Lobito now boasts several kilometres of rehabilitated quays and new cranes for the container terminal, a new dry port (inland rail container terminal), and a state-of-the-art minerals terminal for the export of bulk minerals. However, in late 2014 the price of a barrel of crude oil fell from about 110 USD to 62 USD. With oil production making up 75 percent of government revenue, Angola plunged into a deep recession.

View from the middle of the Restinga towards the Port.
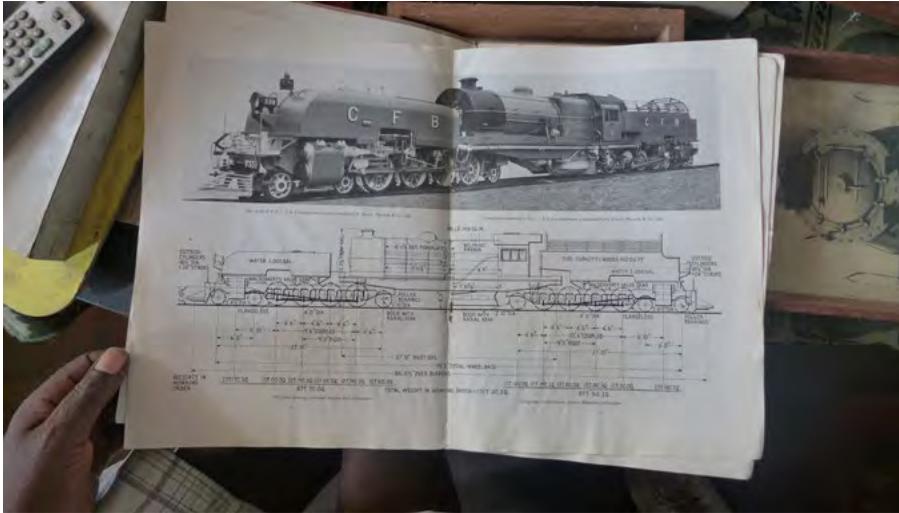Photo: Jon Schubert, April 2019.

The main quay of the container terminal, Lobito.
Photo: Jon Schubert, June 2019.

Now there is almost no cargo coming in, much less going out. The dry port is empty, the minerals terminal unused, and most of the new cranes are standing still. For the former workers of São Miguel, the empty dry port, hulking over the walls that separate it from their residences, is a stark reminder of the broken promises of postwar reconstruction.

Reminiscing about the CFB's glorious past in Bairro da Praia.
Photo: Jon Schubert, June 2019.

Even for the seemingly more secure middle-class, life after the reconstruction boom is precarious. Shiny new residential areas have been built, nominally for the workers and functionaries of the CFB, the port, the state oil company Sonangol, or for compliant state functionaries. These echo the aesthetics and spatial engineering ambitions of developmental colonial capitalism. However, they largely stand empty, awaiting final completion, having served chiefly as vehicles for speculation and the enrichment of certain MPLA-connected elites. In order to keep their rights to the properties, the nominal tenants have been paying rent, sometimes for years, without having ever lived there – powerlessly watching as the structures and fixtures slowly break down from dust and disuse.

The architecture of Lobito resonates with colonial paternalism that finds an unlikely echo in contemporary, oil-dependent crony capitalism. The port and railway still loom large over the cityscape, both physical and imagined, determining the fortunes of the town. Ideas of beauty, civilizedness, and the urban good life propagated by Portuguese high colonialism's civilizing mission reverberate uncannily in the Angolan government's reconstruction projects designed, ostensibly, to reorder an urban space degraded by years of war and neglect. Shaped by this experience of conflict and destruction, Lobitans by and large do not contest company paternalism and segregation on an infrastructural terrain (cf. von Schnitzler 2018 for South African townships). Rather, they project onto the city's architecture a desire for the ordering hand of the state, not against it. As such, colonial race and class divisions that were inscribed into the city's layout persist despite the promises of reconstruction and renewal, revealing the fundamental inequalities and unsustainability of extractive capitalism, then and now.

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Chandigarh beyond Le Corbusier

Bärbel Högner and Jürg Gasser

Chandigarh, located 250 km north of New Delhi, represents an outstanding example of postcolonial urban planning. When construction of the city from scratch started in 1951, the gigantic project showcased India's ambitions towards modernisation after independence. It drew the attention of architects and urban planners worldwide, since Le Corbusier (1887–1965) was commissioned as architectural advisor. The French avant-garde architect finalised the masterplan according to ideas of Western functionalism, and he designed three government buildings for the capital of Punjab province. UNESCO's recognition of these brutalist structures, the Capitol Complex, as a World Heritage Site in 2016 fostered the internationally widespread narrative of Chandigarh being an artefact created by Le Corbusier. However, a closer look at its genesis reveals that really the scale, infrastructure and look of the city were all envisioned and implemented by Indian administrators and engineers. More than one million people live in the so-called City Beautiful today and Le Corbusier undoubtedly shaped a unique urbanism. Yet, drawing on ethnographic explorations during 18 months of fieldwork between 2006 and 2013, I argue that Chandigarh's development towards a pulsating habitat rests upon the agency of those Indian authorities, who in 1947 boldly initiated the conceptual city with contemporary physical and social infrastructures.
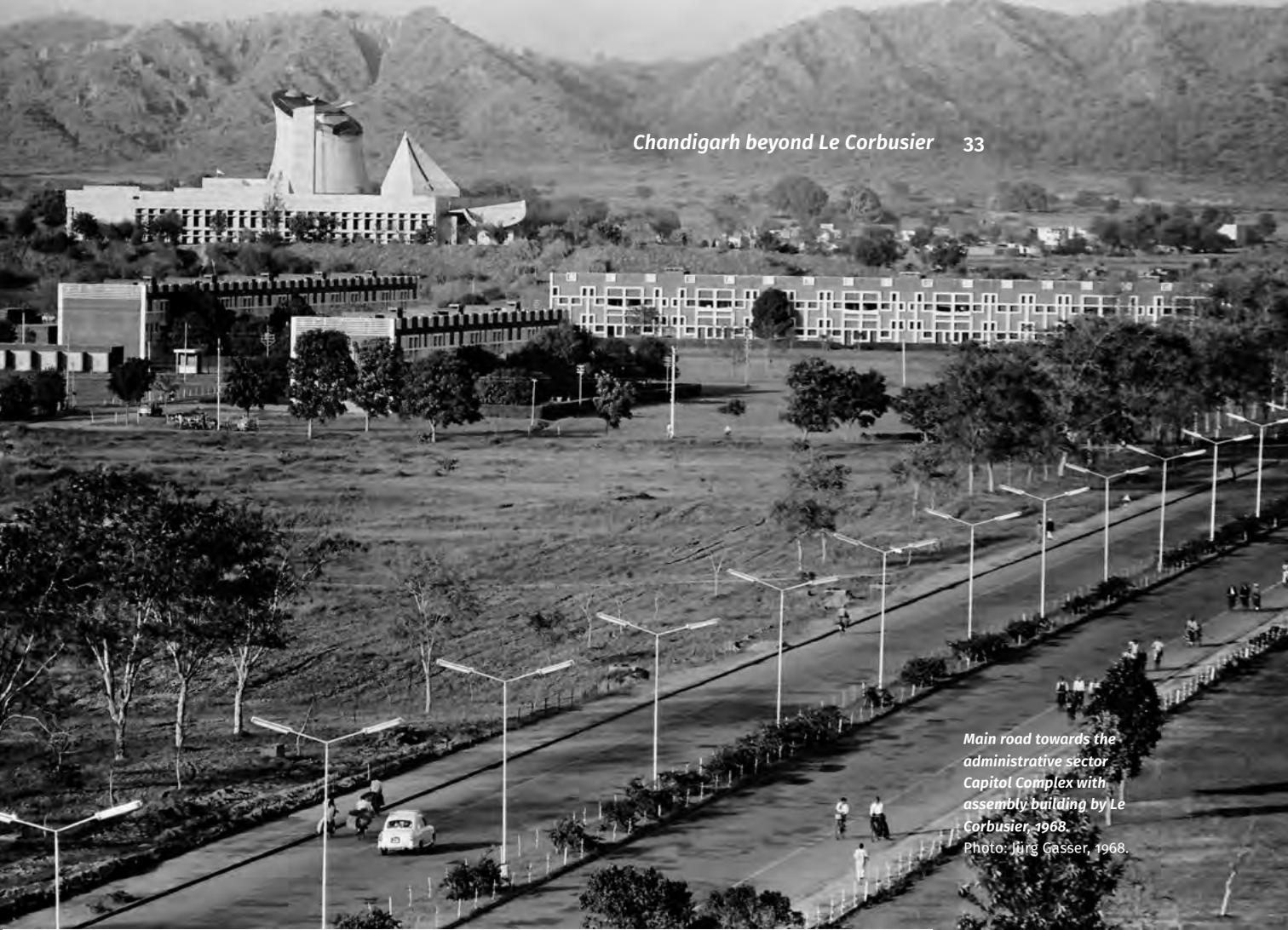
Main road towards the administrative sector Capitol Complex with assembly building by Le Corbusier, 1968.
Photo: Jürg Gasser, 1968.

The "functional city" inside Chandigarh's wider territory (orange). The concept designates spaces for living, working, leisure and circulation. In 1966, political changes in the Punjab led to the emergence of two satellite towns outside the masterplan.
Map: Bärbel Högner, 2009.

In 1948, the Chandigarh chief engineer Varma, chief commissioner Thapar and engineer Dogra set out in a small plane looking for a site to realise a capital for the newly formed Indian province of Punjab. Their mission was loaded with ambitions and emotions. Before the independence of India, their families had lived in Lahore, the cultural and economic hub of undivided Punjab. Under British colonial rule, the city – known for its Mughal architecture in the walled centre – expanded: business activities boomed, education facilities developed and residential quarters with systematic layouts emerged. The three men, trained at British colleges, belonged to elite Indian circles. But as Hindus and Sikhs, they had to join the mass exodus of millions of people crossing the new border when imperial British India was split and the Punjab territory subsequently divided, with Lahore assigned to Pakistan. Hence, the Indian Punjab required an alternative administrative centre. Sharma, who joined the project as a young architect, explained that the concerned government officers imagined a newly planned urban settlement that would be "better than Lahore" (Hogner 2010: 163). "Better" here referred to the idea of state-of-the-art infrastructure and an ultra-modern aesthetics: something new and different in response to the loss of Lahore.

The Flower Festival in Chandigarh. City statistics for 2017 listed the number of open green spaces as 96 parks and 1807 neighbourhood spaces. Photo: Bärbel Högner, 2009.

From a bird's-eye view the men chose a piece of land located between two rivers. Notably, they were already picturing a city for half a million inhabitants, whereas the concurrently planned Bhubaneswar in India's eastern state of Odisha aimed at a population of 30,000. The selected site met all the needs: a slight slope for the drainage system, riverbeds providing sand and stones required in the construction, and mountains on the horizon offering a beautiful view.

Upon arrival in January 1951, Le Corbusier and his three European colleagues who would share the massive task, appreciated the qualities of terrain, too. Things on the ground were prepared after lengthy negotiations with the Indigenous population of the area, whose villages needed to be demolished in favour of the coming urban structure. Le Corbusier was eager to implement Europe's then urbanistic zeitgeist: the Functional City. He had explained the concept when Varma and Thapar arrived at his Paris studio in 1950 in search of an experienced architect who would collaborate with Indian engineers and architects. The Swiss-born French star architect was attracted by the magnitude of the project but was unwilling to leave France. This led to the creation of a 'senior team' with his cousin Pierre Jeanneret and the British couple Maxwell Fry

and Jane Drew, who stayed in situ. Le Corbusier would detail plans with his team in Paris and visit India twice a year.

Surprisingly, the Indian authorities immediately accepted his quickly sketched abstract masterplan. Even today, the composition of an entire city in grid pattern through uniform rectangular sectors is considered an 'alien' model in India. The expansiveness and rationality of this urbanism were – and are – the antipode of what is regarded as a typical Indian city which extends organically from an inner core over time. Two reasons may explain the approval of the radical plan. Firstly, the project's audacity suited the national ideology of modernising the nation. It was supported by India's first Prime Minister Nehru, who viewed Chandigarh as an experiment that would inspire

Orientation in the systematically planned city in 1968: every address radiates moderness as it consists purely of numbers (sector # and house #).
Photo: Jürg Gasser, 1968

Market roads were an integral part of the sectors' planned social infrastructure. They traverse and connect the sectors and have become busy shopping areas.
Photo: Bärbel Högner, 2009.

the built environment of the new India (Khilnani 1999: 107–49). Secondly, as Sharma told me, the Punjabi clients were quickly convinced, since the schematic layout of straight roads on the ground and likewise straight pipes below promised an effective and economical implementation within their tight budget.

While the seemingly non-Indian masterplan was adopted outright, the Indian administrators rejected Le Corbusier's preference of high-rise dwellings. They insisted on low-rise housing according to garden-city ideals as experienced in British colonial urban planning. Being an administrative seat, Chandigarh required vast areas of government housing for public servants. The construction was guided by social criteria and this was emphasised by the Indian planners, who intended to turn away from the character

Early government housing in 1968, designed by Jeanneret, who lived as first chief architect in Chandigarh for fifteen years, and the British architect couple Fry and Drew who stayed from 1951 to 1954.
Photo: Jürg Gasser, 1968.

Maintenance of the Chandigarh-Style, referred to as "straight line" by residents. The availability of hand-made bricks and the climatic conditions (temperatures, wind and monsoon) led to purist design principles.
Photo: Bärbel Högner, 2009.

of 'old cities', where density and rudimentary sanitation prevailed. The Chandigarh project mandated that all government employees would receive the same quality of housing, regardless of their rank and social status: each house had water, drainage and electricity and was equipped with a courtyard or garden. The provision of such area-wide infrastructural fittings was a sensation in India at the time, marking the city as a role-model for postcolonial urbanisation.

The basic element of the masterplan was the autonomous neighbourhood unit. The task of filling the first sectors with everyday architecture lay in the hands of the senior team, who cooperated with young Indian architects. Their cubist-influenced design approach of the 1950s – termed the Chandigarh-Style (Joshi 1999) – extended to all public buildings, such as schools, colleges, hospitals, sports facilities or market roads. Remarkably, the overall look of the city was also born from the thoughts of the Punjabi authorities. In anticipation of the habits of future residents, who might want to improvise housing according to personal needs, they had strict bye-laws on construction worked out in 1951. These rules – still in place today – provided a comprehensive aesthetics for the new capital, clearly indicating the notion of a planned and modern settlement.

Growth of the tree concept (as of 1968) to provide shade for drivers along the main roads. Indigenous plants from all over India were collected to beautify the city with different flowers and foliage.
Photo: Jürg Gasser, 1968.

Chandigarh was the first city in India to have an overall sewerage system including storm-water drainage. In the 1950s, when few vehicles circulated within the city, the road network seemed futuristic. But in the meantime, the city founders' vision to build something grand has paid off. All fifty-six sectors are now filled, the road system is perfectly maintained and the place is liberally dotted with open green spaces. Chandigarh has advanced as a regional hub for administration, health services and education. Young people from all over India come to study, migration for all kinds of work continues and the city ranks among India's highest in terms of per-capita income.

Compared to other cities on the subcontinent, the City Beautiful has less smog, less congestion, less dirt and many trees. The architecture once set striking new standards but has become something accepted simply as part of the fabric of everyday reality. By contrast, the physical and social infrastructures continue to have a great impact on residents' feelings about their city. A number of my interview partners summarised the value of the place with the likes of: "The city has good roads, good parks, good schools and good doctors," often complemented by: "We don't want to live anywhere else."

Chandigarh's road network extends to a length of 3270km (as per 2017 figures). Street types range from three-lane main roads defining the sectors to paths within housing areas.
Photo: Bärbel Högner, 2009.

Slowly the enforced urban modernity merged with the multitude of regional customs, religious rituals and social habits. The diversity of people settling in Chandigarh from all over the country led to its self-attribution as being a Mini-India – a positive notion referring to tolerance in coexisting. Yet representing all facets of India also involves the critical issue of social divides along the lines of caste and class. The most obvious manifestation of this is the presence of slums and so-called colonies. These appeared in the 1960s as the built environment expanded inside the masterplan's area and the masses of construction workers were gradually forced to shift their huts to its margins (Sarin 1982). This situation revealed a shortcoming of the city's concept: Chandigarh was planned for people with a formal regular income. Those who earn their living on a day-to-day basis have the right to work in – and for – the city, but the masterplan did not foresee plots for them to dwell within its territory. The elimination of slums is an ongoing topic in the local media, because their existence spoils the image of the impeccable new place.

One could discredit the Indian planners for this oversight or – compared with the case of Brasília – criticise the modernist city concept per se (Holston 1989). However, when looking at the original objective – to build a new and better Lahore – the sustainable aspects of the city's radical planning deserve acknowledgement. Although the population has long been double the envisioned number, the ideals of site-specific architecture and infrastructure have not drifted apart, because the majority of inhabitants identify with the city's formal design and seek its continuity. The chance to live in a location that is "new and different" is the trademark of Chandigarh. My ethnographic enquiry revealed manifold personal meanings attached to the city's materiality, such as residents articulating emotions of "feeling close to nature" or the city giving them "personal freedom" in contrast to other Indian urban settings (Högner 2017: 288–311). Multifaceted living environments beyond Le Corbusier's interventions have arisen in Chandigarh. And yet, it is precisely the Indian authorities' agency of the early days that has allowed for the emergence of a vibrant cityscape. Their vision of a durable infrastructural framework had long-lasting impacts: like a skeleton, it holds together the diverse social fabric of today's Chandigarh.

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Acknowledgments:

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Bärbel Högner is a documentary photographer and anthropologist specialising in visual and urban anthropology with a thematic focus on transnational modernist architecture. The findings in this article are based on her field studies, carried out between 2006 and 2013, resulting in two monographs (see references): a photographic documentation of Chandigarh (2010) and her PhD research, an ethnography of the planned city (2017). Her images have been exhibited in various museums and galleries, among them Weltkulturen Museum in Frankfurt/Main and Museum aan de Stroom in Antwerp. With Susanne Fehlings, she is the founder and speaker of the working group on urban anthropology at the German Anthropological Association. She works as a freelance journalist and lecturer and is currently preparing an exhibition on tropical architecture in Brazil.

Jürg Gasser works as photographer, filmmaker and realises exhibitions. In 1968 he created the first ever exhibition on Chandigarh at the Pavillon Le Corbusier in Zürich. For this purpose, he had spent three weeks in the planned city documenting in analogue b/w-photographs the development and the appropriation of the place.

Light and Space-Making in the Accra Airport City, Ghana

Naomi Samake

Sterile, modern, bright. These were my first impressions of Ghana's Accra Airport City (AAC) during my research stay in November 2019. Zooming out, those three adjectives may very well describe the typology of airport cities across the globe. Airport complexes are often described as iconic and self-contained non-places (Augé 1995) severed and shielded from their host cities (Pirie 2007). AAC's brightly lit blue and white hues create an atmosphere that is on the one hand moderately familiar and, at the same time, quite different from the rest of Accra. The production of spaces through lighting techniques "diverts attention from the 'real'" (Lefebvre 1991: 389) and, in doing so, warrants our attention because of the way it affects the experience of architecture and urban landscapes.

Airport cities, like AAC, commonly use lighting technologies to govern the flow of interactions between time and space. By addressing the influence of light infrastructure on the vitality of AAC, this contribution explores the meaning of luminosity, the affect it has on daily patterns, and how light becomes a tool that leaves behind social and spatial consequences. This essay will first unravel the everyday politics of light and the ways such politics influence local perceptions of AAC in Ghana. I then

examine how light creates spaces of exclusion in order to explore certain practices that challenge the normative and intended plan of AAC. The article concludes by deconstructing common understandings of light and, on a larger scale, the plan and ideology of an airport city.

Politics of light

The politics of light interweaves infrastructural development in AAC with Ghana's colonial past and contemporary political and economic agendas. During World War II the airport was used by the British Royal Air Force and by 1956 a reconfiguration of the existing structure was launched to meet the global travel demand. With the independence of the Gold Coast (colonial Ghana) in 1957, completion of this project was signaled with the launch of a national airline, Ghana Airways, and the renaming to Kotoka International Airport in honor of a member of the National Liberation Council. To enable fast and affordable yet luxurious travel experiences, by the turn of the twenty-first century airports across the world were expanding their complexes, including in Ghana. In 2001, policy reform promoted private-sector involvement in national economic development (Arthur 2018). Similar to other airport cities, such development allowed AAC to become an "outpost [for] powerful, globally networked alliance[s] of property developers and transport enterprises" (Pirie 2007: 29).

AAC currently represents itself as a "planned miniature corporate and commercial business city complex … characterized mostly by privately owned, high-density, mixed land-use infrastructure" that, in addition to travel logistics, aims to provide office complexes, banks, hotels, restaurants, and shopping centers (Arthur 2018: 264). It is overseen by a fully state-owned enterprise, the Ghana Airport Company Ltd, and divided into twenty-two self-contained property projects. By using real estate to target commercial and business development, AAC intends to create a city-like environment and bring aspects of urban modernity into Accra.

Although the Ghanaian government has routinely voiced its commitment to provide all citizens with reliable electricity, lighting infrastructures and various levels of luminosity symbolically trigger local forms of inequality and instability. A lighting technician from the Ghana Dance Ensemble pointed out in a personal conversation that "you can tell the [socio-economic] status of certain neighborhoods by looking at the brightness of their streets." In 2015, the country experienced persistent, irregular, and unpredictable periods of electricity outages and, because of these power cuts, inherited the name Dumsor – an expression in the regional language Twi meaning "turn the lights on." In contrast, the luminosity that exudes from AAC epitomizes the inequalities embedded in the built environment and local memories.

LIBERATION ROAD

AIRPORT BYPASS ROAD

AAC hosts several notable buildings, including the National Communications Authority and Marina Mall, as well as housing international companies such as Bosch, Nissan Motors, and Nestlé. Property lots shown in white are unfinished. Sketch: Naomi Samake, November 2019.

Marriott Hotel

Nester Square

Stanbic Heights

Silver Star Tower

Manet Towers

Holiday Inn

UNA Shopping & Offices

Marina Mall

One Airport Square

Ibis Hotel

Atlantic Tower

SSNIT Emporium

NCA Tower

Mitsubishi Garage

Spaces of exclusion

While lighting technologies can create an ideal atmosphere for travelers' experiences, light infrastructure also, and even more importantly, materializes spaces of exclusion. With the phrase light infrastructure, I refer to the intended and planned street, decorative, and security fixtures in use during the day and the luminosity that exudes from these fixtures and from the planned complexes of AAC during the night. Light fixtures border AAC's circumference, only stopping at the few gates where vehicles may enter. Streetlights along the boundary face inward, creating an additional barrier alongside the barbed-wire fences, walls, and height extensions that already exist. All this infrastructure separates AAC from its surroundings and creates a closed container logic (Taylor 1994). Lighting techniques also mark different property lots; the sidewalks are illuminated by different fixtures than those found on private properties. Light stitches together the various paths and spaces intended for people to move and interact in. And at night, as the lights turn on, each property no longer stands in isolation but becomes part of this overall fabric of an exclusively modern airport city.

There are variations of lighting fixtures. Streets and sidewalks, for instance, are illuminated by different fixtures than those found on properties.
Sketch and photo: Naomi Samake, November 2019.
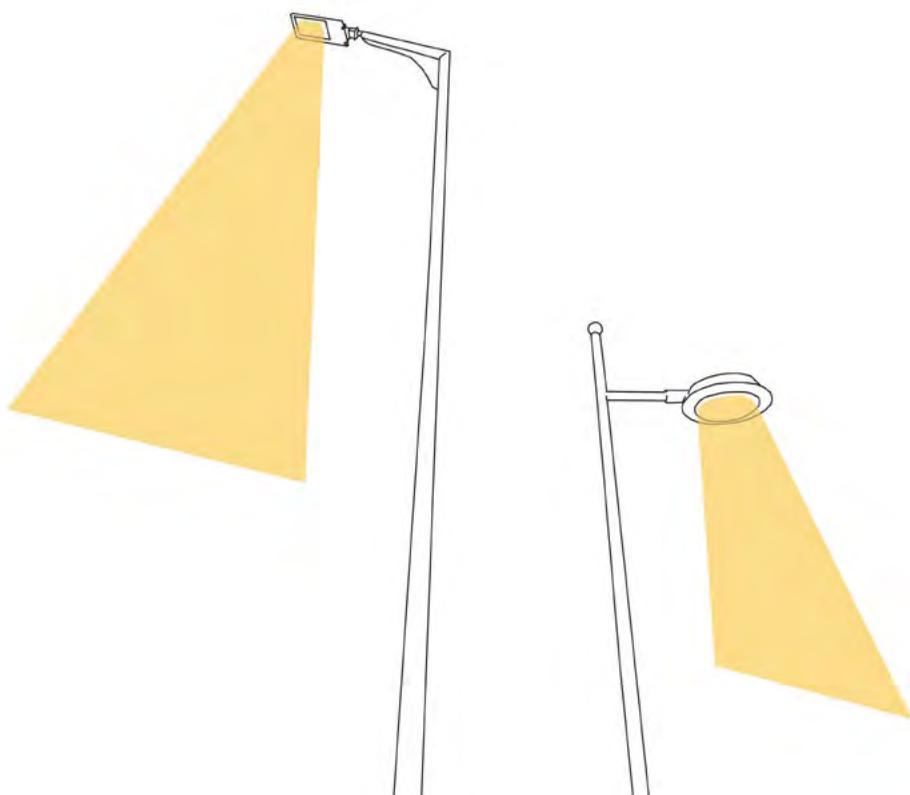
By looking at how people interact with and dwell within light infrastructure, the following two examples demonstrate everyday practices that contribute to the functioning of AAC.

Waiting areas

Where light shapes space and disciplines the notion of time, unfinished property lots enable new purposes in the absence of light fixtures – as in the case of an abandoned post office. Streetlamps are spread along the boundaries of this property, facing toward the street. Those that are lit only illuminate the property's fringe, yet social life is found in its shadows. Cars are parked in the dark with drivers waiting into the later end of the evening. Larger kitchen appliances are seen fading into the skeleton of the building. An intermittent cell phone light swoops along with the movement of an unidentified body. This property awaits connection to the grid. In the meantime, it serves as a space for personal drivers who wait for their clients, for delivery trucks who rest while waiting for their orders to be unloaded, for street vendors who wait for passer-buyers to sell a water sachet to, and it is where workers from neighboring buildings rest, eat, and meet one another as they wait for their next shift to begin.

An unfinished property lot with the skeleton of what is intended to become a post office – now a place to take a quick break or get a snack from local street vendors.
Drawing: Naomi Samake, November 2019.

Waiting is a normative description but it can also signal a critique of the current context of global capitalism and late liberalism (Olson 2015). Waiting in non-lit spaces in AAC emphasizes that "waiting … produces hierarchies which segregate people and places into those which matter and those which do not" (Ramdas 2012: 834). Approaching the places that light infrastructure leaves behind opens a perspective beyond the shiny global allusions of an airport city. Although they were not planned, repurposed spaces like these engender productive areas and nourish the daily functioning of AAC.

Food stands

As AAC continues to expand, for employees, security guards, and construction workers, as well as businesspeople who visit regularly, it is becoming evident that some local economic practices were not part of the overall plan. This includes the supply of affordable food. Temporary food stands and street vendors have negotiated their way into unlit spaces within AAC to fill this gap in the market. Amelia, for instance, is the daughter of a female street-food vendor. Amelia has learned her mother's recipes and inherited her network. Although she herself is Hausa, she serves her daily customers with ethnic Akan food. Two employees from the nearby Vodafone

From Monday to Saturday, by eleven o'clock in the morning plantains are roasting on a wire grill, heated by charcoal, while beans and rice keep warm on a portable propane stove.
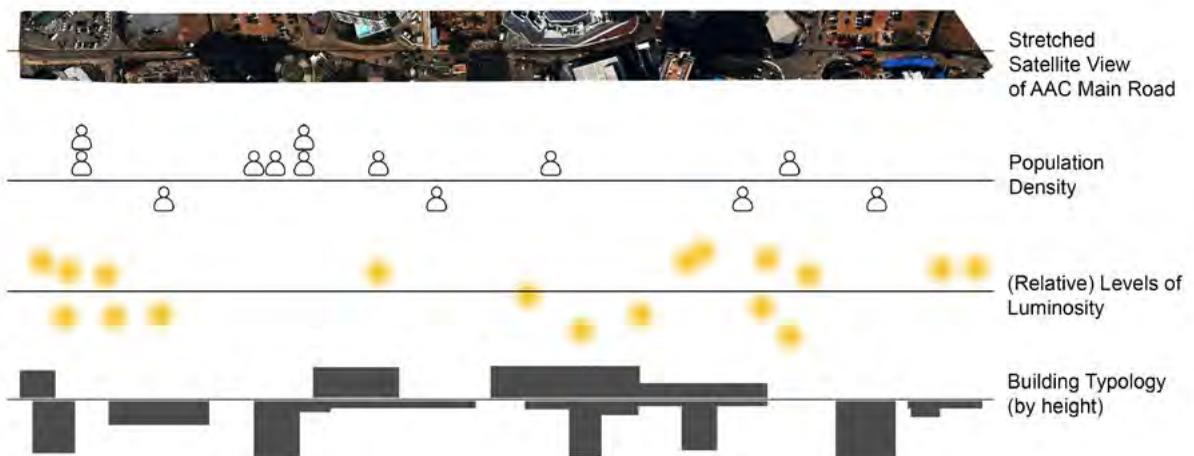Drawing: Naomi Samake, November 2019.

offices said that they come to this stand two or three times a week for her roasted plantains. Wooden planks, aluminum sheets, and chicken wire hold her stall together. Although Amelia's temporary stand is not directly under streetlights and her space does not have electricity, across the road beam bright white LED lights that 'survey' the Silver Star Tower property. In sequence to AAC, as the lights turn on around six to seven o'clock in the evening, nightlife begins. Yet this is when Amelia, along with other vendors, leave. Amelia has appropriated this space for a little less than a year, but once construction on the site is finished, she will need to find a new location to work.

Conclusion

AAC's artificial lighting technologies advertise this space as a realm of economic and commercial transactions, marking signs of life, livelihood, and valuable human activity. Yet the true distribution of activity throughout AAC in relation to levels of luminosity shows a different story. And while light becomes an essential design component of architecture for the creation of an idealistic place of modernity, we also see the variations between airport cities, as they are predisposed to local norms, practices, and conditions (Pirie 2007). Quiet encroachments (Ballard 2014), such as the practices sketched here, within and beyond the existing light infrastructure challenge on a micro level the planned AAC. It is the array of these practices that reflects the essence of daily life in Accra. So, while light technologies often stand for a modernity that attracts business and development, there are still limitations to light infrastructures and their ability to influence certain processes. In the example of AAC, local conditions and practices seep in to patch the holes in its planned space. Yet these local practices and norms are small contestations of the ideology promoted by a world-class development like AAC.

A compilation of several walking surveys along AAC's main road. Each level represents the same path taken during these observations and distinguishes the distribution of people, luminosity levels, and height of the building complexes.
Figure: Naomi Samake, November 2019.

Stretched Satellite View of AAC Main Road

Population Density

(Relative) Levels of Luminosity

Building Typology (by height)

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Feminine *Intrastructures* in a Men-made City

Anna-Maria Walter and Anna Grieser

In Gilgit city, capital of Pakistan's northernmost region Gilgit-Baltistan, women are largely absent from public space. The streets are filled with men: male soldiers patrol military checkpoints,[1] men steer motorbikes and public transport vans through busy traffic, male shopkeepers sit among their open displays of merchandise along the arterial roads. In a society organized along *purdah* lines – gender segregation that maintains the seclusion of women – running errands outside of the home falls into the area of the man's responsibility. Consequently, men dominate the city center's fruit and vegetable stalls, electronics and crockery shops, restaurants, and banks – as shopkeepers and staff as well as customers.

Women rarely venture into masculine public spaces such as markets, and when they do, they are often accompanied by a male chaperone, are appropriately veiled, and move quickly into side alleys so as to spend as little time as possible 'out of place', limiting their interactions with men who are not family members. Women's spaces are the home and their neighborhoods, where they live among extended kin and move relatively freely since unknown men avoid these semi-private backstreets (Gratz 2006). Spatial seclusion, the "symbolic shelter" (Papanek 1982: 35) of women's large veils,

and embodied reserve (Walter 2016) safeguard them against threats from the outside world, be they real masculinist transgressions or mutual surveillance of one's family's reputation. Due to large-scale migration from the region's relatively remote valleys to the urban areas of Gilgit in the last few decades,[2] its population now is ethnically, linguistically, and religiously very heterogeneous – creating an atmosphere prone to mistrust and gossip that scrutinizes women's movement through the cityscape (Grieser 2016). Accordingly, public transport and restaurants provide spaces designated for women, and only a few schools teach students in a co-educational setting.

Gilgit's markets are dominated by men. Photo: Claudia Stadler, 2013.

▶ Click here to open an audio file recorded in one of Gilgit's neighborhoods. Recording: Anna-Maria Walter, 2014.

With a more diverse and dense population, urban planning and private architecture in Gilgit have been shaped by increasingly gendered spatial segregation and the seclusion of women. Residential buildings are designed to follow *purdah* imperatives: windows

do not face onto the street, walkways, or neighboring homes; high walls cloister houses and courtyards from the outside; newly built houses always include a separate guest room in order to keep visiting men out of the main home. Yet, however strict attempts at separation might seem, they are only necessary because full segregation along gendered lines is simply not possible – women and men's lives intersect on multiple levels and are especially deeply entangled at home.

Overview of Gilgit from adjacent hillside.
Photo: Anna-Maria Walter, 2014.

Drawing on insights taken from 2011 to today from small neighborhood shops run by women, we reveal how women creatively use the spaces that are accessible to them in order to address their needs. We argue that while women have no direct effect on urban planning, architectural design, or built infrastructure, they subvert the masculinist city from within, creating an *intrastructure* that is characterized by the appropriation of existing architectural elements.

Although women's participation in Pakistan's formal job sector has gradually increased over recent decades, gendered city spaces, infrastructures, and expectations continue to make the securing of paid employment a challenge for women in Gilgit-Baltistan, as is the case throughout the country (Mirza 2002; Ahmad 2012). In Gilgit, women have therefore found a way to engage in economic activity on their own terms, both as entrepreneurs as well as customers: in the private space of the home they establish commercial 'ladies' shops' and 'beauty parlors' as they are called using these English words. The first ladies' shop in the city opened in a private house around 1960 (Gratz 1998). Over time, a semi-public shopping scene complementary to the male-dominated public bazaar has emerged in Gilgit's residential areas, all run by women for women. The majority of ladies' shops operate inconspicuously behind high walls and closed gates; there might only be a faded signboard above a door to indicate the entrance.

But step through the door and an entirely different space opens up, one that is very much an inverse of the public sphere. Here women linger, chatting and laughing in a relaxed atmosphere, unconcerned about loose *dupattas* ('veils', in Urdu) and exposed skin, their clothes intensely colored and contrasting with the dusty grey of the general cityscape. As Banu,[3] a shop-owner in her mid-forties explained, the fact that there are no men in the ladies' shops makes her customers feel at ease. A married woman in her late twenties chimed in: "There is no rush in the ladies' shops, you can do your

shopping in peace (*skoon*)." Women take their time browsing embroidered housewares, women's and children's wardrobes, lingerie, toiletries, and other household or women's products, waiting their turn to get their hair colored or eyebrows shaped.

In many ways, Gilgit's ladies' shops and beauty parlors conform to properties generally assigned to infrastructure: they are embedded, often invisible. As infrastructures are ideally entrenched, hidden behind walls or under streets, they are only noticed when they fail and have to be exposed for repair. They mediate and shape social practice almost unnoticeably, from inside out (Gupta 2015; Niewöhner 2015). But ladies' shops' invisibility is not an outcome of careful planning; instead, women use existing architecture and creatively reconfigure the interior of their family homes to carve out space for themselves. Converting a private room into a business requires only few changes – fresh paint, perhaps a partitioning curtain for the front door, and simple wooden shelves. We therefore understand these improvised places as *intrastructures* that challenge men's city planning from within – a way of appropriating architectural spaces after they have been constructed; a semi-public network of feminine hotspots within the masculine cityscape.

Although women reproduce the gendered social order by creating culturally acceptable and spatially discrete business opportunities, they simultaneously contest gendered exclusions and constraints by developing new opportunities for women's earning, consumption, leisure, and engagement with other women. Businesswomen who make places of comfort for themselves and each other become more financially independent – such as Banu, whose main motive for opening a ladies' shop was her husband's continuously precarious income but also her wish to engage with women other than close relatives. Nevertheless, women depend on the support of male kin, be it father, husband, or father-in-law, who need to approve of the reassignment of the family's space – as well as the woman's time – for the business. After all, having part of their family home turned into a semi-public space for kin and non-kin women, it is the men who must respect *purdah* rules in their own house.

As indicated above, spatial boundaries between private and public, feminine and masculine spaces, are not always as clear-cut as theoretical conceptions of *purdah* might suggest. The architecture of Gilgit's houses with their high walls, for example, implies that nothing from the inside penetrates outside, or vice versa. But loud outbursts of laughter or excited chatter frequently travel through the air. Gossip from the women's circles will surely make its way to men's ears. And when the sudden and immediate sensation of the loud metallic sound that is the prayer call (*azan*) echoes through Gilgit, it reminds women of their obligations to cover their heads or to hurry home. Gendered lifeworlds are more porous than a first glance suggests.

▶ [Click here for an audio demonstration of the publicly disseminated masculine call to prayer, in contrast to female domestic activity.](#) Recording: Anna-Maria Walter, 2014.

The next day, once again more female customers will come and bring the inconspicuous and improvised network of ladies' shops to life. Less than thinking of architecture as a way of serving people's needs, our observations serve to raise awareness of

Woman entrepreneur customizing clothes in the courtyard extension of her home-cum-shop. Photo: Anna Grieser, 2014.

Customers and a beautician at a neighborhood beauty parlor. Photo: Anna-Maria Walter, 2014.

women's subversive and dynamic potential to appropriate places designed and made by men. In this way, women disrupt and recuperate spatial exclusions. By adhering to expectations about permissible movements and interactions, they manage to acquire the support, or at least silent consent, of men in order to create their own opportunities for economic and leisure activities. When converting part of their private family home into the semi-public space of a beauty parlor or ladies' shop, women's claim to partake in and make a contribution to public life materializes in this ingenious way of utilizing existing structures in a fundamentally different manner than they were meant to be used by the men who made them.

Notes:

[1] Owing to the ongoing Kashmir dispute between Pakistan and India, in which Gilgit-Baltistan is implicated, the region is highly militarized and continually patrolled by army personnel.

[2] Gilgit city has grown from roughly 5,000 inhabitants at the beginning of the twentieth century to 58,000 in 1998 and then roughly 120,000 people in Gilgit and its suburbs at the time of the last census in 2017.

[3] All interlocutors (names and faces) are anonymized to comply with *purdah* guidelines for a public audience.

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Cycleways:
Historical Infrastructures for Sustainable Mobilities

Andrea Alberto Dutto and Nadine Plachta

Increasing urbanization, mobile populations, and carbon emissions demand a rethinking in the planning and design of transport infrastructures, particularly in regard to environmental issues. As an affordable and convenient alternative to car dependence and a way to reduce road congestion in European cities, cycling facilities have become essential components in the development of alternative mobility systems. Investment in bike-sharing programs and the provision of protected cycle paths that are separated from motorized traffic through signs and barriers are important for creating more livable and sustainable urban environments. Cycling has become a significant factor in street planning, and the integration of bike infrastructures has transformed public spaces in cities (Bendiks and Degros 2013; Pucher and Buehler 2017).

As city life extends beyond urban boundaries, architects, civil engineers, and urban planners are working to establish innovative networks of cycle paths that connect cities to regions. Focused on the repurposing of decommissioned railroad tracks for cycling practices across Italy, we interrogate how architectural design attends to environmental and socio-cultural concerns in the process of facilitating sustainable transport mobilities.

Drawing on the work of Pierre Bélanger (2010, 2017) and the Infrastructure Research Initiative at SWA (2013),[1] we explore cycleways as landscape infrastructure. Our conceptualization of landscape as infrastructure is inspired by Gary Strang (1996) and previous calls to rethink the urban condition from an environmental perspective. Movements pushing for ecological urbanism and green infrastructure subsequently appropriated the idea of a combined ethics and aesthetics for the built environment, arguing for formulating solutions to integrate infrastructure in the development of inclusive and resilient societies (Mostafavi and Doherty 2016). "Conceiving landscape as infrastructure," as Steffen Nijhuis and Daniel Jauslin write, is an approach by which "landscape is treated as an operative field that defines and sustains the urban development and ecological and economic processes are employed as formative design tools" (2015: 20).

A leading example of contemporary ecological landscape infrastructure is the Zeche Zollverein, a former coal mine and coking plant industrial complex in the German Ruhr Area. This heritage site features a railroad track boulevard for mixed pedestrian and cycle use, with dense vegetation emergent in between the repurposed tracks. The High Line, an elevated linear park created on a disused section of the New York Central Railroad in the west side of Manhattan, is another prominent landscape infrastructure. Regular art events, sound installations, and talk programs take place on and alongside this 2.33km-long green structure. Both the High Line and Zeche Zollverein offer global inspiration for cities to transform former industrial zones into public spaces that can thrive through sustainable communal engagement.

Following a general shift in the perception and use of infrastructure for the management and performance of contemporary cities, in 2018 the Italian government passed Law 2/2018, which identifies rules and regulations for the development of cycling mobility and the creation of a national bicycle network, Bicitalia. Law 2/2018 provides an official legal framework to devise and implement strategies for the design and operation of cycle paths across the peninsula. Different from motorable roads, which are characterized by their relatively consitent texture and form, Law 02/2018 recognizes the multiple character of cycleways. For example, it mentions specifically the repurposing of historical infrastructures, such as railroads, for recreation and to protect and restore natural environments.

Beginning in the 1860s, construction of rail, road, and water infrastructures in Italy was designed to advance the spatial and structural integration of the fragmented nation (Badenoch and Fickers 2010; Diogo and Laak 2018). Trains running on narrow-gauge railroad tracks acted as important carriers for the steel and iron industries that clustered around developing hydropower plants in the foothills of the Alps. These tracks complemented the standard-gauge network that connected the cotton and textile manufacturing cities near Milan and in the Piedmont region with shipping enterprises on the coast. Targeting economic growth and development, late nineteenth century infrastructure engineering in Italy often resulted in the disruptive transformation of natural landscapes into industrial and logistical centers. Today, very few of these historical narrow-gauge railroad tracks continue to operate. Some collapsed during landslides and floods and were not repaired, while many more were suspended following political decisions that prioritized the construction and expansion of high-speed rail lines to transport passengers and goods.

Decommissioned narrow-gauge railroad lines across Italy amount to seven thousand kilometers of abandoned tracks. Their grade of a maximum of 3.5 percent is appropriate for ascending mountain stretches, and a typical curvature of 250 meters (with some exceptions featuring an 80m radius) allows for a comfortable and smooth cycling experience. Cycle paths build on railroad tracks thus do not demand the same general level of fitness as those along roads, which have accepted inclines of 12–15 percent and 20m wide curves (Ormea 1988: 1571). According to Ferrovie dello Stato Italiane, the Italian State Railways, which published a complete list of repurposed railroad lines in its Atlante italiano delle ferrovie in disuso ("Atlas for traveling along disused railways"), eight hundred kilometers of tracks have so far been recovered for use as cycleways (Maggiorotti 2018: 9; see also Marcarini and Rovelli 2018).
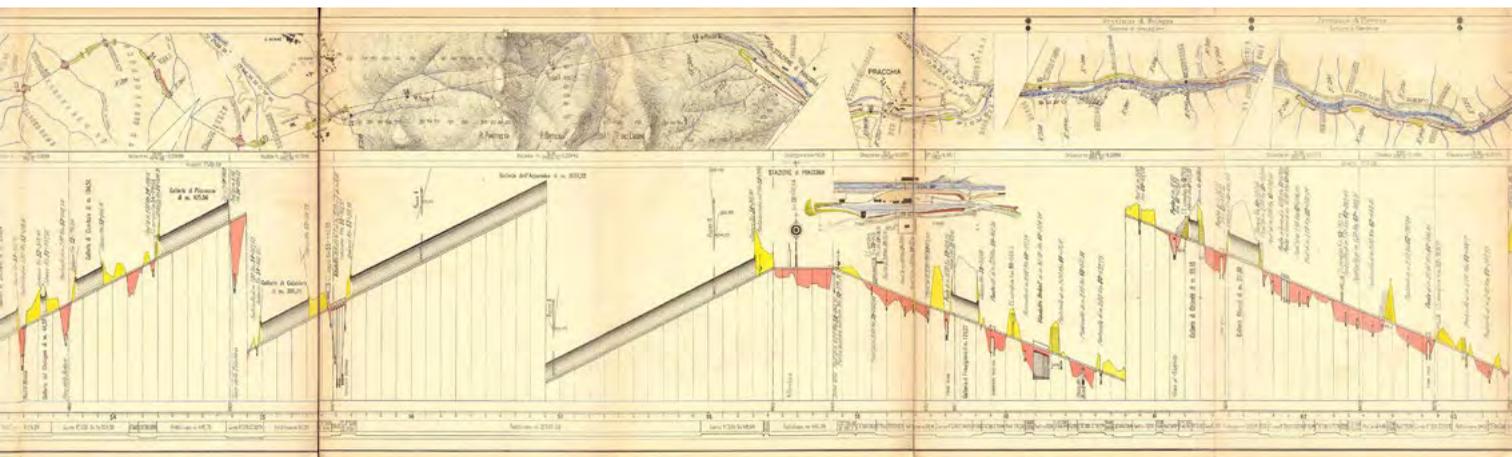
For architects and civil engineers, deserted sections of post-industrial infrastructure are appealing because of the opportunities they present for redevelopment into ecological and recreational landscapes. Allowing for various kinds of innovative design concepts, such projects take advantage of the landform of an area while also building upon the historical significance of a particular place and its infrastructural purpose (Dighero et al. 2020). Cycleways on repurposed railroad tracks can meander through narrow gorges and renovated tunnels and galleries, as well as across viaducts and bridges. For example, the 51km-long cycleway running along the former railroad line between the towns of Spoleto and Norcia in Umbria goes through nineteen tunnels and across twenty-four bridges and viaducts. Further connecting to Assisi along the Via di Francesco, this cycle path was selected the most spectacular greenway in Italy in 2015. In cases in which former railroad lines are defunct, broken, or otherwise unusable, new connecting sections have to be planned and implemented to get around these accidental features. Cycleways can also deviate from the railroad tracks and follow other territorial lines such as canals, riverbanks, or farm tracks before reconnecting to a track in order to keep a continuous route. Flowing in and with the landscape, cycleways thus have the ability to reflect and reproduce the particular landform of a region. As Nijhuis and Jauslin explain, "landscape as such becomes the medium through which to formulate and articulate solutions for integration of infrastructure" (2015: 20). This commitment to developing new forms of landscape infrastructure follows an ecological approach that seeks to enhance and foster natural environments.

The details of the historical Firenze–Pistoia–Bologna railroad line illustrate the gentle slope value of narrow-gauge tracks.
Source: Società Italiana per la Strade Ferrate Meridionali 1891: 28–31.

Situated along deserted rail tracks are serial features, such as stations and warehouses that can be repurposed equally into museums, bike repair stations, restaurants, and shops. These facilities augment the cycleways themselves, providing educational and practical services for cyclists and work to strengthen local economies. Such action-oriented processes let people to adopt cycling infrastructures as public spaces and allow them to become part of sustainable development (Bendiks and Degros 2020). More broadly, the multiple character and diverse landforms of these new infrastructures enable the integration of cycleways into the national public transport and wider traffic grids, thereby revitalizing the connections between cities and regions (see also Senes 2018).

As linear and vibrant public spaces (Occelli and Palma 2017), cycleways that trace historical railroads facilitate passage and movement, but also allow for rest and socialization. Acknowledging the particular landforms and histories of the places they pass through, cycleway redevelopments provide sustainable mobilities. "The space of flows," Nijhuis and Jauslin summarize, "emerges as a new field of inquiry for design disciplines and opens up opportunities for shaping architectural and urban form to establish local identity with tangible relations to the region" (2015: 23). Innovative planning and design concepts such as the repurposing of the Spoleto–Norcia railroad

Design of a mixed-use bike and pedestrian bridge along the Via Francigena della Val d'Aosta in Mazzé, a commune in the Piedmont region. The curvature of the bridge resolves considerable differences in ground elevation.
Drawing: Andrea Alberto Dutto, Chiara Occelli, Riccardo Palma, and Stefano Dighero, 2018.

combine functional, social, and environmental interests. In so doing, they enable integrated ecological landscape infrastructures that <mark>increases</mark> the performance of public spaces for a more sustainable world.

Notes:

[1] SWA is a landscape architecture, planning, and urban design firm that also engages in research and innovation projects.

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Infrastructures of Permanence and Deserted Architecture in China

Tim Oakes

"What was this place?" I ask my friend Li Jie.[1] We pull over to the side of the highway, curious about a collection of new buildings that has caught our eye as we drive by. Li squints through the car windshield. "Just some shopping street," he says. "Hard to tell. It's never been opened." Two rows of buildings – recently constructed in a vaguely traditional style – guard a brick-paved pedestrian street. Shops stand empty behind dusty glass. Weeds push up between the bricks. Piles of rubble lay scattered about. The place is deserted. "Another ghost mall," Li snorts. "They pop up practically overnight." He guides his sedan back onto the highway, the abandoned mall disappearing behind us. "And die just as quickly."

Li Jie and I are driving around the sprawling grid of empty roads in Gui'an New Area (贵安新区), a state-level economic, technical, and ecological development zone in southwest China's Guizhou province. It is a hot summer day in 2019. Our route takes us along the 33 kilometer length of Qianzhong Avenue (黔中大道), one of the first major roads to be opened in the New Area. Gui'an claims a vast swath of land – hills, valleys, and plains – just to the west of the provincial capital of Guiyang, an area more than twice the size of Hong Kong. Most of Gui'an is still fields, forests, and villages. But a

neat and tidy lattice of broad, straight new roads has been laid down in the core area. They promise opportunity, and wealth to come. But the flurry of state investment that paid for the roads has since subsided, leaving it up to local investors to conjure up the wealth. Responding to the government's hurry-and-build-it approach, entrepreneurs have lined Qianzhong Avenue with ghost developments: empty resorts, theme parks, hotels, and shopping malls. Many of these buildings seem to have become dilapidated even before Qianzhong Avenue was completed. Their abandonment is all the more striking when viewed from the meticulously landscaped road. Unlike the fallow farm fields and failed entrepreneurial ventures beyond the guard rails, the road itself is lovingly cared for and its verges kept in a permanent state of floral splendor.

A few more kilometers along Qianzhong Avenue we come upon an empty Swiss Town, slowly falling into ruin. Visitors, like Li Jie and me, still come to take pictures and kick at the weeds. Villagers from nearby park their barbecue carts along the roadside, ready to feed us, since none of the restaurants in Swiss Town have ever opened. Across the road is a scenic resort and ecological park with a lake and a baroque French-style chateau available for event rental. Farther along, an entire village has been converted into a virtual reality theme park. There are a few visitors, but most of the attractions are shut down, waiting in suspension until the promised masses of tourists arrive. Near an expansive resort hotel, we stumble upon what first looks like a vast temple complex. All the new buildings are padlocked. Manufactured plum and cherry trees, permanently in bloom with their plastic flowers, frame an empty plaza. The complex is anchored by a folk culture museum, also padlocked. A few workers joke around

Straight, flat and wide: the infrastructure of promise.
Photo: Tim Oakes, 2018.

Roadside vendors, Swiss Town
Photo: Tim Oakes, 2019.

Abandoned pedestrian shopping street.
Photo: Tim Oakes, 2019.

paid to do nothing but watch the dust gather. "When will this place open?" I ask one of them. "It is open!" she replies. "Not so many visitors today," she adds with a shrug.

Rem Koolhaas once claimed that Chinese cities are full of buildings designed on table-top. "Not only is there an incredible speed of design and construction," he wrote, "but almost every building will change its program before construction is finished" (Koolhaas 2000: 332). Buildings come and go. What remains is the grid of new roads and highways that makes them possible. Sometimes it seems that the only thing that matters in Gui'an is the roads. One map fancifully imagines the New Area as nothing more than a tangled knot of roads. For Koolhaas, the grid was not built in response to an existing need; rather, it was aspirational and predictive. "If you take one of the off-ramps, you won't necessarily arrive anywhere." Instead, the road is meant to trigger a "future urban situation" (ibid.). Maybe this is why such roads convey a kind of permanence in comparison to precarious and whimsical developments they spawn. This permanence is conveyed in both spatial and temporal ways.

Map depicting Gui'an as a tangled knot of roads.
Source: Wang 2019: 65.

Spatially, the road creates a new kind of territory, one that is unambiguously of the state. Matthäus Rest and Alessandro Rippa (2019) point out that roads are central to the state's enactment of territorial integrity. Roads are how the state is imagined by its citizens. This explains the meticulousness with which Qianzhong Avenue is maintained. Every day a small army of well-paid villagers in matching bright orange vests and straw cone hats is out gardening the road: trimming shrubs, planting new flowers, pulling weeds, removing trash. Their labor sharpens the division between the road as a state space, and the fields and villages through which it passes as the leftover spaces of another era, abandoned and awaiting demolition. The ghost malls and decaying theme parks sprout up like weeds in these residual zones. They are ventures that cling to the state and its promise of development as materialized in the road. But they are not of the state, and so they are left to their own devices. Some will succeed, while most wither and die.

Yet the grid of new roads in Gui'an also territorializes the land by dividing it up into abstract and equivalent pieces, as if graph paper had been laid over the rumpled karst topography of Guizhou. Previously, rural settlements and market towns were governed through dendritic networks of connection: hierarchical systems of progressively more local roads, lanes, and pathways following streams, valleys, and low points between hills. These have been replaced by what Leonardo Ramondetti (2020: 32) calls an "equipotential" surface, where each section of land becomes equivalent as a resource for future wealth generation. That one section might be hilly while the other is flat is no longer a problem. The hills are quickly leveled. Yet the surface remains uneven. New industrial clusters – such as the one containing a Foxconn server plant where thousands of villagers now work – are nourished by the road, whereas the entrepreneurial ventures carved out of the New Area's leftover spaces are not.

One might think then that the newness of the road would be its defining temporal quality. And of course this is how most of the residents in the area do experience life along Qianzhong Avenue. It has upended their world with newness: they no longer farm, many no longer travel to labor in distant cities, instead choosing to work at Foxconn or in a precarious new venture. The road has either demolished their villages or turned them into beautified leisure resorts. But as the uncertainty and changeability of their new lives is reflected in the impermanent architectures being built up alongside the road, the road itself takes on a kind of permanence.

Guizhou is a mountainous plateau region infamous for its historical impenetrability. Roads are heroic here. An oft-repeated quote comes from the Ming Dynasty (1368–1644) traveler Xu Xiake, who wrote in consternation shortly after entering Guizhou early in the seventeenth century: "there are so many mountains here, if you want to build a road, the first thing you see in front of you is another mountain!" (Wang 2019: 64). For centuries, Guizhou's few roads were slow, winding, ponderous. And this fact makes today's expressways all the more monumental – their magnificent bridges and tunnels render Guizhou's formidable terrain as little more than scenery. This is also part of the road's territorializing effect as a kind of state space. The promise of Qianzhong Avenue lies precisely in its contempt for the landscape upon which it has been laid, a contempt expressed by its straightness, flatness, and the sheer waste of space in its eight-lane width.

Rice husk Pyramids of Giza.
Photo: Tim Oakes, 2019.

For the Guizhou writer Wang Jianping (Wang 2019), Qianzhong Avenue connects past and future in a single narrative thread, linking Xu Xiake to China's rise as a global infrastructural superpower. But its exuberant roadside attractions offer a far less coherent narrative. Not far from the empty culture museum and shopping street, Li Jie and I find ourselves strolling around a former rice paddy. It has been turned into a collection of miniature world monuments, all built from plastic strips meant to look like dried rice husks. There is a Roman Coliseum, a Sydney Opera House, the Pyramids of Giza. They are charming in their way but already falling apart: a moment of uncertain direction as villagers work out what to do with the fields they no longer farm. One villager later tells me, "that little theme park, it will be gone next year." Hannah Appel has remarked that infrastructure is futurity and deferral all at the same time: "Regularly unfinished, and often faulty, new construction is haunted by abandonment" (2018: 45). So, part of what explains these attractions is simply the urge to build as much as possible before a new "infrastructure time" inevitably sets in, a coming era of "dwindling resources, fleeing foreign capital, decommission and abandonment, of ruins" (Appel 2018: 54). In Gui'an, it seems this new time has already arrived. Qianzhong Avenue's roadside attractions are testament to the road's promise and to its simultaneous abandonment.

Notes:

[1] A pseudonym.

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