POLITECNICO DI TORINO
Repository ISTITUZIONALE

Decentering Perspectives: Embracing the Pluriverse in Researching the Architecture of the Belt and Road Initiative

Original
Decentering Perspectives: Embracing the Pluriverse in Researching the Architecture of the Belt and Road Initiative / Leoni, S., Carota, F., Bonino, M.. - In: ACTA ARCHITECTONICA ET URBANISTICA. - ISSN 3029-4509. - 1:2 (2025): Acta Architectonica et Urbanistica (AAeU)(2025), pp. 55-67.

Availability:
This version is available at: 11583/3009670 since: 2026-04-07T19:50:23Z

Publisher:
University of Sarajevo

Published
DOI:

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

07 November 2026

Decentering Perspectives: Embracing the Pluriverse in Researching the Architecture of the Belt and Road Initiative

Decentriranje perspektiva: prihvatanje pluriverzuma u istraživanju arhitekture inicijative *Pojas i put*

Francesco Carota[1], Sofia Leoni[2], Michele Bonino[3]

1: Department of Architecture, University of Kansas, United States
francesco.carota@ku.edu | orcid.org/0009-0005-3438-2611

2: Interuniversity Department of Regional Urban Studies and Planning, DIST – Politecnico di Torino, Italy
sofia.leoni@polito.it | orcid.org/0000-0002-3002-4252

3: Department of Architecture and Design, DAD - Politecnico di Torino, Italy
michele.bonino@polito.it | orcid.org/0000-0001-9452-2501

ORIGINAL SCIENTIFIC ARTICLE | Submitted 03 Oct 2025 | Accepted 11 Nov 2025
doi.org/10.65262/djk1jp86 | UDC 624+72(100):327.3"20"

Abstract This paper develops a pluriversal methodological framework for researching architecture within transanational infrastructure development, using the Belt and Road Initiative (BRI) as a laboratory. Existing scholarship has often interpreted BRI projects through geopolitics or economic strategy, focusing on questions of China's global strategy, resource security, and the extension of its sphere of influence (Cai, 2017; Summers, 2016). Within these narratives, architecture and urbanization typically appear as secondary by-products of development, subordinated to the logics of diplomacy and investment flows. This tendency overlooks the ways in which BRI projects actively shape spatial orders, produce new architectural forms, and generate contested meaning, which cannot be fully captured by universalizing interpretations. Drawing on decolonial and posthumanist thought (Escobar, 2018; de la Cadena & Blaser, 2018; Mignolo, 2011), the paper argues for methodologies that recognize infrastructures as plural artifacts rather than singular instruments. Building on extensive documentation of BRI projects, four orientations are proposed: recognizing multiple realities, grounding analysis in lived contexts, tracing relational entanglements, and valuing alternative logics. Case studies — from the Pakistan-China Technical and Vocational Institute in Gwadar and the Xi'an Silk and Road Conference Center, to the Hiyaa Housing Project in the Maldives, Kilamba Kiaxi in Angola, and the Lianglu-Cuntan Free Trade Port in Chongqing — demonstrate how BRI architectures simultaneously function as geopolitical symbols, civic institutions, everyday spaces, and material

Sažetak Ovaj rad razvija pluriverzalni metodološki okvir za istraživanje arhitekture unutar transnacionalnog infrastrukturnog razvoja, koristeći Belt and Road Inicijativu (BRI) kao laboratorij. Postojeća literatura često tumači projekte BRI-ja unutar prizme geopolitike ili ekonomske strategije, usredotočujući se na pitanja kineske globalne strategije, sigurnosti resursa i širenja njene sfere utjecaja (Cai, 2017; Summers, 2016). U takvim narativima arhitektura i urbanizacija najčešće se pojavljuju kao sekundarni nusproizvodi razvoja, podređeni logikama diplomatije i investicijskih tokova. Ova tendencija zanemaruje načine na koje projekti BRI-ja aktivno oblikuju prostorne poretke, proizvode nove arhitektonske forme i generiraju osporavana značenja koja se ne mogu u potpunosti obuhvatiti univerzalizirajućim interpretacijama. Oslanjajući se na dekolonijalnu i posthumanističku misao (Escobar, 2018; de la Cadena i Blaser, 2018; Mignolo, 2011), rad zagovara metodologije koje prepoznaju infrastrukture kao pluralne artefakte, a ne kao jedinstvene instrumente. Na temelju opsežne dokumentacije projekata BRI-ja predlažu se četiri orijentacije: prepoznavanje višestrukih stvarnosti, utemeljenje analize u proživljenim kontekstima, praćenje relacijskih isprepletenosti i vrednovanje alternativnih logika. Studije slučaja — od Pakistansko-kineskog tehničkog i strukovnog instituta u Gwadaruu i Konferencijskog centra Puta svile u Xi'anu, do stambenog projekta Hiyaa na Maldivima, Kilamba Kiaxi u Angoli i slobodne trgovačke luke Lianglu-Cuntan u Chongqingu — pokazuju kako arhitekture BRI-ja istodobno funkcioniraju kao geopolitički simboli, građanske institucije, prostori svakodnevice i

assemblages. By foregrounding plurality rather than universality, this paper reframes the BRI as a site of translation between diverse worlds, and advances a methodological agenda for architectural research that is inclusive, relational, and attentive to the co-existence of multiple epistemologies.

Keywords postcolonial architecture; Belt and Road initiative; infrastructural landscape; pluriversal architecture.

materijalni sklopovi. Isticanjem pluralnosti umjesto univerzalnosti, ovaj rad preoblikuje BRI kao mjesto prevođenja između različitih svjetova, te unapređuje metodološki program arhitektonskih istraživanja koji je inkluzivan, relacijski i pažljiv prema koegzistenciji višestrukih epistemologija.

Ključne riječi postkolonijalna arhitektura; inicijativa *Pojas i put*; infrastrukturni krajolik; pluriverzalna arhitektura.

1 Introduction

Architecture, as a field of knowledge and practice, today is increasingly entangled with global infrastructural transformations that cut across borders, cultures, and ecologies. Among these, the Belt and Road Initiative (BRI), launched by the Chinese government in 2013, works as an example par excellence. Conceived as a revival of the ancient Silk Roads, and now largely described as the largest infrastructure program attempted in the last 50 years (Winter, 2019), the BRI aims to enhance connectivity across Asia, Europe, Africa, and Latin America through vast investments in transportation, energy, digital, and urban infrastructure (Summers, 2016; Cai, 2017). Its two primary branches — the Silk Road Economic Belt, linking China to Central Asia and Europe by land, and the 21st-Century Maritime Silk Road, connecting Chinese ports to Southeast Asia, Africa, and the Mediterranean — are supported by a network of state-owned enterprises, development banks, and bilateral cooperation mechanisms (Rolland, 2017; Zeng, 2019). Officially framed as a platform for "win–win cooperation," which so far encompasses over 140 participating countries, the BRI also operates as a geopolitical and spatial strategy, channeling Chinese capital, construction expertise, and urban models abroad. Often described as China's global strategy for economic integration and soft-power projection (Rolland, 2017; Zeng, 2019), so far the BRI has been largely approached through the lenses of geopolitics and political economy, focusing on questions of China's global strategy, resource security, and the extension of its sphere of influence (Cai, 2017; Summers, 2016). Within these narratives, architecture and urbanization typically appear as secondary by-products of development, subordinated to the logics of diplomacy and investment flows.

This tendency overlooks the ways in which BRI projects actively shape spatial orders on the ground, producing an extraordinarily diverse range of architectural and urban forms — from ports and industrial zones to housing estates, cultural centers, and free-trade cities — each shaped by contested meanings that emerge from encounters between global ambitions and local realities (Williams et al, 2020). This spatial dimension situates the BRI not merely as a geopolitical strategy, but as a laboratory of architectural production, where design, technology, and politics intersect across heterogeneous geographies. Thus, on the ground, BRI projects produce complex spatial, cultural, and social effects that cannot be fully captured by universalizing interpretations. A cultural complex in Gwadar, a logistics hub on the Kazakh border, a conference center in Xi'an or a housing estate in Angola each embody multiple and sometimes conflicting narratives and realities: they are simultaneously geopolitical symbols, sites of everyday practice, and material infrastructures shaped by and shaping the "lives" of diverse human and non-human actors.

Inspired by subaltern studies, which advocate for perspectives "from below" through micro-histories, and by postcolonial approaches that urge moving beyond the binary of North-South (Robinson, 2006; McFarlane, 2006; Roy, 2016), it is possible to rethink how globalization materializes through built forms. Moreover, Appadurai's multiple "scapes" of globalization are useful lenses to look at the phenomena: as such, the architectures of the Belt and Road Initiative can be seen as spatial crystallizations of intersecting *ethnoscapes, financescapes and ideoscapes* (Appadurai, 1996). These specific architectures remain only partially theorized and under-recognized within disciplinary debates on architecture and urbanism; they are not minor in the sense of marginal or irrelevant — a notion problematized since Bernard Rudofsky's *Architecture Without Architects* (1964), which questions the hierarchies of architectural value — but rather hybrid, composite, and often pastiche-like forms that emerge from negotiations, as instruments of political and cultural projection (Wigley, 1994; Martin, 2003; Till, 2009).

The reliance on universalist paradigms in architectural research — whether modernist notions of progress, global capitalist urbanism, or Western aesthetic categories — risks flattening the complexity of these projects. As Escobar (2018) argues in his call for *Designs for the Pluriverse*, the hegemony of universalist frameworks must be challenged by approaches that acknowledge the existence of multiple coexisting worlds, epistemologies, and ontologies. In the context of the BRI, this means moving beyond singular readings of projects as either "Chinese exports" or "regional adaptations" and instead embracing their hybrid, contested, and situated character. Mignolo (2011) conceptualizes this as "epistemic disobedience," the practice of refusing dominant categories of knowledge in order to make space for alternatives.

Building on postcolonial and posthumanist scholarship, this paper argues for the need to include "the pluriverse" in architectural research and particularly in research focusing on global infrastructural projects such as the BRI. The pluriverse shifts attention from a single, universal world to a multiplicity of ontologies in which humans,

non-humans, infrastructures, and ecologies interact (de la Cadena & Blaser, 2018). Such a perspective aligns with recent work in critical urban studies that foregrounds infrastructure not as neutral technical systems but as complex, socio-material assemblages (Amin & Thrift, 2017; Kanai & Schindler, 2018). For architectural research, adopting a pluriversal lens requires methodological innovation: privileging situated knowledges (Haraway, 1988), tracing transcultural assemblages (Ong & Roy, 2011), and acknowledging more-than-human agencies that shape spatial practices (Haraway, 1988; Latour, 2005).

The BRI provides ideal ground for this inquiry. From free-trade zones in Central Asia to housing estates in Africa and cultural centers in South Asia, BRI projects exemplify how architecture materializes at the crossroads of global capital, state ambitions, and local socio-cultural practices (Bonino & Carota, 2025). This paper firstly provides a literature review that traces the limits of universalist paradigms and the rise of pluriversal and decolonial perspectives in architectural and urban studies; secondly, it advances four methodological orientations for approaching the pluriverse in transnational architectural research using the BRI as a case study; finally, it emphasizes the significance of pluriversal approaches for architectural research at large, underscoring how they allow scholars and practitioners to recognize multiplicity, resist homogenization, and imagine more inclusive futures for the global built environment. In doing so, it contributes to the growing effort to decenter architectural theory, resist homogenizing narratives, and advance more inclusive, relational, and situated understandings of the built environment in the twenty-first century, aligning with Fernando Lara's call to provincialize architectural knowledge and foreground multiple modernities. Indeed, modern construction technologies travel everywhere, but they are constantly reshaped by local practices and adaptations. As he writes, "modernity is not a package to be imported but a process that gets reinterpreted in every context where it arrives" (Lara, 2024).

2 Literature Review: From Universalism to Pluriversal Architecture

Architecture has always been implicated in global processes, but the rise of large-scale infrastructural systems has intensified the entanglement between design, technology, and politics (Easterling, 2014; Harvey and Knox (2015). Modernist architecture, often exported through colonial and developmentalist agendas, advanced its forms as universally valid, marginalizing local traditions and practices (Curtis, 1996; King, 2004). Postmodern critiques (Jencks, 1977) and the call for critical regionalism (Frampton, 1983) attempted to resist such homogenization, yet largely remained anchored in Western epistemologies. Indeed, as further indicated by Botz-Bornstein (2015), the notion of a self-critical movement, such as Critical Regionalism, is intrinsically linked to the Western tradition of enlightenment – a reality that can be both advantageous and problematic, especially when these endeavors are introduced in contexts where the Western tradition of critical thought does not hold sway or may even be nonexistent.

Universalist paradigms continue thus to shape how global infrastructures and their architectures are evaluated. Large-scale projects are often measured through technical metrics of efficiency, connectivity, or economic growth, while architecture is judged according to Eurocentric standards of originality, authorship, or aesthetic coherence (King, 2004; Ferguson, 2006). Such approaches flatten complexity, reducing projects to singular logics of modernization or geopolitical expansion. James Scott's (1998) critique of high modernism remains relevant here: top-down schemes assume legibility and control but falter in the face of local realities. Yet even critical accounts such as Scott's risk reproducing a binary between state imposition and local resistance, missing the more nuanced multiplicity of practices, appropriations, and negotiations that infrastructures embody. For architectural research, this presents a methodological challenge: how to move beyond singular explanatory frameworks and toward approaches capable of engaging with plurality.

This paper draws on recent scholarship that has turned toward pluriversal and decolonial perspectives to address this challenge. Central to this shift is Arturo Escobar's (2018) notion of "designs for the pluriverse," which redefines design as a practice of ontological negotiation, a way of being-with that cultivates coexistence among heterogeneous worlds. For Escobar, the pluriverse is simultaneously a political and ontological project: it dismantles the modernist separation between nature, culture, and technology, and instead advances autonomous design, design practices grounded in relational ontologies and collective forms of self-determination. Such an understanding moves design beyond representation and into world-making, where infrastructures and architectures act not as neutral instruments of development but as mediators of interdependence. Design, in this sense, is not the translation of abstract ideas into form but the situated articulation of multiple realities, continually negotiated through networks of care, matter, and affect. Extending Escobar's prosition, Walter Mignolo (2011) introduces the idea of "epistemic disobedience," which brings the politics of knowledge into sharper focus. For Mignolo, modernity's universalism is inseparable from the discourse of coloniality, as the historical process through which European epistemologies declared themselves universal while relegating others to the margins of reason or myth. To practice epistemic disobedience is thus to delink from this colonial matrix of power, refusing to measure knowledge through Western hierarchies of rationality, aesthetics, or progress. Within architecture, this stance reframes design as a geo- and body-political practice, acknowledging that every spatial act emerges from particular positions, territories, and embodied experiences. Rather than seeking a new universal canon, epistemic disobedience invites a pluralization of epistemic worlds, each with its own cosmology and mode of making.

This emphasis on plurality resonates with the work of Marisol de la Cadena and Mario Blaser (2018), who conceptualize the pluriverse as "a world of many worlds,"

challenging the assumption that modernity provides a single ontological horizon. Their perspective foregrounds the coexistence, and often the incommensurability, of distinct ontologies that nonetheless share material and political entanglements. In a similar vein, Boaventura de Sousa Santos (2014) advances an "ecology of knowledges," calling for relations of translation and reciprocity rather than assimilation. For Santos, epistemic justice does not emerge from consensus but from the creation of dialogues across difference, where multiple knowledge systems coexist without being reduced to one another. Together, these thinkers trace a movement from critique to reconstruction: from exposing the universalist and colonial underpinnings of modern knowledge to envisioning the conditions of coexistence among diverse world-making practices. Their insights reorient architecture and design away from universal categories and toward a relational understanding of practice, one that conceives building, knowing, and living as interdependent acts within an ever-plural field of ontologies.

Such theoretical shifts converge with transformations within social and anthropological research itself, where authors such as Donna Haraway's (1988) emphasize the partial, embodied, and contextual nature of knowledge production, undermining claims to universal architectural categories. On the other side, actor-network theory (Latour, 2005) and assemblage thinking broaden the field by foregrounding the agency of non-human actors — materials, technologies, ecologies — that co-produce infrastructures and built environments. Architecture and urban theorists have applied these insights to show how megaprojects and infrastructural corridors operate not as coherent top-down plans but as unstable assemblages shaped by global finance, environmental systems, labor, and everyday practices (Easterling, 2014; Kanai & Schindler, 2018). What emerges is a view of infrastructures — and by extension its architecture and urban spaces — not as fixed objects but as contingent formations, open to divergent interpretations and uses.

The implications for architectural and urban research are significant. To study global infrastructures pluriversally is to analyze buildings and spaces not only as technical or aesthetic constructs but as mediators of multiple realities — ontological interfaces through which diverse actors negotiate meaning and value. This perspective aligns with the interpretive approaches of Albena Yaneva and Bruno Latour, who conceive architectural forms as participants in networks of translation and world-making (Yaneva, 2012; Latour, 2005). Moving beyond universal standards of design quality, such an approach foregrounds how knowledge and agency are generated within specific contexts and through heterogeneous epistemologies. As McNeill (2019) and Sheppard (2020) observe, infrastructures increasingly underpin the global urban condition; what is required now are methodologies capable of engaging this condition without collapsing it into singular categories.

This literature review has therefore traced a trajectory from universalist paradigms — modernism, technocratic infrastructure studies, and Eurocentric urban theory — through critical interventions that challenge their dominance, to pluriversal perspectives that reframe infrastructure and architecture as relational and plural. Building on this trajectory, the paper proposes in the following paragraphs an epistomological framework for studying the built environments of the BRI through multiple methods and interpretative lenses.

3 Research Design and Case Study Selection

The research underpinning this paper draws upon a multi-scalar, comparative analysis of built projects associated with the Belt and Road Initiative (BRI) between 2013 and 2024. Case studies were selected through a process combining documentary review, spatial analysis, and field-based observation, with the objective of representing the geographical, typological, and epistemological diversity of the BRI. Rather than aiming for exhaustiveness, the selection illustrates how infrastructural architectures materialize across distinct political, cultural, and ecological contexts.

The selection criteria followed three complementary dimensions. First, projects were chosen for their representational significance within official BRI narratives — those frequently cited in policy documents, media coverage, or diplomatic discourse. Second, the corpus included projects with evident spatial and cultural hybridity, where imported models intersected with local conditions. Third, the cases exemplify infrastructural and logistical complexity, capturing the relational dimension of transnational flows across the BRI. Together, these cases reflect their diversity along the BRI spectrum, allowing for a comparative reading of how multiplicity manifests across different scales and functions.

The analytical process combined qualitative and spatial methods in a series of complementary and interrelated phases. First, newspaper articles, academic journals and official reports were used to build up a comprehensive understanding of the context of each case study. Second, official documents, masterplans, and design reports, when available, were cross-referenced with satellite imagery, site photographs, and secondary literature to trace each project's development trajectory. When possible, fieldwork and interviews with local stakeholders were conducted or integrated from existing ethnographic accounts retrieved from secondary literature. Later on, spatial and architectural analyses were conducted through detailed digital reproductions of the buildings' forms, programs and design features. Morphological drawings and analytical diagrams were then produced to visualize and systematize this information. The comparative framework thus privileges thick description and relational interpretation over typological generalization, foregrounding the agency of several local and global agents in the production of the built environment (Latour, 2005).

Finally, data interpretation was guided by the four methodological orientations elaborated on in the subsequent section — recognizing multiple realities, grounding analysis in lived contexts, tracing relational

entanglements, and valuing alternative logics. These orientations were not part of a predetermined analytical framework but rather emerged inductively through the progressive reading and interpretation of the case studies. They do not prescribe a singular analytical model; instead, they operate as heuristic tools for reading BRI architectures pluriversally — as hybrid assemblages co-produced through negotiation, appropriation, and situated practice. The methodological emphasis therefore lies less in evaluating architectural form through universal standards and more in understanding how built environments mediate between diverse epistemologies and ontologies, materializing the pluriverse in space.

4 Toward a Pluriversal Methodology in the Research of BRI Architecture

The Belt and Road Initiative (BRI) is often described as a global infrastructural strategy designed to extend China's geopolitical reach (Summers, 2016; Cai, 2017). Yet when studied from the ground, BRI projects reveal far more than the logic of state power or capital flows. They are lived, adapted, and contested in diverse contexts stretching from Central Asia to Africa and Southeast Europe. If conventional analysis tends to universalize BRI architecture as the material imprint of "China going global," a pluriversal methodology opens alternative readings, attentive to the multiplicity of realities, practices, and agencies that constitute these projects.

This section outlines four orientations for approaching the BRI pluriversally. Together, these perspectives illustrate how BRI architectures emerge not as singular exports but as plural sites of negotiation.

4.1 Recognizing Multiple Narratives

BRI projects are frequently interpreted through the lens of state diplomacy. Buildings, such as the Pak–China Technical and Vocational Institute in Gwadar, Pakistan, are officially framed as development aid symbolizing bilateral solidarity, but their significance extends beyond soft-power strategies. The Pakistan–China Technical and Vocational Institute illustrates how a single building can host and project multiple architectural narratives at once: completed in 2021 by the China Communications Construction Company (CCCC) for Pakistan's Ministry of Planning and the Chinese Ministry of Public Health, the 7,350-square-meter building in Gwadar was officially presented as a diplomatic endeavor from China to Pakistan, its design and program embodying the narrative of China's development aid. This framing emphasizes the monumental scale and symbolic mixité of architectural languages derived from China and the Pakistani tradition: the courtyard layout, the pointed and rounded arches of the porch inspired by Gwadar's vernacular mud architecture, and the Islamic lattice ornamentation embedded within the facade — architectural elements that communicate endurance and partnership between the two states (Figure 1, Figure 2).

However, this official story is only one among many. Indeed, beyond its celebratory rhetoric, the building process itself was a site of conflict and negotiation, where divergent cultural expectations, political agendas, and technical standards intersected. Rather than a seamless expression of bilateral harmony, the architecture of the project embodies compromises, frictions and even conflicts. From the perspective of the Chinese architects and contractors, notably the Shanghai Construction Group, the building represents an act of architectural export, an example of how standardized expertise and construction models travel abroad. The restrained modernist vocabulary that was predominant in the first design proposal — functional halls, clear circulation systems, and modular interiors — aligns with a narrative of efficiency and reproducibility common in state-sponsored cultural facilities in China. For Pakistani cultural actors, however, the Centre sustains a different architectural narrative: that of a much-needed civic venue in Islamabad that represents the local culture through local spaces and vernacular architectural devices. The building's spatial typology — auditorium, conference halls, exhibition spaces but also rooms dedicated to prayer — responds less to stylistic innovation than to infrastructural deficit. In this account, its architecture is valued not only for its diplomatic service but mainly for its functional and symbolic contribution to the city's cultural landscape, providing a space where performances, exhibitions, and fairs can take place in a capital otherwise limited in cultural infrastructure.

At the level of the local population, the building tells yet another story — one centered on workforce participation and community engagement. While most components, including electrical equipment, appliances, windows, decorative elements, and prefabricated concrete structures, were imported from China, their adaptation and assembly took place in Gwadar with the involvement of local labor. Pakistani workers, trained by Chinese engineers, not only assisted in construction but also provided crucial feedback on climate conditions and other contextual factors affecting the building process. This dynamic established a form of reciprocal exchange, in which expertise and standardized techniques flowed from China, while localized knowledge and situated practices informed their implementation. In this sense, the project does not merely represent the unilateral transfer of architectural technologies, but rather illustrates the co-production of space, where multiple forms of knowledge — technical, environmental, and cultural — intersect. Here, the architectural narrative is not about diplomacy or cultural production, but about pragmatic integration into local economic and social routines — how a large civic building can become an opportunity for local employment and skilling in ways far removed from its original political framing.

A pluriversal approach resists collapsing distinct interpretations into a single narrative. The Pakistan–China Technical and Vocational Institute simultaneously operates as a monument to diplomacy, a vehicle for exported design expertise, a functional cultural facility, and a site of local opportunity. Rather than

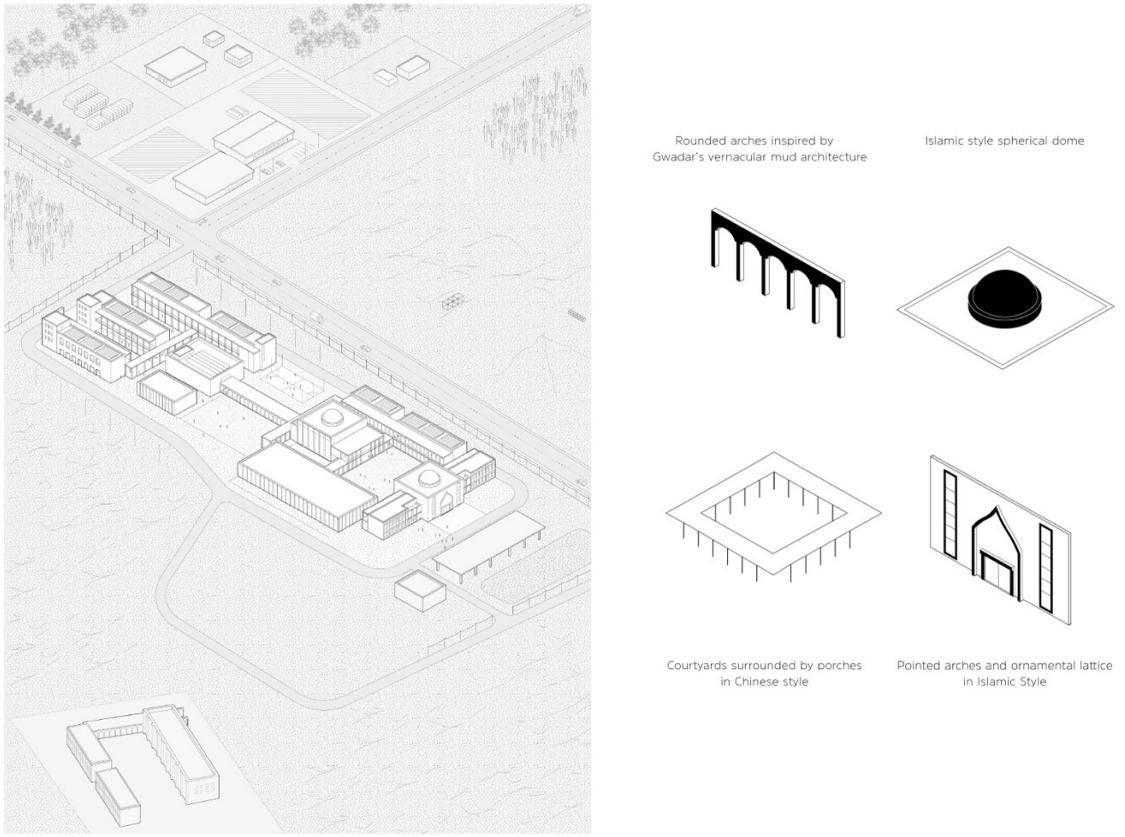


Figure 1a Axonometric view of the Pakistan–China Technical and Vocational Institute (located in Gwadar, Pakistan; built in 2021; total floor area: 7,350 sqm).; **1b** Morphological diagram highlighting the main elements of its architectural language: rounded arches inspired by Gwadar's vernacular mud architecture, an Islamic-style spherical dome and pointed-arch ornamental lattice, and courtyards surrounded by porches in Chinese style. Source: Auhors, 2025.

embodying a unified meaning, it becomes a node where multiple worlds converge — state power, transnational architectural practice, local cultural production, and everyday use. The same building thus sustains layered realities, each constituting its own world of meaning (de la Cadena & Blaser, 2018). Seen in this light, BRI architecture cannot be read through a single representational framework but as a dynamic field where diverse ontological, political, and social projects intersect. While these perspectives help decenter universalist paradigms, their significance lies in revealing the spatial, human, and ecological dimensions of architectural and infrastructural transformation within initiatives such as the Belt and Road Initiative (BRI).

4.2 The Act of Grounding

From a distance, BRI projects, and particularly new housing estates, appear as standardized typologies designed for rapid urban expansion. New urban developments like Kilamba Kiaxi in Luanda, Angola — a colossal new town of 750 repetitive apartment blocks constructed by a Chinese state-owned firm in 2014 — appear as archetypes of standardization and homogeneity, covering 30.5 square kilometers (Figure 3, Figure 4). From above, they resemble countless other enclaves built along BRI corridors, from the Maldives to Georgia, suggesting a universal model of urban production detached from local contexts. Renderings and promotional images often emphasize this global image of repetition: endless rows of towers, interchangeable façades, and modular floorplans. To ground architectural inquiry in context is to move beyond the optics of sameness and uncover the multiple narratives that these enclaves sustain.

In Kilamba, a project initially plagued by vacancy due to unit prices far beyond the reach of ordinary Angolans, new forms of occupancy gradually emerged: informal rentals, street markets, and modifications of apartments by residents. Over time, the sterile modernist fabric evolved into a lived environment, producing social rhythms and economic practices

Figure 2 Picture showing the main entrance of the Pakistan-China Technical and Vocational Institute, characterized by Arabic ornamentation. Source: Al Yosuf, 2025.

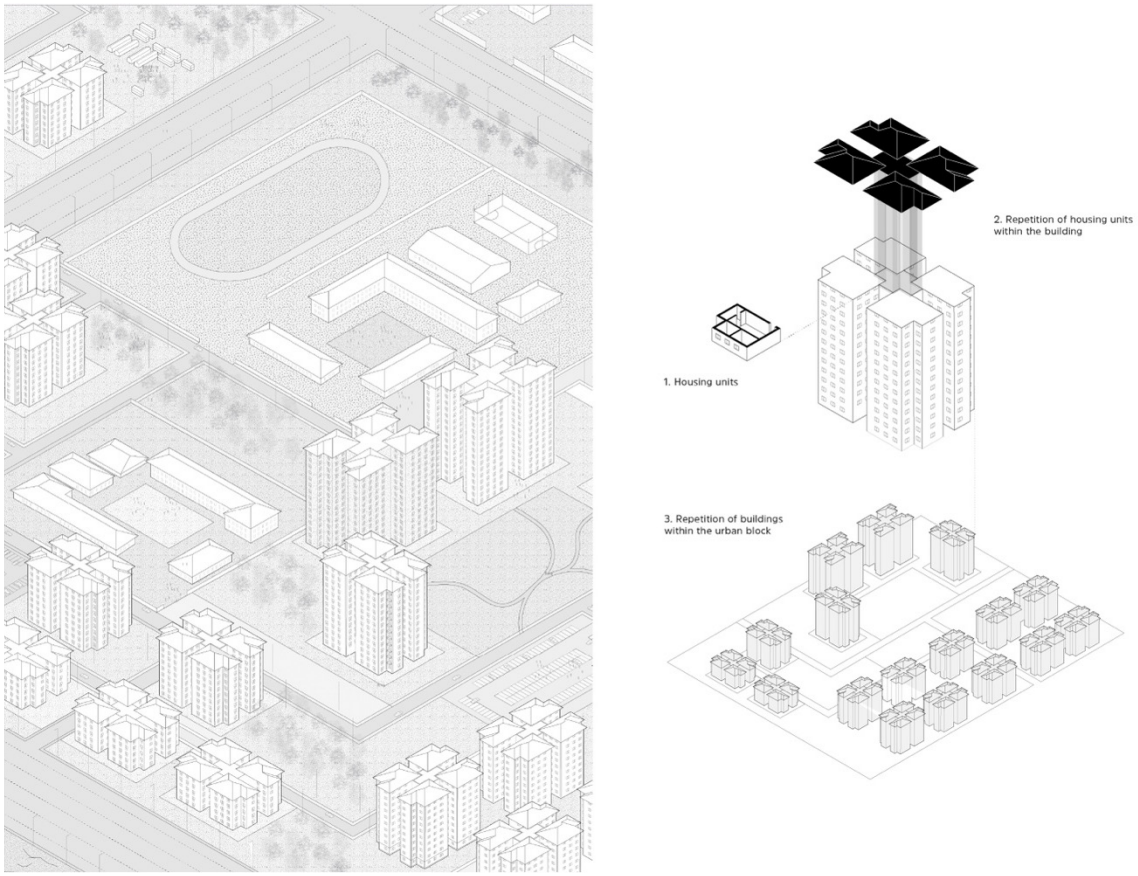


Figure 3a Axonometric view of Kilamba Kiaxi (located in Luanda, Angola; built in 2014; total dimension: 30,5 sqkm). ; **3b** Morphological diagram showing the repetition of architectural elements at different scales. Source: Auhors, 2025.

that were neither foreseen by planners nor captured in official narratives. The enclave, though conceived as a modernization initiative, was redefined by everyday uses into a plural and contested urban milieu. Different but comparable dynamics are also visible in the Hiyaa Housing Project in Hulhumalé, Maldives, built in 2020, where the China State Construction Engineering Corporation (CSCEC) exported technical protocols, labor, and construction technologies from China to a man-made island. Standardized towers — up to 24 stories high — followed Chinese setback and fire-safety regulations, while internal cores and layouts adhered to domestic guidelines. Local conditions, such as high humidity, saline soils, and regulatory requirements by the Hulhumalé Planning and Development Organization, forced adaptations: reinforced concrete mixes were altered, balcony railings modified, and ventilation systems redesigned. These adjustments reveal that even highly standardized enclaves are not imposed wholesale but evolve through site-specific negotiations where global standards are reworked to fit climatic, cultural, and normative realities.

The case of Hualing Tbilisi Sea New City in Georgia extends this logic further, illustrating how Chinese developers not only reproduce architectural typologies but also transplant entire spatial imaginaries. Occupying 4.2 square kilometers and superimposed over a dispersed network of small villages in the Bhal region, the project — developed by the Chinese real estate company Hualing Group in two phases (2008–2012; 2014–2022) — merges Chinese gated-community models with Western-style façades, malls, and landscaped environments. Marketed as a cosmopolitan enclave of leisure, education, and commerce, it has elicited ambivalent responses among local residents, who regard it both as a symbol of modernization and as an imposition on existing spatial and social fabrics. What appears as mere repetition thus becomes a site of negotiation, where standardized global forms are re-inscribed with local cultural meanings.

Such endeavors demonstrate how the intended function of BRI projects may diverge from their lived reality. Grounding research in these contexts requires privileging

Figure 4 Helicopter view of Kilamba Kiaxi, showing the repetition of mid- and high-rise buildings. The urban fabric is composed of structures of varying heights and forms, distinguished by differently colored façades. Source: Paulo Moreira, 2025.

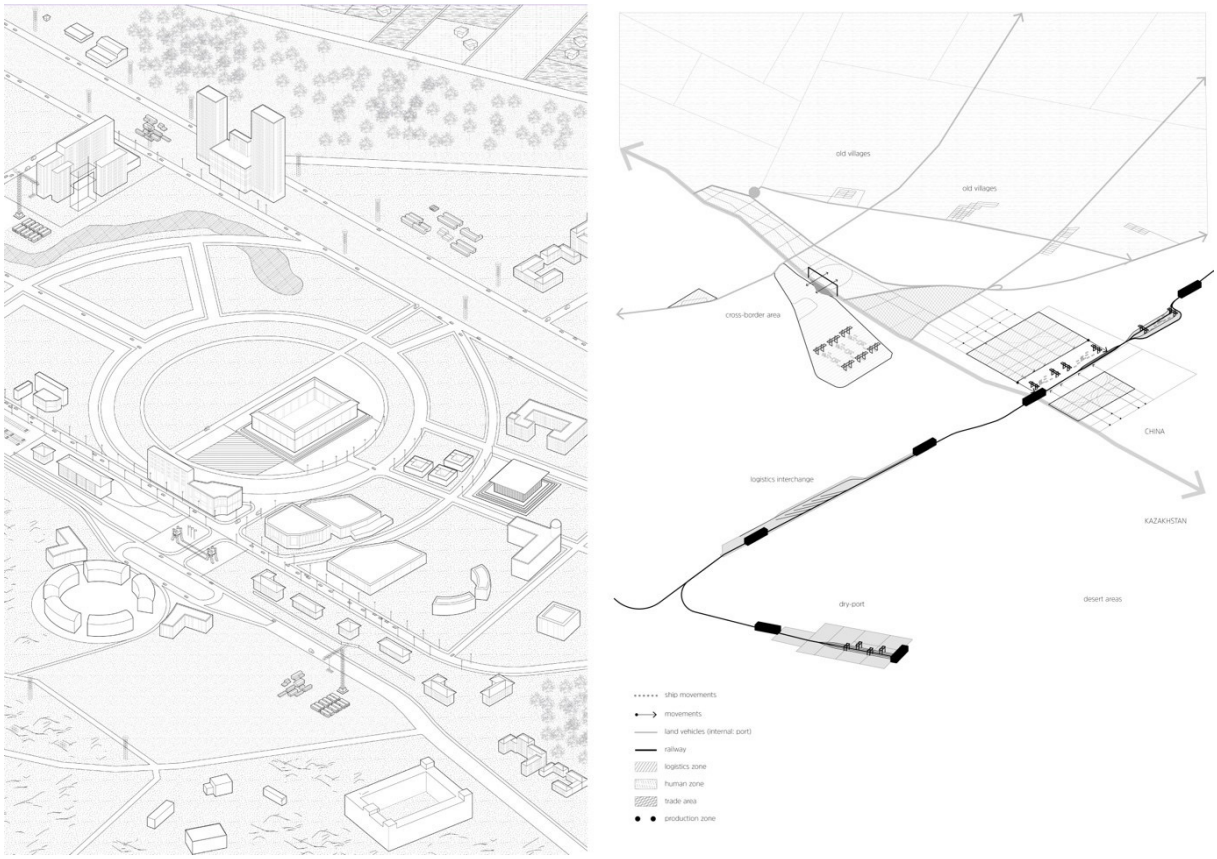


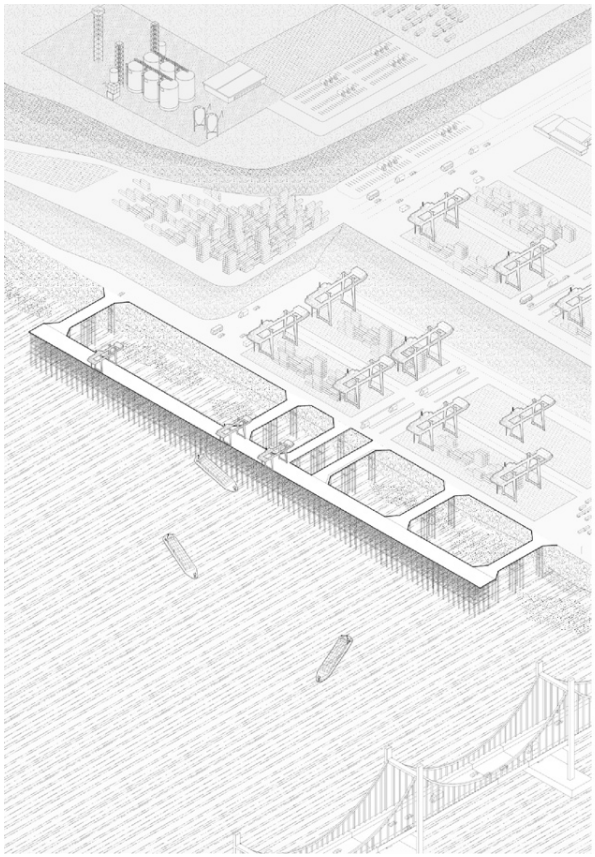
Figure 5a Axonometric view of Khorgos Free Trade Center (Khorgos, Horgos located at the border between China and Kazakhstan).; **5b** Circulation diagram showing the superimposition of human and non-human flows: the logistics area, new construction, and steel cranes allow for the movement of cargo between borders. Source: Auhors, 2025.

local voices and embodied experiences rather than relying solely on official narratives (Haraway, 1988). The apparent uniformity of mass housing is in fact the outcome of complex negotiations between global standards and local adaptations. As Fernando Lara (2024) argues, modern construction technologies travel everywhere, but they are constantly reshaped by local practices and adaptations. In other words, Keller Easterling (2014) noticed how "organizational expressions of spatial arrangements" — the protocols, standards, and sequential operations through which architecture is enacted — are sometimes improvisational and responsive to circumstantial changes, anomalies, and seemingly illogical contextual forces. As these protocols circulate globally — through ISO certifications, engineering logics, and corporate standards — they acquire new shapes through the material, climatic, and cultural conditions of each site. The result is an architecture that is neither entirely global nor wholly local but plural, situated, and dynamic, and should be studied and analyzed in this manner. By grounding analysis in lived contexts, one can see how repetition generates difference — how residents, regulations, and materials transform uniformity into multiplicity. The very same building, conceived as part of a universal model, becomes something unique in Angola, in the Maldives, or in Georgia. This reveals the essence of a pluriversal approach: taking seriously the situated practices, technical adjustments, and cultural reinterpretations that transform standardized enclaves into plural worlds of habitation.

4.3 Tracing Relational Entanglements

Many BRI infrastructures function less as isolated objects than as nodes in vast transnational assemblages and intersections of multiple realities. The Khorgos Special Economic Zone on the China–Kazakhstan border exemplifies this condition (Figure 5, Figure 6). While celebrated as a logistical hub of the "New Silk Road," a sovereign experiment in international cooperation where Chinese and Kazakh authorities established the International Center for Boundary Cooperation (ICBC) in

Figure 6 Drone-view of Khorgos Free Trade Center. Source: en.orda.kz/new-oldfaces-who-is-khorgos-visitors-now/ Courtesy of Zhang Xiaolong, 2025.



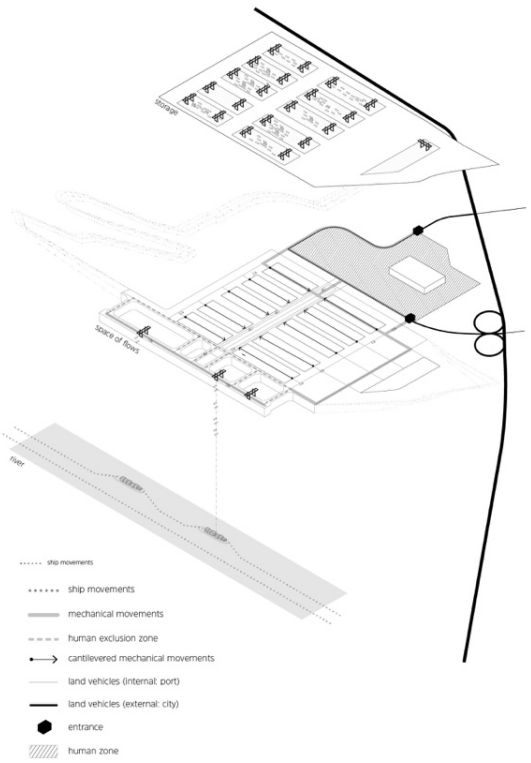


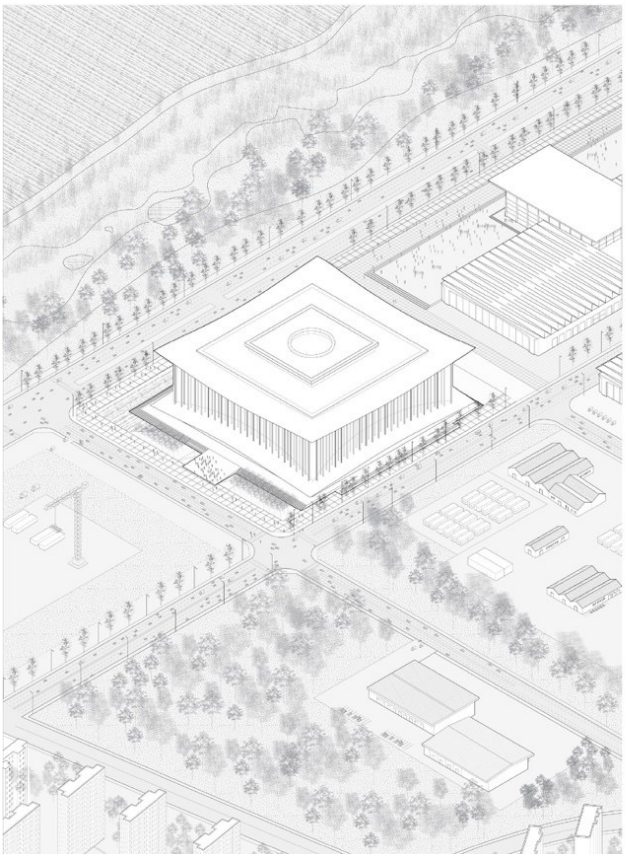
Figure 7a Axonometric view of Lianglu-Cuntan Free-Trade Port Area (Chongqing, China; built in 2020; total surface: 3,88 sqkm).; **7b** Circulation diagram showing the superimposition of human and non-human flows: concrete piers and automated steel cranes allow for the movement of cargos between the river and inland. Source: Auhors, 2025.

2014, interpreting this space solely as a trading instrument is to obscure the multiplicity of worlds that cohabit its 5.28 square kilometers.

The Khorgos Special Economic Zone is produced and lived through a dense web of relations among multiple agents: bilateral agreements, customs protocols, Chinese and Kazakh investments, labor migration, algorithmic logistics systems, and the circulation of goods and people. The zone comprises a dry port on one side and the International Center for Border Cooperation (ICBC) on the other. The latter is based on a visionary urban master plan designed by the integrated design firm AECOM, which envisions a mixed-use development focused on trade and tourism straddling the borders of China and Kazakhstan. Crucially, these relations are sustained and enacted not only by human actors but also by a constellation of non-human agents that decisively shape the zone's architectural and operational form. The very organization of the site is conditioned by the incompatibility of Chinese and Central Asian rail gauges, which necessitate permanent transshipment yards and specialized mechanical equipment. Within this tightly regulated corridor, a series of interconnected sequences unfolds — beyond the simple transit of goods — through customs zones, temporary storage facilities, stocking depots, and trading halls, each orchestrated by an automated logistics management system that dictates the tempo of circulation. Storage is limited to a precise three-hour window, while driverless vehicles coordinate container positioning to maximize transfer efficiency. This machinic choreography does not erase human presence: carriers, alerted to incoming shipments, perform ritualized exchanges with customs officers before dispatching materials to manufacturing sites. Meanwhile, thousands of visitors traverse the same infrastructural landscape daily to purchase inexpensive Chinese products. In this way, the logistical assemblage of Khorgos extends beyond the ICBC checkpoint, weaving together automated systems, regulatory regimes, and human practices into a complex ecology of border urbanism.

Standardized shipping containers dictate the dimensions of storage areas, the turning radii of vehicles, the spans of cranes, and even the depths of tunnels. RFID tags, GPS trackers, and X-ray scanners organize

Figure 8 Picture showing the movement of cargo in front of the Lianglu-Cuntan Free-Trade Port Area. Source: Raul Ariano, 2025.



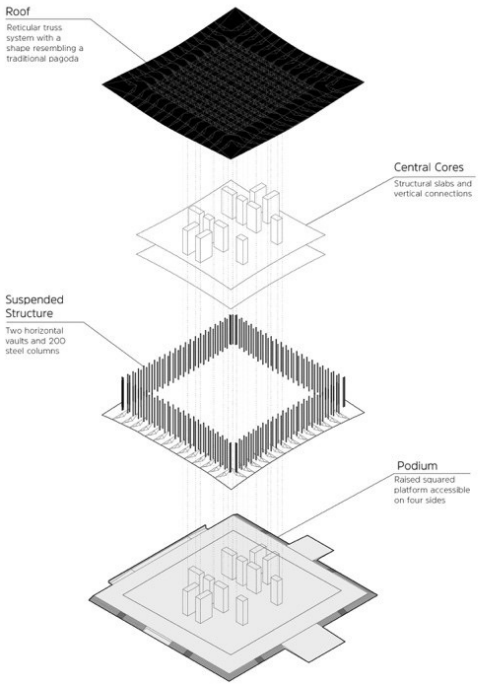


Figure 9a Axonometric view of the Xi'an Silk Road International Convention and Exhibition Center (Xi'an, China; completed in 2022 by gmp architects; total floor area: 181,200 sqm).; **9b** Relational diagram illustrating the main tectonic elements of the building. The design features a reticular truss roof system shaped to resemble a traditional pagoda, while glazed curtain walls form the envelope of the complex, creating an impression of weightlessness sustained by a suspended structure. Source: Auhors, 2025.

commodity flows at scales and speeds that exceed human capacity, while algorithms embedded in customs software determine dwell times and spatial allocations. These machinic logics do not merely supplement human decision-making but actively co-produce the architectural and urban order of the free zone. As Keller Easterling reminds us, some of the most radical spatial transformations today are scripted not in formal design but in the "language of infrastructural protocols." In Khorgos, this language materializes as a machinic landscape where architectural meaning is distributed across technologies, standards, and operational sequences as much as across human practices.

Comparable dynamics emerge at other BRI logistical nodes such as the Lianglu–Cuntan Free Trade Port in Chongqing (Figure 7, Figure 8), designed in 2022 and covering 3.88 square kilometers, where multi-story piers, automated cranes, and AI-enabled CT-type inspection machines render the shipping container — rather than the human body — the operative unit of architectural measurement. Here, as at Khorgos, the very metrics of architecture — heights, spans, and circulation logics — are subordinated to the quantified spatiality of global logistics (Tobey, 2017).

From Latour's (2013) perspective of "flat ontology," these environments collapse traditional hierarchies that privilege human over non-human agency, positioning containers, algorithms, cranes, and workers on the same plane of relational co-production. Manuel Castells's notion of the "space of flows" further illuminates these sites: Khorgos and Chongqing epitomize spaces where immaterial digital networks and material infrastructures merge, enabling the circulation of goods, capital, and people across vast distances. To trace these relational entanglements is therefore to acknowledge that BRI architectures are not static edifices but ecologies of

Figure 10 External view of the Xi'an Silk Road International Convention and Exhibition Center, characterized by two symmetrical horizontal vaults and multiple columns. The podium, accessible from all four sides as shown in the previous diagram, evokes an interplay between the Parthenon and traditional Chinese architectural forms. Source: en.yanghd.com/projects/detail/160/1, 2025

interaction where multiple ontologies — diplomatic, logistical, commercial, domestic — are enacted, and where non-human actors play roles as consequential as those of states, architects, or traders. In this sense, the architecture of Khorgos and other free zones exemplifies a pluriversal condition in which divergent agents coexist and interact, producing urban fabrics that are at once sovereign enclaves, retail markets, machinic landscapes, and lived environments.

4.4 Valuing Alternative Logics

The evaluation of world architecture is often filtered through Eurocentric categories that privilege originality, aesthetics, and above all authorship. For a long time, in the canon of Western architectural discourse, buildings have been typically judged as the expression of an individual designer's creative autonomy, inscribed within what K. Michael Hays (1998) has called a "self-sustaining cultural hegemony" that reaffirms its own values. Within this framework, large-scale BRI projects, such as the Bangladesh–China Friendship Exhibition Center or the Xi'an Silk Road International Exhibition Center (Figure 9, Figure 10), frequently designed through collaborations between Chinese state institutes and global firms, find themselves in between this dominant narrative and their essence of being derivative, pragmatic and utilitarian buildings.

Completed in 2022 by gmp Architects for the Xi'an Company Silk Road International Convention and Exhibition Center, the 181,200-square-meter complex stands as a monumental hub for trade and cultural exchange along the contemporary Silk Road. Conceived as a contemporary reinterpretation of 20th-century China's "big roof" era, the design merges technological sophistication with traditional architectural motifs — symmetrical roofs, horizontally proportioned façades, and 180 slender columns that diffuse natural light. The result is a vast, flexible steel-framed structure, both ornamental and functional, envisioned as a symbolic "temple" for global encounter where suspended arches and open interior spans evoke a sense of lightness and fluidity. Its transnational authorship, coupled with an emphasis on structural clarity and logistical efficiency, challenges conventional narratives of originality and innovation, revealing instead alternative logics of collective design and heteronomous production.

Rather than being conceived as autonomous artistic objects, these buildings are nonetheless the outcome of complex assemblages of actors, protocols, and negotiations that extend far beyond the figure of the architect. As Jeremy Till (2009) argues, architecture is always conditioned by forces external to the discipline — economic, political, technical, and cultural — that decisively shape its outcomes. In the context of the BRI, this heteronomy is amplified: design institutes, state-owned enterprises, construction corporations, ministries of commerce, local governments, and transnational procurement systems all participate in shaping architectural form. The result is a form of authorship that is distributed and collective, where the architect's role is one of mediation among heterogeneous demands rather than autonomous artistic invention. This resonates with Marianna Charitonidou's (2021) call to move beyond interdisciplinarity toward transversality, an epistemological model in which architectural practice is understood as a negotiation across art, politics, economics, and technology, rather than as a discrete, self-contained discipline.

From this perspective, projects like the Xi'an Silk Road International Exhibition Center or the Bangladesh–China Friendship Exhibition Center in Dhaka should not be evaluated against ideals of autonomy and originality, but rather as architectural mediations that embody the plural rationalities of their contexts. Their tectonic grandeur — such as suspended steel trusses, structural shells and cantilevered light roofs — functions simultaneously as an engineering achievement, political symbol, and social infrastructure. Such outcomes exemplify what Li Xiangning (2007) termed "critical pragmatism" in Chinese architecture: a design philosophy that does not deny the constraints of pragmatism and external forces, but actively transforms them into opportunities for architectural expression. In these cases, the collective negotiation between autonomy and heteronomy is not a limitation but a generative condition. By taking seriously these alternative logics of authorship, we are compelled to recognize that BRI architecture challenges the very categories by which architectural value has been historically assessed. In Walter Mignolo's (2011) terms, this constitutes an act of epistemic disobedience: a refusal to measure architecture against the yardsticks of Western authorship and autonomy, and instead an acknowledgment of the multiplicity of agencies and rationalities through which architectural meaning emerges.

5 Concluding Remarks

The analysis of BRI projects through the four proposed orientations — recognizing multiple realities, grounding in lived contexts, tracing relational entanglements, and valuing alternative logics — reveals that these architectures cannot be understood through singular or universal categories. They function instead as plural sites of negotiation, where global ambitions intersect with local practices, symbolic registers, and material agencies (Appadurai, 1996; Escobar, 2018). Seen through a pluriversal lens, such projects operate not as fixed manifestations of geopolitical intent but as spatial assemblages continually reshaped by heterogeneous actors and situated knowledges. Their forms emerge from the entanglement of institutional systems, infrastructural protocols, and everyday adaptations that collectively produce a multiplicity of meanings. Architecture within transnational frameworks such as the Belt and Road Initiative should therefore be studied not as an autonomous object but as a relational and negotiated process. Each project mediates between different

ontological and political worlds — linking state power and local agency, technical rationality and cultural expression, standardized form and lived improvisation. The four orientations proposed here help capture this complexity by foregrounding infrastructures as arenas of encounter, where conflicting temporalities, design intentions, and social practices coexist. The BRI thus appears less as a coherent system of expansion than as a constellation of situated negotiations whose architectures embody both the promises and contradictions of global connectivity.

Across the case studies, a recurring theme is the coexistence of divergent realities. The Pakistan–China Technical and Vocational Institute in Gwadar operates as both a diplomatic "gift" from Beijing and a civic institution embedded in local life. The Khorgos Special Economic Zone demonstrates how architectural form arises from entangled relations among governments, traders, migrants, and logistics algorithms. The Lianglu–Cuntan Free Trade Port exemplifies pluriversal encounters between humans and nonhumans — cargo, containers, and data. The Kilamba Kiaxi housing estate in Angola, often dismissed under Eurocentric criteria, reveals social and political value when examined through South–South perspectives, showing how standardized blocks are transformed by residents' everyday practices.

These examples confirm that BRI architectures cannot be captured by universalist frameworks. Methodologically, this calls for embracing multiplicity as a point of departure. Rather than asking "what is the meaning of a building?" pluriversal approaches investigate how different worlds simultaneously enact meaning and value (Mignolo, 2011). This requires openness to ethnographic engagement, multi-scalar analyses of actor networks, and attention to non-traditional registers of architectural worth (Latour, 2005; Ong & Roy, 2011). At the same time, BRI architectures question the very notion of authorship, emphasizing collective and cooperative processes involving a multiplicity of institutions, stakeholders, and communities (Yaneva, 2016; Armando & Durbiano, 2017). This paper also challenges dominant narratives that frame the BRI merely as a top-down extension of Chinese influence. The case studies show how projects are continuously re-signified: housing schemes become negotiations between standardization and cultural adaptation; logistical hubs operate as hybrid zones of state power and commercial practice; "gift" complexes accrue meanings beyond their diplomatic intent; large scale gathering places celebrate the magnificence of encounters within architecture. The BRI thus emerges not as a monolithic imposition but as a field of plural translations.

A pluriversal reading repositions architecture at the center of these dynamics, not as a by-product of geopolitical strategy but as a key mediator through which abstract visions become lived realities. In this sense, architecture is one of the principal terrains where global narratives are materialized, negotiated, and transformed by local ontologies. While the pluriversal framework broadens the epistemological horizon of architectural research, its significance ultimately lies in connecting these insights to the human and ecological dimensions of the built environment. If, as Escobar (2018) suggests, design is a practice of "world-making," then infrastructures shape the quality of collective life — how communities experience belonging, mobility, care, and environmental balance within changing territories. The Pluriversal Methodology thus provides a critical lens for examining how BRI projects mediate between promises of development and the lived complexities of adaptation, displacement, and ecological transformation.

In conclusion, the task for architectural research, as advanced here, is not merely to map multiplicity but to critically evaluate how it shapes everyday life. Pluriversal thinking becomes an ethical stance — one that demands accountability for the social and environmental trajectories set in motion by infrastructures, and calls for forms of scholarship and design grounded in reciprocity, justice, and ecological interdependence (Haraway, 1988; Amin & Thrift, 2017; Easterling, 2014; Mignolo, 2011).

6 References

Amin, A. & Thrift, N. (2017). *Seeing Like a City*. Cambridge: Polity Press.

Appadurai, A. (1996). *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.

Armando, A. & Durbiano, G. (2017). *Teoria del progetto architettonico*. Roma: Carocci.

Bonino, M. & Carota, F. (2025). *New Silk Road. The Architecture of the Belt and Road Initiative*. Basel: Birkhauser.

Brenner, N. (2019). *New Urban Spaces: Urban Theory and the Scale Question*. Oxford: Oxford University Press.

Curtis, W. J. R. (1996). *Modern Architecture Since 1900*. London: Phaidon.

de la Cadena, M., & Blaser, M. (Eds.). (2018). *A World of Many Worlds*. Durham: Duke University Press.

Easterling, K. (2014). *Extrastatecraft: The Power of Infrastructure Space*. London: Verso.

Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham: Duke University Press.

Ferguson, J. (2006). *Global Shadows: Africa in the Neoliberal World Order*. Durham: Duke University Press.

Frampton, K. (1983). "Towards a Critical Regionalism: Six Points for an Architecture of Resistance." In H. Foster (Ed.), *The Anti-Aesthetic: Essays on Postmodern Culture* (pp. 16–30). Port Townsend, WA: Bay Press.

Graham, S., & McFarlane, C. (Eds.). (2015). *Infrastructural Lives: Urban Infrastructure in Context*. London: Routledge.

Haraway, D. (1988). "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." *Feminist Studies*, 14(3), 575–599.

Harvey, P., & Knox, H. (2015). *Roads: An Anthropology of Infrastructure and Expertise*. Ithaca: Cornell University Press.

Jencks, C. (1977). *The Language of Post-Modern Architecture*. London: Academy Editions.

Kanai, M., & Schindler, S. (2018). "Peri-Urban Promises of Connectivity: Linking Project-Led Polycentrism to the Infrastructure Scramble." *Environment and Planning A: Economy and Space*, 51(2), 302–322.

King, A. D. (2004). *Spaces of Global Cultures: Architecture, Urbanism, Identity*. London: Routledge.

Larkin, B. (2013). "The Politics and Poetics of Infrastructure." *Annual Review of Anthropology*, 42, 327–343.

Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Lara, F. L. (2024). *Spatial Theories for the Americas. Counterweights to Five Centuries of Eurocentrism*. Pittsburgh, University of Pittsburgh Press.

McNeill, D. (2019). *Global Cities and Urban Theory*. London: Sage.

Mignolo, W. D. (2011). *The Darker Side of Western Modernity: Global Futures, Decolonial Options*. Durham: Duke University Press.

Ong, A., & Roy, A. (Eds.). (2011). *Worlding Cities: Asian Experiments and the Art of Being Global*. Malden, MA: Wiley-Blackwell.

Robinson, J. (2006). *Ordinary Cities: Between Modernity and Development*. London: Routledge.

Santos, B. de S. (2014). *Epistemologies of the South: Justice Against Epistemicide*. London: Routledge.

Schindler, S., & Kanai, M. (2021). "Producing Global Infrastructure: The Global South and the Belt and Road Initiative." *Political Geography*, 88, 102402.

Scott, J. C. (1998). *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press.

Sheppard, E. (2020). "Infrastructure as Global Urbanization: Exporting Chinese Urbanism." *International Journal of Urban and Regional Research*, 44(6), 1013–1029.

Yaneva, A. (2016). *Five Ways to Make Architecture Political: An Introduction to the Politics of Design Practice*. London: Bloomsbury.

Proofreading by Jakub Salihović