

Unity without Uniformity: A Comparative Study of the Great Mosque of Xi'an and the Tabačka Mosque in Visoko

Jedinstvo bez uniformnosti:
Komparativna studija Velike džamije u Xi'anu i Tabačke džamije u Visokom

Chen Shen¹, Melika Konjicanin²

1: Department of Architecture, ETHz, Switzerland
shen@arch.ethz.ch | orcid.org/0009-0002-6871-8003

2: Department of Architecture, ETHz, Switzerland
konjicanin@arch.ethz.ch | orcid.org/0009-0004-5756-9596

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Abstract This article presents a comparative architectural and urban analysis of mosque traditions in China and Bosnia and Herzegovina. It argues that mosques in these two regions should not be interpreted as peripheral or simplified variations of a presumed Middle Eastern archetype, but as historically grounded Islamic spatial traditions shaped by regional adaptation, socio-political negotiation, and material translation. The paper shifts the discussion from a form-based definition of the mosque to a focus on ritual and spatial understandings of mosque architecture. Using selected case studies—the Huajue Lane Great Mosque in Xi'an and the Tabačka Mosque in Visoko—the article examines dimensions of construction, material systems, spatial sequences, orientation strategies, and urban embedding. Drawing on the principles of critical regionalism, the analysis demonstrates that Chinese and Bosnian mosques each reconfigure Islamic religious space through distinctive local traditions, including timber or masonry construction cultures, climate adaptations, and institutional histories. By bridging two contexts, the paper contributes to a decentralized historiography of Islamic architecture and advocates a broader framework for conceptualizing the mosque as a plural, regionally produced, and historically evolving architectural form.

Keywords critical regionalism; comparative study; mosque architecture; the Great Mosque of Xi'an; the Tabačka Mosque.

Sažetak Ovaj rad predstavlja komparativnu arhitektonsku i urbanističku analizu tradicije džamija u Kini i Bosni i Hercegovini. Autori zastupaju tezu da se džamije u ovim regijama ne bi trebale interpretirati kao periferne ili pojednostavljene varijacije pretpostavljenog bliskoistočnog arhetipa, već kao historijski utemeljene islamske prostorne tradicije oblikovane regionalnom adaptacijom, društveno-političkim pregovaranjem i transformacijom izvornih arhitektonskih formi i materijala. Rad preusmjerava fokus sa definicije džamije zasnovane isključivo na formi ka razumijevanju njenog ritualnog i prostornog karaktera. Kroz odabrane studije slučaja „Huajue Lane Velike džamije” u Xi'anu i „Tabačke džamije” u Visokom istraživački rad ispituje dimenzije konstrukcije, sisteme materijala, prostorne sekvence, strategije orijentacije i urbanu integraciju. Oslanjajući se na principe kritičkog regionalizma, analiza pokazuje da kineske i bosanskohercegovačke džamije oblikuju islamski sakralni prostor kroz prepoznatljive lokalne tradicije, uključujući kulture građenja u drvetu ili zidanim konstrukcijama, prilagodbu klimatskim uslovima i specifične institucionalne historije. Povezujući ova dva konteksta, rad doprinosi decentralizovanoj historiografiji islamske arhitekture te zagovara širi okvir za konceptualizaciju džamije kao pluralne, regionalno oblikovane i historijski promjenjive arhitektonske forme.

Ključne riječi kritički regionalizam; komparativna studija; arhitektura džamije; Velika džamija u Xi'anu; Tabačka džamija.

1 Introduction

The discussion of Islamic architecture has historically been framed within an implicit hierarchy centered on canonical forms (Cevik, 2023). Architectural historians often treat the Arabian Peninsula as both the spiritual and formal origin of the mosque typology, and the monumental forms, most notably the domed prayer hall and the minaret, are often researched and compared as the normative reference. Within this analytical paradigm, mosque architecture, as the most representative form of Islamic architecture, is evaluated in terms of its proximity to the assumed canonical model, and variation is interpreted as deviation or adaptation. However, this center-periphery framework simplifies the historical development of non-Middle Eastern mosque architecture and obscures the spatial, structural, and material plurality of the global Islamic architectural.

This study proposes a critical regionalist perspective to address this problem and challenges the prevailing normative-variational analytical framework. Critical regionalism, as articulated by Kenneth Frampton, emphasizes the mediation between universal systems and local material cultures. Rather than privileging stylistic resemblance, it shifted attention to the logic of construction, spatial sequencing, and tectonic articulation. This study, therefore, addresses three research questions: 1) What structural and spatial differences characterize traditional Chinese and Bosnian and Herzegovinian Mosques? 2) How do regional construction traditions mediate the architectural realization of shared Islamic ritual principles? 3) In what ways can a critical regionalist framework reinterpret mosque architecture beyond a center-periphery framework?

To examine this, the study places the Huajue Lane Great Mosque in Xi'an, China and the Tabačka Mosque in Visoko, Bosnia and Herzegovina in comparative dialogue. It argues that both mosques should not be regarded as peripheral variants of the Middle Eastern Islamic architectural archetype, but as regionally specific architectural systems shaped by distinct tectonic and socio-cultural traditions. Through the critical regionalist perspective, mosque architecture is reconsidered as a decentralized spatial framework capable of inhabiting multiple tectonic worlds. These two regions, although geographically distinct, are both significant nodes in the spread history of the Islamic world. Historical Chinese mosques often adopt a timber post-and-beam structure system and courtyard-based spatial sequences from traditional Chinese architectural culture, and the qibla orientation is accommodated through the axial reconfiguration. This context facilitated a shift toward Ottoman architectural expression, where masonry and timber construction, centralized prayer halls, and slender minarets became standardized symbols of Islamic institutional identity in the region.

Applied to the study of mosque architecture, this lens shifts the question from whether a mosque resembles an assumed archetype to how Islamic ritual is structurally embedded within a given tectonic environment. This research is organized as follows. Section 2 outlines the

theoretical framework grounded in critical regionalism and tectonic analysis. Section 3 develops the comparative analytical research framework for case studies. Section 4 discusses the Huajue Lane Great Mosque in Xi'an. Section 5 analyzes the Tabačka Mosque in Visoko. In section 6, the two cases are compared, and section 7 concludes with an outlook that redefines mosque architecture as a decentralized, adaptable system.

2 Universality and Mediation: Critical Regionalism in the Study of Mosque Architecture

2.1 Typological Dominance in Mosque Historiography

The historiography of mosque architecture has largely relied on typological and chronological classification. The foundational surveys identify dominant spatial configurations—such as hypostyle halls, four-iwan planning, and centralized domed structures—as primary categories through which mosque architecture is organized and compared (Bloom & Blair, 2009; Hillenbrand, 1994). These typologies have provided indispensable descriptive clarity and historical mapping across the Islamic world.

However, typological analysis often privileges visual forms, such as domes, minarets, and façades, as the primary indicators of architectural identity (Hillenbrand, 1994). And such emphasis tends to naturalize certain regional developments, especially those associated with the central Islamic lands and the Ottoman or Safavid empires, as normative reference points. Architectural variation in other regions is often interpreted through deviation, adaptation, or diffusion from these perceived centers.

Recent scholarship has problematized this canonical framing. Necipoğlu argues that the category of Islamic art emerged within specific historiographical constructions that privilege imperial and courtly production, and emphasizes that this category should be interrogated alongside inherited narratives that privilege canonical lineages (Junod et al., 2013, pp. 57–76). Flood similarly critiques the linear and geographically centralized narrative that obscures the multiplicity of architectural practices across the Islamic world (Mansfield, 2014, pp. 31–53). Yet even with the revisionist lens, academic analysis often remains at the level of formal variation. While diversity is acknowledged, the mechanism through which invariant ritual principles are materially embedded within regionally distinct construction systems remains insufficiently theorized. The focus on typology thus risks overlooking the tectonic dimensions of mosque architecture, specifically, those forms of structural articulation through which ritual order is stabilized in different material cultures.

A shift from typology to tectonics is therefore necessary, requiring not only theoretical repositioning but also empirical demonstration. The critique of canonical mosque historiography should be examined through cases that expose the limits of formal classification.

2.2 Critical Regionalism and the Problem of Uniformity

Critical regionalism emerged as a theoretical response to the homogenizing tendencies of late-twentieth-century global modernism in architecture discourse. First articulated by Alexander Tzonis and Liane Lefaivre, this theory was subsequently elaborated by Kenneth Frampton, who argued that the core claim of architecture is mediation, which should negotiate between universal civilizational forces and territorial conditions rather than a return to vernacular nostalgia (Docherty, 2016; Frampton, 1993, pp. 268–280; Tzonis & Lefaivre, 2016, pp. 123–130). In Frampton's formulation, tectonics is the privileged medium of this mediation, which should not be understood as a synonym for structural efficiency but as a tectonic expression of architecture, focusing on structural mode, material assembly, and spatial sequencing, producing architectural presence (Frampton, 1993, p. 276).

Although developed within modern architectural discourse, critical regionalism is applicable to traditional architectures shaped by transregional systems. Mosque architecture offers a productive research terrain because it is structured by a transregional religious order yet realized through locally specific construction cultures. Mosque historiography often defaults to what Frampton characterizes as a split between optimized “universal technique” and a compensatory scenographic surface, a condition that encourages reading architecture through typological images rather than through constructive logic. A tectonic reading resists this tendency by treating architecture as a poetics of construction, where meanings are produced through the interplay of topos, typos, and tectonics, rather than through universal formal discourse. Mosque architecture exemplifies this condition—Islam establishes shared ritual requirements such as orientation toward Mecca and hierarchical prayer organizations (Petersen, 1999), yet as Grabar argues, the mosque developed as a “standard with variations,” a type constituted by functional needs and symbolic elements rather than a predetermined or fixed architectural form (Grabar, 1973, p. 40,150). The architectural manifestation of these ritual requirements is thus inevitably mediated through local construction cultures. On this basis, critical regionalism is mobilized here not as an abstract interpretive stance but as an operational comparative method. The mechanism of mediation can be specified only by comparing mosques that share ritual invariants but differ radically in tectonic culture.

3 Methodology: Comparative Design and Analytical Framework

3.1 Case Selection as Method: China and Bosnia and Herzegovina in a Most-Different Systems Design

Chinese and Bosnian and Herzegovinian mosques offer a controlled setting for comparative analysis. The study chooses Huajue Lane Great Mosque in Xi'an, China

(Figure 1), and the Tabačka Mosque in Visoko, Bosnia and Herzegovina (Figure 2) as the main research sites. In both regions, mosque architecture developed within mature, highly differentiated construction traditions—timber post-and-beam systems in China and composite masonry and timber-framed systems in Bosnia and Herzegovina—while accommodating the same invariant ritual principles of orientation and congregational organization (Steinhardt, 2018). This combination produces a very different system configuration, in which the ritual problems are held constant while the tectonic and material presentations vary.

Methodologically, this contrast allows the study to specify mediation as a constructive process rather than treating regional difference as stylistic variation. The analytical aim is not to rank the two traditions against each other, but to examine how universal ritual order is materially stabilized through divergent structural logic.

The tectonic divergence and shared liturgical structure make the two cases suitable for examining how universal Islamic ritual is materially translated into regionally specific architectural systems. By placing these two cases within a shared framework, the study operationalizes critical regionalism not as an abstract theory but as a comparative method that decenters typological hierarchies and foregrounds tectonic mediation.

3.2 Comparative Strategy and Research Framework

This study operationalizes critical regionalism through a comparative analytical framework that treats ritual invariants as constant and tectonic mediation as the primary variable. The comparison holds qibla orientation and the spatial organization of congregational prayer constant, while examining how each case stabilizes these requirements through distinct construction cultures and urban contexts. To ensure comparability, both the Huajue Lane Great Mosque of Xi'an and the Tabačka Mosque are analyzed using four shared dimensions. First, the structural system analysis examines the dominant load-bearing structural mode and material assembly, and assesses how structural logic constrains spatial form. Second, the spatial sequencing analysis examines approach, thresholds, and hierarchical transitions from public access to the prayer hall, focusing on how spirituality is staged through movement and enclosure. Third, the orientation strategy investigates how qibla alignment is negotiated relative to the site and urban grids, distinguishing between direct alignment, compound rotation, and localized internal correction and identifying architectural markers and prayer-line geometry. Fourth, the urban embedding situates the mosque within the urban context by examining its access routes, street adjacencies, and, most importantly, its associated institutions. These dimensions replace the purely typological study of Mosque architecture with a replicable protocol for specifying how a shared ritual order is materially translated into regionally distinct architectures, and thereby foregrounding tectonic mediation rather than canonical form. The discussion section extends this framework by interpreting these dimensions through the socio-political context and phenomenological experience.



Figure 1 Site map, Huajue Lane Great Mosque of Xi'an. Source: Authors, 2026.



Figure 2 Site map, the Tabačka Mosque in Visoko. Source: Authors, 2026.

4 The Great Mosque in Xi'an: Ritual Invariants Stabilized through a Timber-Courtyard System

4.1 Historical and Urban Context of the Great Mosque of Xi'an

Islam entered China through a long process of contact rather than a single founding moment. Several studies treat the Tang period as the key starting point, because diplomatic contact and merchant mobility created stable Muslim presences in ancient Chinese cities (Shi, 2023, p. 16; Xu, 2022, pp. 12–13). There were two main transmission corridors—one followed the overland Silk Road into Chang'an, the current Xi'an, and another followed the maritime spice route into southeastern port cities (Tang & Sun, 2010).

Against this background, the Great Mosque of Xi'an, also known as Huajue Lane Mosque, is a strategic inland case. Xi'an's historical identity as Chang'an matters here, not only because of its political position as the capital of the Tang dynasty, but also because of its economically important role in overland trade, and scholars often treat this city as a key inland anchor for the institutionalization of Islam in northwestern China. The Great Mosque of Xi'an is located in the historic Muslim residential area near the Drum Tower, and it remains embedded in a dense urban area of lanes and shops rather than standing as an isolated monument. Unlike Xi'an's original north-to-south layout, this mosque was built on a narrow plot measuring about 47.6 meters wide and 245.7 meters long, which features an enclosed area with five courtyards arranged along a very long east-to-west axis, with the mihrab located at the western end.

The chronological research on the Great Mosque of Xi'an is also important for framing later analysis, because it shows how “origins” and “presents” diverge. Before the Great Mosque of Xi'an, a religious complex named Tanmingsi was constructed on the site in 742, and later was rebuilt as a mosque between 1260 and 1263. 1392 marked the start point of a major construction episode that finally became the well-known mosque discussed in this paper (Steinhardt, 2018, p. 121). Chinese scholars conclude that there were twelve major construction and restoration campaigns during the Ming and Qing dynasties, and explained how repeated rebuilding progressively produced the compound's layered courtyard system (Song et al., 2022). This evidence supports the analytical stance that the Great Mosque of Xi'an should be treated less as a single-period construction and more as an accumulated tectonic and spatial system—one that stabilized Islamic ritual practice through successive architectural adjustments within a Chinese local construction culture.

4.2 Structural System and Material Grammar

The Great Mosque of Xi'an is fundamentally a timber-framed compound, the most used structural system in China, and this compound uses blue-brick enclosure walls to define the precinct boundary. The mosque architecture, therefore, combines a light skeletal frame with a heavy perimeter envelope, in which the timber frame carries the primary structural load, while the brick wall primarily stabilizes the edge conditions and produces an inward spatial field. This combination establishes a material grammar that differs from that of a masonry mosque envelope, but it still supports Islamic ritual space.

The timber system also produces a repeatable modular logic across the compound. The compound has multiple halls, pavilions, and gateways as units, which are distributed along a long axial sequence rather than concentrated in a single volume. The prayer hall demonstrates how the timber grammar scales up when the ritual activities demand a large space. The prayer hall of the Great Mosque of Xi'an in the fifth courtyard, with seven bays in width and nine bays in depth, adopts a “convex” (凸字形) plan with an articulated sequence of platforms and interior parts. The hall can accommodate almost a thousand worshippers, demonstrating that the timber system is not limited to small-scale spaces. The roof systems, as shown in Figure 3, enable an enlarged timber space without producing a single over-dominant mass. The prayer hall uses a “linked-roof” (勾搭连) configuration, in which multiple roof sections are connected while the interior spaces remain a single continuous space. This connected roof makes the prayer hall hierarchically distinct from other prayer spaces in the compound and can also guide attention to the most important ritual space at the end of the sequence.

The research on the structural system and material grammar of the Great Mosque of Xi'an, therefore, frames tectonic expression as more than structural efficiency, which at the same time supports the next subsection's discussion because the same timber-brick system also enables the long threshold sequence that gradually converts the everyday approach into a ritual space.

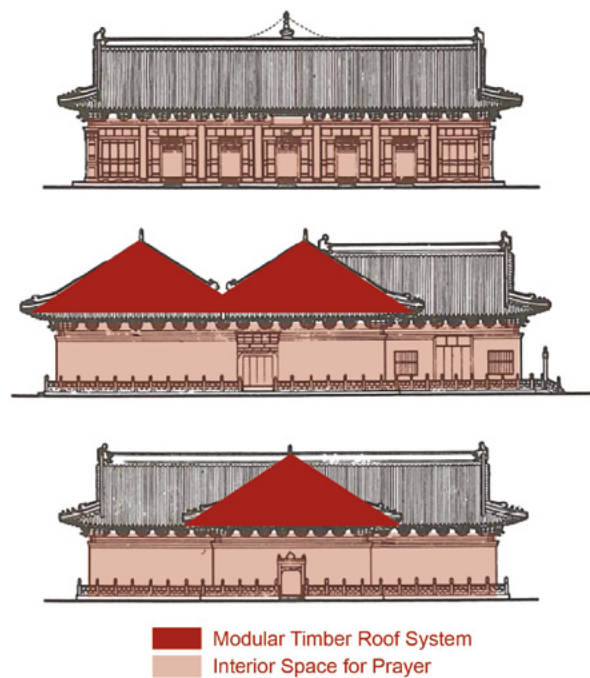


Figure 3 Modular timber roof system. Diagram reproduced by authors, 2026. Source: Zhang, 1982

4.3 Spatial Sequencing and Threshold Logic

The Great Mosque of Xi'an establishes a ceremonial environment by organizing a series of architectural elements in a continuous sequence (Figure 4). The site comprises five rectangular courtyards aligned along an east-west axis, with walls and gate structures functioning as thresholds rather than simple facades, thereby delineating each courtyard. The mosque uses the axis to stage a calibrated transition from everyday life to ritual interior.

The first courtyard begins with the Wall of Mirrors (照壁) and a tall Wooden Pailou (木牌楼), which together create a defined entrance space that elevates ordinary urban activities to a more controlled and ceremonial space. Wujian Lou (五间楼), the five-bay building, serves as the primary gate, signaling the entrance of the Mosque. After this building, the second courtyard then tightens the moral and institutional register through a central Stone Paifang (石牌坊), the Stone Gateway, inscribed “天监在兹” which means “heaven keeps watch here”. The second courtyard was historically used as a space for gathering and cleaning before entering the subsequent space. The third courtyard serves as a transition from an outward-facing passage to an internal religious area, designated for daily activities and preparations before prayer. At the entrance is Chixiu Dian (敕修殿), and at the courtyard's core is Shengxin Lou (省心楼), the minaret of the Great Mosque of Xi'an, which is a three-story octagonal structure constructed in the traditional Chinese wooden style and is notably lower than the towering minarets of the Middle Eastern mosques. The fourth courtyard intensifies the transition from preparation of prayer by combining directional clarity

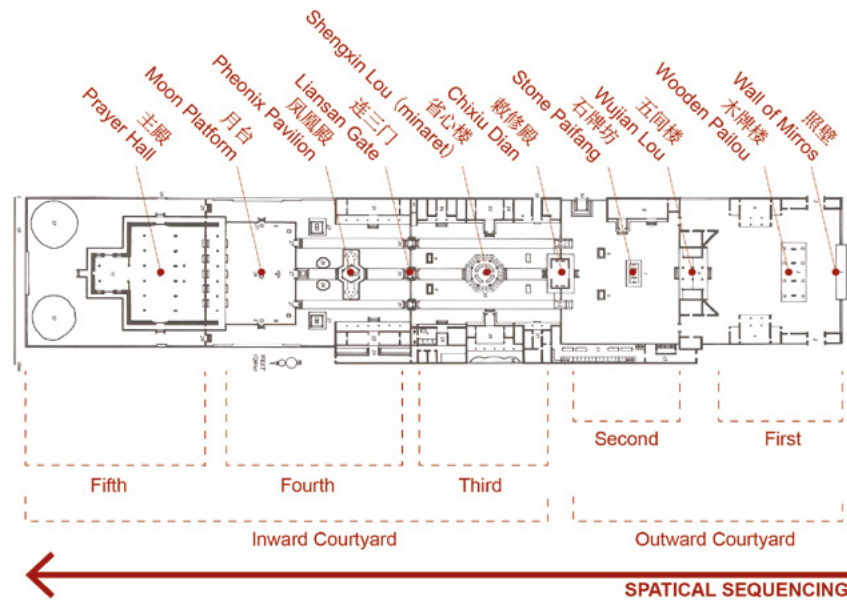


Figure 4 Spatial sequencing of the Great Mosque of Xi'an. Diagram reproduced by authors, 2026. Source: Liu, 2011.

with controlled sensory compression. The compound places Liansan Gate (连三门) at the threshold between the third and fourth courtyards, and it frames the next movement as a short yet deliberate approach toward the ritual core—the Phoenix Pavilion (凤凰亭), also known as Yizhen Pavilion (一真亭)—before the final ascent. The Phoenix Pavilion's hybrid architectural form, which fuses the logic of a wooden paifang with that of a pavilion, creates a visible pause point in the sequence and signals that the fourth courtyard is a space approaching an event place. The courtyard also ensures the ritual tightening through its internal paths and landscape density. The spatial system here offers three direct routes leading to the Moon Platform (月台), and the condensed planting reinforces a controlled corridor-like path to the fifth courtyard rather than an open-courtyard wandering. The sequence in the fourth courtyard starts with the final gate, the Liansan Men, and then arrives at the Moon Platform. The fourth courtyard completes the transition by shifting the body onto an elevated base, the Moon Platform, and fixing attention to the prayer hall as the spatial and ritual terminus. The raised platform does not serve as a decorative stage but as a tectonic device that protects the timber prayer

hall from dampness and rainwater splashing. It also creates a measured separation between the courtyard ground and the final prayer space. At this point, the courtyard sequence reaches its functional climax. The fifth courtyard of the mosque is to the west of the prayer hall at the end of the sequence, which was and still is the place to observe the moon.

The Great Mosque of Xi'an accomplishes the transformation from public entry to ritual readiness through a deliberate axial-courtyard sequence. By the time one reaches the inner courtyards, the outer three courtyards have already absorbed reception, circulation management, and bodily preparation. The inner courtyard, therefore, functions less as a social forecourt and more as the immediate spatial infrastructure of worship. The fourth and fifth courtyards do not merely extend the earlier spatial layers in a linear order, but intensify and finalize the shift of the prayer's bodily orientation and attentional focus by a set of architectural operations—axis, controlled enclosure with compressed planting densities, and most importantly, the elevation of the Moon Platform. In this way, the courtyard sequence of the Great Mosque of Xi'an creates a graduated

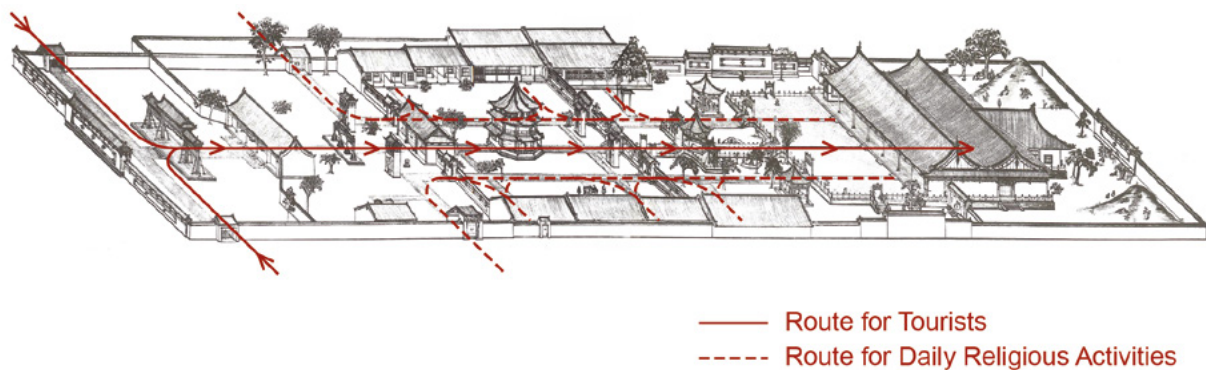


Figure 5 Orientation strategy of the Great Mosque of Xi'an. Diagram reproduced by authors, 2026. Source: Zhang, 1982.

conversion apparatus, translating the ordinary urban entry into a fully ritualized condition through spatial hierarchy rather than iconic forms.

4.4 Orientation Strategy: Qibla within an Axial Courtyard System

The Great Mosque of Xi'an stabilized qibla orientation by aligning the entire compound on the east-west axis. The compound places the mihrab as the western terminus of a long straight line that begins at the eastern entrance, and the plan therefore treats the orientation as a compound-scale ordering principle rather than an isolated interior adjustment. This orientation strategy is historically significant in the Chinese urban context because it departs from the standard south-facing orientation of common ritual and secular architecture complexes.

As discussed in 4.3, the mosque makes this orientational alignment legible through both movement and architectural markers. As shown in Figure 5, the first courtyard is defined by the Wall of Mirrors, side gates, and Wujian Lou, which regulate entry and orient visitors before they proceed to the main axis. The following courtyards then reinforce the orientation through repeated axial framing devices—gates, pavilions, and finally the prayer hall—so that the orientation is experienced as a progressive tightening of the ritual path. The prayer hall most clearly indicates the qibla through the west wall, which aligns with the wall of the Kaaba. Scholars describe the prayer hall's west wall as the qibla wall and note that it is divided into three parts, with a pointed-arch mihrab at the center. This wall provides the congregation with an unambiguous directional cue in the hall and anchors the prayer space without relying on external topological markers, such as a dome.

This case, therefore, treats qibla as an architectural operation embedded in an axial courtyard system. The mosque does not solve orientation through a single act of imitating the form, but through compound-scale alignment, repeated threshold framing, and a highly explicit qibla wall inside the prayer hall. This orientation strategy also prepares the final subsection, as the similar inward axis and boundary system shape how the mosque embeds itself within Xi'an's dense urban fabric.

4.5 Urban Embedding: Interface, Visibility, and Community Infrastructure

The Great Mosque of Xi'an sits inside the Hui residential community near the Drum Tower in downtown Xi'an. The mosque uses continuous boundary walls, gate buildings, and inward-facing courtyards to separate ritual order from street intensity while remaining accessible for daily activities. In addition to these approaches, the mosque also uses the traditional Chinese timber system to prevent the open monumental space from being exposed to the city.

The outer courtyards serve as an urban buffer, accommodating public functions before worship begins. The first and second courtyards host

reception, display, and administrative activities in rooms along their edges. The compound also supports small-scale commercial and service activities at the mosque's edge, connecting the mosque to the neighborhood economy without allowing the street life to penetrate the sacred core. This spatial distribution makes publicness inward rather than outward. The public interfaces appear as controlled access points, and the ritual space only becomes visible after passing through layers of hierarchical spaces. The mosque compound also adapts to the time discipline of Islamic practice in a dense city. The mosque offers multiple gates through which worshippers can access the prayer hall via a shorter route through doors other than the main entrance (Figure 5). This design approach provides an important urban logic: that the mosque does not enforce a single ceremonial entry for all users but allows faster internal access for high-frequency daily prayer, while the axial route remains available as the full ritual approach.

The mosque also mediates its urban presence through massing control with the connected roof system. The prayer hall has a high interior capacity, but it does not present itself to the city as a single large roof volume—the exterior mass is visually broken into several roof segments. This roof logic reduces perceived height, disperses scale, and prevents the ritual core from appearing as a singular monumental block within the surrounding lane-and-shop fabric. In this sense, the east-west axis of the mosque remains a strong ordering device inside the compound, but it does not translate into a dominant axial façade in the streetscape. The long courtyard chain distributes architectural bulk across depth, and the connected roof further dissolves the axis's intensity at the level of urban visibility.

This embedded configuration aligns with a broader Chinese neighborhood logic that Chinese scholarship summarizes as “one mosque, one neighborhood”, where the mosque anchors a local community unit through daily access rather than through visibility (Song et al., 2022). In this way, the mosque remains infrastructural and accessible, maintaining a rigorous gradient from the public interface to the sacred interior through enclosure, routing, and layered courtyards.

5 Tabačka Mosque in Visoko: Ritual embraced through locally rooted craftsmanship

5.1 Historical and Urban Context of the Tabačka Mosque

Religious architecture in Bosnia and Herzegovina developed in close relation to the political regimes under which it operated. Islamic architecture was introduced to this territory with the Ottoman conquest, which lasted from 1463/1482 until 1908 (Jahić, 2022). During this long period of rule, new urban centers were established along trade routes and within networks of

connectivity to other important cities of the empire. The development of Visoko followed these Ottoman principles, transitioning from its medieval roots as a Bosnian imperial seat into a decentralized trading town traditionally known as a *kasaba*. To catalyze this growth, the Ottoman administration introduced the *waqf* (*vakuf*)—a state-supervised religious endowment that provided the legal and administrative framework for urban growth (Tufek-Memišević, 2014).

When the Ottomans arrived, Visoko already possessed a solid urban foundation of approximately 220 households. By 1477, the first public buildings—including hamams, shops, and bridges—were established through *waqf* endowments. Some of the first written evidence state that the city's growth was clearly dictated by the traditional Ottoman urban logic consisting of the *čaršija* (commercial core) and the *mahala* (residential neighborhood) (Husić, 2012). In this way, the city expanded around both the mosque and the central market district, forming a pattern of concentric neighborhoods that functioned semi-independently with their own sets of religious, social, economic, and administrative services. In terms of urban morphology, this structure prioritized privacy and adapted closely to the natural topography. Mosques were not placed at the ends of axial streets as monumental landmarks, in contrast to many contemporary Western planning models. Instead, the minaret served as the primary vertical and visual marker, indicating the neighborhood's center and providing an orientation point. The mosque-centered urban typology has shown how a single religious institution can serve as a space for social interaction, structuring both the local community and the surrounding urban morphology.

Visoko's specific evolution within this framework was further defined by its unique geographical and topographical characteristics. Its situation at the confluence of the Bosna and Fojnica rivers fundamentally steered its evolution toward a specialized industrial and craftsmanship center. While the upper elevations were reserved for residential mahalas, the riverbanks became the epicenter of the town's most vital industry: leather tanning. Because of this concentrated economic power, Visoko's urban fabric was shaped less by imperial decree and more by the socio-economic influence of guilds. The Tabaci (leather tanners) emerged as one of the city's most influential social classes. Their craft required constant access to running water, leading them to settle predominantly along the left bank of the Fojnica River. This specialized "production zone" eventually evolved into a self-contained urban entity, necessitating its own spiritual and social center.

The Tabačka Mosque was established as a direct result of this urban expansion, founded through the collective *waqf* of the tanners' guild. Serving as the focal point of the Tabaci mahala, the mosque represents a departure from the monumental imperial style found in administrative centers like Sarajevo. Instead, it emerged as an expression of vernacular architecture found in small towns and villages around Bosnia and Herzegovina. More than a place of worship, the mosque stood as a symbol of the tanners' autonomy and their integral role in the economic life of Visoko, reflecting an architectural system born from the specific needs of an industrial-craft community.

5.2 Structural System Rooted in the Local Tradition

Unlike the monumental masonry of Ottoman imperial mosques, typically designed by centralized architects, the Tabačka Mosque emerged as a bottom-up architectural expression. It represents a "built-by-the-people" paradigm, in which construction was guided by local knowledge and indigenous material cycles. Consequently, the mosque's morphology is not an imitation of imperial style, but a reflection of the tectonic identity of the Tabaci guild. By prioritizing local knowledge over the standardized aesthetic of the empire, the mosque serves as a primary example of how social structures can manifest as distinct architectural forms.

The structural logic of the mosque is defined by a composite system, characterized by a functional dualism between load-bearing mass and flexible framing. The lower wall integrates rubble stone, or quarry-faced masonry, in its natural, irregular state. This provides the necessary compressive mass and protection against the hydraulic forces of the nearby Fojnica River. Upper walls transition to adobe—a mixture of sun-dried clay and straw—which serves as the prayer hall's thermal insulation. This masonry is integrated into a timber framework. This system functions as a seismic buffer; the timber provides the tensile strength and elasticity that stone lacks, resulting in a resilient structure specifically adapted to the Bosnian landscape (Figure 6a).

This hybrid structure extends into the mosque's spatial program, particularly in the transition from the interior prayer hall to the external wooden veranda. While the main volume relies on the mass of its walls, the veranda introduces a post-and-beam logic (Figure 6a). The wooden pillars and broad arched openings act as an entry space, a threshold between the public commercial zone and the sacred interior. This specific Balkan interpretation of Ottoman architecture replaces the monumental scale of the stone dome with a more intimate "human scale." In this hybrid approach, the walls provide gravity-based stability, while the timber provides flexibility and lightweight decorative elements that define the building's facade.

The mosque's history is defined by a narrative of vernacular resilience, marked by a cycle of destruction and reconstruction following floods, fires, and conflict. The constant reconstruction using identical traditional methods and materials led to its official recognition as a National Monument in 2003. Its authenticity is not found in the preservation of the original structure as such, but in the continuous application of traditional craft knowledge and locally rooted resources. This continuity ensures that the mosque remains a symbol of the guild's autonomy and its role in the industrial and spiritual life of Visoko.

The peak of Bosnian Islamic Orientalism is most legible in the surface tectonics of the woodwork, which showcases the intricate hand-hewing markings. These tool marks function as a material archive of local craftsmanship, contrasting the heavy masonry and polished architecture of imperial Ottoman centers like Istanbul. By using four-sided hipped shingle roofs and simple timber minarets, the Tabačka Mosque prioritizes tactile, regional honesty over distant symbolic monumentality. This structural logic results in a building that is not only abundant in character but fundamentally more resilient to the region's unique seismic activity and climatic demands.

5.3 Non-Linear Ritual Spatial Organization

The spatial organization of the Tabačka Mosque suggests a ritual-based typology; not a strictly linear or sequential system, but one embedded in an integrated spatial cluster where ritual zones operate in close proximity. Historically, the transition between Visoko's main pedestrian street and the mosque's sacred interior was mediated by the wooden veranda. Unlike in many Ottoman mosques with a central axial entry point, this veranda was accessed from two sides, the riverbank on the west and the commercial zone on the east, serving as a critical threshold between the two. Functioning as a buffer, the stone flooring identifies the veranda as a transitional zone. This space, surfaced in traditional kaldrma, provides the necessary area for practitioners to remove their shoes prior to entering the prayer hall (Figure 6b).

Following the Bosnian War in the 1990s, the mosque's spatial logic underwent evolution with the addition of a frontal courtyard enclosed by masonry walls. This intervention redefined the "spiritual zone," insulating the mosque from direct exposure to the modernizing main street. Within this newly defined enclosure, a fountain was installed to serve as an ablution station, situating the ritual of purification at the entry point. Furthermore, the integration of a public library into the courtyard walls and the addition of classrooms for religious education have expanded the mosque's program. These changes shift the building's identity from strictly religious activity to a multifunctional community space, bridging religious practice and public life.

The main prayer hall remains the structural and spiritual center of the condensed complex, serving as a private, column-free volume that fosters an intimate atmosphere for worship. It contains a wooden balcony, the traditional elevated space designated for female practitioners. Behind the mosque, to the south, is a harem (graveyard), a green space that anchors the building in its historical context (Figure 6b).

The analysis of the Tabačka Mosque reveals that while a ritual sequence is implied, it is not linearly defined. Instead, it functions as a consolidation of ritual practices organized around the presence of water, varying degrees of enclosure, and the negotiation between public and private realms. The courtyard now serves as a central transitional node where movement, gathering, and preparation converge. The transitions between the ablution space, the veranda, and the prayer hall are subtle, following a symbolic and functional logic rather than a rigid corridor-like order. Thus, the mosque exists as a unified architectural whole in which sacred functional components coexist within a fluid, non-linear hierarchy.

5.4 Qibla Orientation: Divergence from Urban Fabric

The orientation of the Tabačka Mosque follows the canonical principle of mosque architecture, aligned toward the qibla in Mecca (Figure 6c). A bird's-eye view of Visoko shows that the mosque stands out in its orientation relative to the surrounding natural and urban fabric. While the surrounding development follows a combination of a grid pattern adjacent to the river and organic road/street networks (?) shaped by

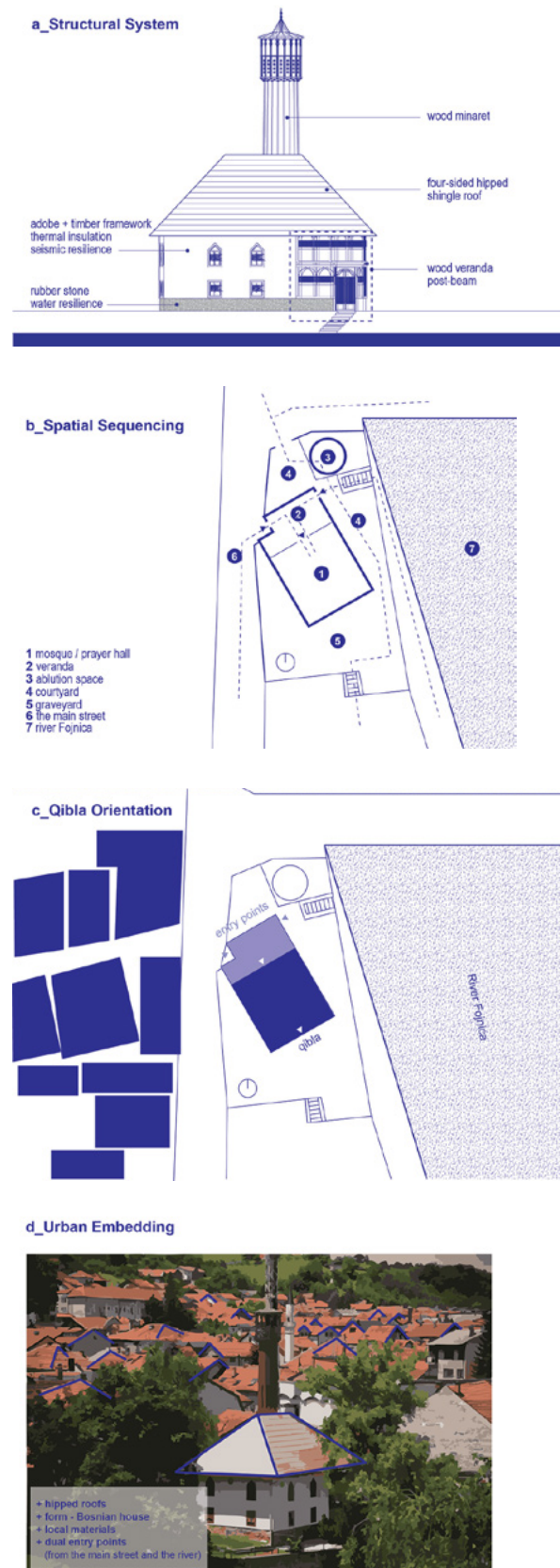


Figure 6 Analysis of the Tabačka Mosque, based on methodological parameters. Diagram: 6a Structural System, 6b Spatial Sequencing Analysis, 6c Qibla Orientation Strategy Analysis, 6d Urban Embedding Analysis. Source: Authors, 2026..

the hills, the mosque's orientation is determined solely by Islamic religious practice. Specifically, the main building—which encompasses the indoor prayer area—is oriented toward the qibla. In contrast, the secondary spaces, such as the ablution area, the courtyard, and other spaces, do not follow this strict logic.

This creates a shift between the mosque and the street. However, this misalignment is not immediately noticeable because the mosque sits adjacent to the river and is separated from other buildings. In this way, the mosque sits on its own as a unique territory. To those walking along the main pedestrian street, the mosque acts as a public anchor and a monument. Despite its different orientation, the mosque's scale, form, and materials help it merge with the town's context.

When comparing this mosque to the monumental stone-domed mosques of the Ottoman Empire, there is a significant architectural difference. In those imperial mosques, the entry to the main prayer space is typically aligned with the qibla axis. However, the Tabačka Mosque does not follow this principle. Instead, the entries to the prayer space are located on the east and west sides, aligning completely with the urban context. One entry faces the river, connecting the former working spaces of leather tanners, while the other entry faces the commercial and residential zone. Symbolically, this creates a bridge between the working spaces and homes, showing how the ritual of the mosque was integrated into the daily movement of its community.

5.5 Morphological Urban Embedding

The Tabačka Mosque was intentionally positioned between the industrial and residential zones as a direct response to the needs of its community. Because it was

built by and for leather tanners, whose craft required constant access to the river, the mosque's location represents a purely functional and practical logic. It was situated at the intersection of labor and domestic life, serving as the physical link between them.

A second aspect of this urban embedding is found in the traditional mahala-based system of Ottoman cities. In this structure, neighborhoods develop organically around the mosque, which serves as the social and spatial centerpiece. In Visoko, the Tabačka Mosque functioned as the heart of its neighborhood, consolidating the residential and working areas into a single, unified entity (Figure 6d). The mosque's entry points further integrate the public. This encourages a convergence of working, living, and spirituality, making the mosque's functionality an integral part of everyday civic life.

The final aspect of urban embedding is expressed through the form of the building itself. The mosque reflects the traditional Bosnian house typology, specifically through its square plan and hipped roof (Figure 6d). This proves that the mosque followed the same logic as the region's traditional residential construction. A unique feature of this regionalism is the position of the minaret. In standard Ottoman architecture, the minaret is an external stone tower attached to the side of the building. However, in the Tabačka Mosque, the minaret rises directly from the roof, resembling a large chimney.

This design choice shows that local construction knowledge was translated into the sacred space of the mosque. The use of local materials and familiar domestic forms provided a new interpretation of Islamic architecture—one that was deeply rooted in the regionalism of the Bosnian context rather than the imperial standards of the capital.

Table 1 Overview of research comparative analysis between two mosques. Source: Authors, 2026.

	The Great Mosque of Xi'an, China	The Tabačka Mosque of Visoko, B&H
Structural System	- Timber post-beam tectonic system with modular spatial logic - Structural contrast articulates indoor and outdoor spatial hierarchy and program - Tectonic system as architectural language	- Composite system of load-bearing walls (rubble stone and sun-dried mud) and flexible framing (wood) - Canonical Islamic architectural elements, tectonically and materially contextualized - Tectonic system as environmental resilience
Spatial Sequencing	- Ritual sequence structured through layered courtyards - Spatial hierarchy transitions from everyday space to prayer space - Courtyards as active mediators of movement and visibility - Ritual experience based on spatial sequencing, repetition, and gradation rather than monumentality	- Ritual sequence dispersed around the courtyard - Spatial sequence implied but not defined by linear progression - Courtyard as the primary indicator of interaction - Ritual experience based on spatial hierarchy and function
Orientational Strategy	- Qibla orientation negotiates the inherited city's axis (north-south) with courtyard-based spatial system - Redirection towards qibla within the interior space using architectural elements	- Mosque's orientation toward the qibla contrasts with the urban fabric alignment - The veranda serves as a threshold that mediates between the urban context and the prayer hall's strict qibla-orientation
Urban Embedding	- Inward-oriented publicness with strong spatial boundaries toward the street - Walls, gates, and transitional zones create gradients of accessibility - Religious practice integrated into high-density urban fabric without monumental exterior exposure - Double-slope roof mediates scale and reduces visual dominance of the prayer hall within the surrounding context	- Positioned as a direct link between the former tanning work zones (river) and residential mahalas to serve community needs - Acts as a central node where dual entry points integrate the commercial/residential zone, and the riverbank, with spiritual life - Adopts the scale, square plan, and hipped roof of the traditional Bosnian house, rejecting imperial monumental standards

6 Comparative Analysis and Discussion

The comparative study of the Great Mosque of Xi'an, China, and the Tabačka Mosque in Visoko, Bosnia and Herzegovina, is particularly relevant because it enables a comparison between two geographically distant sites, each embracing different tectonic languages, while maintaining the same Islamic ritual principles. Unlike Middle Eastern regions where Islam first emerged, both research sites encountered Islam through historical events, such as trade, migration, and political expansion. Although two mosques may initially seem unrelated, they provide a productive basis for examining how universal Islamic rituals far from their Middle Eastern contextual origins are tectonically translated into regionally specific architectural systems.

Table 1 below summarizes the comparative analysis of the Great Mosque of Xi'an, China, and the Tabačka Mosque, Bosnia and Herzegovina, through four methodological parameters: structural system, spatial sequencing, orientational strategy, and urban embedding.

At the tectonic level, the comparison between the Great Mosque of Xi'an and the Tabačka Mosque in Visoko demonstrates how shared ritual order is materialized through different constructive grammars. Following Frampton's interpretation of tectonic as an expressive potential of construction (Frampton & Cava, 1995, p. 2), the timber post-and-beam system of the Great Mosque of Xi'an articulates modular proportion and a layered spatial sequence, in which repeated halls, gateways, and courtyards structure the movement towards prayer. By contrast, the Tabačka Mosque relies on the hybrid composite system, characterized by load-bearing mass walls and flexible wood frames, which supports spatial flexibility and climate resilience. In this sense, the comparison shows that mosque architecture should not be understood through formal imitation of a canonical type, but through the ways in which ritual requirements are resolved within materially distinct tectonic cultures.

These tectonic differences, however, were not produced by construction culture alone. They were also shaped by distinct socio-political conditions that determined how mosque space could be established, financed, transformed, and embedded in everyday urban life. In Xi'an, the mosque emerged through long-term diplomatic exchange and merchant mobility and was inserted into an already established urban fabric. Its inward-facing compound and layered courtyard sequence, therefore, reflect a process of contextual integration rather than urban dominance. The Tabačka Mosque developed within the framework of Ottoman urbanization, yet its specific character was shaped by the collective waqf of the tanners' guild, the river-based production zone, and the mahala structure of local community life. In this sense, the two mosques should be understood not only as products of different tectonic systems but also as outcomes of different regimes of spatial production.

This socio-spatial dimension shaped not only the initial formation of each mosque but also its later transformation. In Xi'an, repeated reconstruction

campaigns preserved ritual continuity through incremental spatial adaptation, gradually producing the compound's current layered system. In Visoko, the post-1990s addition of the enclosed courtyard, fountain, library, and classroom expanded the mosque's role as a community institution and redefined its relationship to the street and neighborhood. These later changes show that mosque architecture is not a fixed container of ritual, but an evolving social space continuously reworked by shifting political, communal, and urban conditions.

The spatial sequencing of the two mosques also reveals different modes of ritual experience. As argued by Christian Norberg-Schulz, architectural meaning extends through the experiential progression of movement across different environments, thereby revealing the character and atmosphere of a place (Norberg-Schulz, 1980). In the Great Mosque of Xi'an, sacredness is produced through anticipation, delay, and gradual bodily preparation. The repeated passage through gates, courtyards, and elevated thresholds shows movement and intensifies the transition from everyday life to prayer. The body is progressively reoriented, and the ritual sequence unfolds as an experience structured by axis, enclosure, and repetition. In contrast, the Tabačka Mosque organizes ritual spaces non-linearly within the condensed public space, where spatial hierarchy becomes visible through differences in scale, massing, and spatial configuration. The courtyard, veranda, ablution area, and prayer hall remain in close proximity, allowing greater movement among preparation, gathering, and worship. Here, the sacredness is not built through a long axis, but through condensed spatial relations, threshold negotiation, and the overlap between communal and ritual use. These differences show that ritual experience emerges through locally embedded spatial practices rather than a universal mosque type. Therefore, the spatial organization of the mosque can be theoretically described by Lefebvre's statement: "(Social) space is a (social) product," where the spatial system derives from the interaction between social practices, cultural relations, and the built environment (Lefebvre, 1991, pp. 26–33).

The two mosques demonstrate distinct approaches to implementing qibla orientation within the urban fabric. In the Great Mosque of Xi'an, the orientation is resolved through internal redirection using architectural elements. In this way, the building's form respects and is integrated into the city's historical north-south axis. In contrast, the Tabačka Mosque follows the qibla orientation directly, acting as an independent entity within its urban context. These strategies imply that mosque orientation can still follow Islamic principles without necessitating urban restructuring or dominance over the existing urban fabric.

Lastly, Frampton argues that regional architecture mediates between universal civilization and local culture (Frampton, 1993, p. 21). The Great Mosque of Xi'an reflects a humble, restrained exterior, where monumentality is primarily visible only upon entering the courtyard. In contrast, the Tabačka Mosque achieves monumentality through its prominent

position within the urban context. However, it remains humble in scale and form. It reflects the traditional Bosnian house, a common typology found in the surrounding area. Both mosques integrate into the urban fabric through materiality that mimics their surrounding contexts. This approach resonates with the concept of critical regionalism, where universal cultural forms (Islamic architecture) are mediated through the spatial, climatic, and material conditions of the region (Frampton, 1993, pp. 20–23).

7 Conclusion and Outlook

This paper compared the Great Mosque of Xi'an, China, and the Tabačka Mosque in Visoko, Bosnia and Herzegovina, to argue that mosque architecture should not be read as a peripheral variation of a presumed Middle Eastern archetype. Instead, the two cases show that mosque architecture operates as a spatial system in which shared ritual invariants are materialized through regionally specific tectonic, urban, and socio-political conditions. The study, therefore, shifts the discussion from formal resemblance to the ways in which Islamic ritual is spatially translated, historically embedded, and architecturally mediated in different regional contexts.

Methodologically, this research uses critical regionalism through a comparative protocol that holds ritual invariants constant while varying tectonic culture and urban morphology. The four-dimensional

framework offers a replicable approach for cross-regional comparison without defaulting to center-periphery thinking. The findings become clearer when researching both mosques through these dimensions. Architectural elements, such as the prayer hall, ablution space, minaret, and qibla orientation, remain consistent; their architectural articulation varies according to regional tectonic systems, material resources, and urban morphology. The comparison, therefore, illustrates how shared ritual principles can be translated into distinct architectural forms. Both mosques demonstrate the relevance of critical regionalism, proving how universal religious practices are mediated through the spatial, material, and cultural conditions of different places.

Further research can extend this approach in three directions. First, researching additional cases from other “peripheral” regions of Islamic architectural geography to evaluate the robustness of tectonic mediation across different climates, cultures, and urban contexts. Second, finer detail tectonic analysis on the joinery, construction sequence, and structural detailing to strengthen the link between ritual invariants and material grammars, specifically in the lens of critical regionalism. Third, future research can track how mosques evolve and are protected under heritage regimes or under changing community practices while maintaining ritual continuity. Overall, this research argues for unity without uniformity: mosques persist through shared ritual order, and they become distinct architectures through place-specific tectonic, urban, and socio-political mediation.

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