



# “EARLY PRINCIPLES OF FACADE FORMATION IN CENTRAL ASIAN ARCHITECTURE: FROM PROTO-URBAN MONUMENTS TO THE EARLY MEDIEVAL PERIOD”

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<https://doi.org/10.5281/zenodo.18047591>

## ARTICLE INFO

Received: 21<sup>st</sup> December 2025

Accepted: 22<sup>nd</sup> December 2025

Online: 23<sup>rd</sup> December 2025

## KEYWORDS

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## ABSTRACT

*This research demonstrates that the foundations of facade formation in Central Asian architecture were established during antiquity and the early Middle Ages (4th century BCE – 10th century CE) and represent a stable, internally coherent system of architectural principles rather than a fragmented or incidental phenomenon [1; 2; 3]. Long before the emergence of explicitly articulated medieval Islamic facades, early architectural cultures of Central Asia developed consistent approaches to monumentality, frontality, rhythmic articulation, and hierarchical composition through mass, proportion, and spatial organization [5; 7].*

This research demonstrates that the foundations of facade formation in Central Asian architecture were established during antiquity and the early Middle Ages (4th century BCE – 10th century CE) and represent a stable, internally coherent system of architectural principles rather than a fragmented or incidental phenomenon [1; 2; 3]. Long before the emergence of explicitly articulated medieval Islamic facades, early architectural cultures of Central Asia developed consistent approaches to monumentality, frontality, rhythmic articulation, and hierarchical composition through mass, proportion, and spatial organization [5; 7].

Based on archaeological and architectural evidence from Margiana, Bactria, Sogdiana, and Khorezm, the study argues that the facade in early Central Asian architecture functioned primarily as a symbolic and socio-political boundary rather than a decorative surface [1; 3; 6]. Massive exterior walls with limited openings, characteristic of monuments such as Gonur-Depe, Altyn-Depe, Afrasiab, Toprak-Kala, and Varakhsha, articulated the separation between sacred and profane space, reinforced social hierarchy, and expressed collective authority and cosmological order [3; 5; 7; 8]. These facades relied on scale, continuity, and geometric clarity to achieve visual impact, reflecting early conceptions of architectural representation rooted in enclosure and permanence [6; 8].

The thesis establishes that rhythmic articulation of facade planes—achieved through projections, buttresses, stepped profiles, and accentuated entrance zones—emerged as early as

the Bronze Age [5; 17]. In the absence of applied ornament, facade expressiveness was generated by the plastic modeling of wall masses, enabled by the widespread use of sun-dried brick [1; 5]. This material logic fostered an architectural language in which rhythm, proportion, and shadow became primary compositional tools, laying the groundwork for later developments in facade plasticity [7; 15].

In the architectural complexes of Khorezm from the III–VII centuries CE, the facade acquired an explicitly representational and ideological role [3; 7; 8]. Palace and cult buildings at Toprak-Kala and Varakhsha display deliberate exaggeration of scale, vertical segmentation, and frontal emphasis, transforming exterior walls into visual symbols of royal power and sacral authority [3; 7]. These principles indicate that the facade was already perceived as an instrument of architectural communication within the urban environment, despite the absence of later portal-based compositions [1; 10].

The study further argues that during the early medieval period (V–VIII centuries), facade structures increased in compositional complexity in response to changes in social organization, religious practice, and urban morphology [10; 15]. Early axial planning, proto-portal accentuation of entrances, and hierarchical differentiation of wall planes signal a gradual transition from purely enclosing surfaces toward facades that guided movement, perception, and spatial orientation [15; 16]. Zoroastrian architectural traditions reinforced this process through strict symmetry, axuality, and proportional systems based on geometric order, embedding cosmological meaning into facade composition [6; 11].

By the early Islamic period (VIII–X centuries), Central Asian facades had evolved into complex architectural interfaces that combined monumentality, proportional order, and symbolic representation while maintaining continuity with pre-Islamic construction traditions [11; 15; 19]. Architectural expressiveness continued to rely on depth, shadow, and mass articulation rather than surface ornament, demonstrating a persistent regional approach to facade formation [7; 14].

The thesis concludes that the early stages of facade formation in Central Asian architecture established a durable conceptual and structural framework [2; 3; 19]. Monumentality, rhythmic articulation, hierarchical organization, and the integration of facade composition with urban and sacred space became stable principles that directly informed the development of the highly expressive and symbolically charged facade systems of the mature Islamic Middle Ages in Central Asia [14; 15; 19].

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