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# Transformation Of Facade Principles In Central Asian Architecture From The 7th To The 12th Centuries

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**Abstract:** The article analyzes the transformation of facade principles in Central Asian architecture from the 7th to the 12th centuries. Special attention is given to the interaction of religious traditions, political contacts, and construction technologies that shaped the facade as a symbolic, compositional, and representative architectural element. Based on archaeological, architectural, and historical evidence, the study traces the evolution from enclosing defensive wall surfaces to complex portal-domed systems, establishing the foundations of the classical Islamic facade tradition in Uzbekistan and the broader Central Asian region.

**Keywords:** Central Asian architecture; facade formation; Islamic architecture; Seljuk period; architectural composition; proportion and scale; rhythm and symmetry; Sufi architecture; brick ornamentation; architectural ensembles.

**Introduction:** During the 7th–8th centuries, the spatial and cultural landscape of Central Asia underwent profound transformations caused by the interaction of shamanism, Zoroastrianism, Christianity, early Sufism, and the emerging Islamic tradition. This religious and ideological plurality significantly influenced architectural thinking, particularly the evolution of the facade from a purely enclosing and defensive element into a carrier of symbolic, social, and sacred meaning [1; 3; 6].

Earlier architectural traditions of Central Asia—documented in Bactria, Sogdiana, Khorezm, and Margiana—were characterized by massive, closed wall surfaces with minimal openings, dictated by climate, defense, and social hierarchy [1; 5; 7]. However, by the early Islamic period, these inherited principles began to be reinterpreted. The facade increasingly functioned as

a semiotic interface mediating between the building, the urban environment, and religious worldview [2; 3]. Although extensive scholarship has addressed urban planning, fortifications, and construction techniques in Central Asia, the facade as an autonomous architectural phenomenon has remained insufficiently systematized. This gap is especially evident in transitional epochs, when facades began to acquire representational and ideological roles beyond structural necessity [2; 10].

The present study aims to analyze the formation and transformation of facade principles in Central Asian architecture from the early Islamic period to the Seljuk era, emphasizing continuity with pre-Islamic traditions and the emergence of new compositional models that later defined Islamic architectural identity.

## METHODS

The research is based on archaeological, architectural, and historical analysis of monuments located within the territories of modern Uzbekistan, Kazakhstan, and Turkmenistan. The corpus of materials includes cult buildings, citadels, caravanserais, mausoleums, and urban structures dating from the 7th to the 12th centuries.

Key objects of analysis include the Baba-Ata complex, Aktobe-2, Afrasiab, Toprak-Kala, the Samanid Mausoleum in Bukhara, Shah-i Zinda in Samarkand, the Sultan Saodat necropolis in Termez, and early Seljuk architectural monuments [1; 3; 10; 14; 18].

The methodology integrates:

- architectural-compositional analysis of facades;
- morphological analysis of facade planes and wall articulation;
- comparative historical method;
- analysis of proportion, rhythm, symmetry, and scale;
- interpretation of archaeological reconstructions and written historical sources.

The facade is treated as an autonomous architectural phenomenon rather than merely a reflection of interior planning, in accordance with theoretical approaches articulated by A. V. Shchusev and later scholars of architectural composition [15; 16].

## RESULTS

The analysis shows that by the 7th–8th centuries facades in Central Asia had already begun to acquire representational and symbolic functions. Political and cultural contacts between the Turkic Khaganate and Byzantium, mediated through Khazaria, facilitated the

transmission of architectural ideas, including axial symmetry, hierarchical articulation, and rhythmized wall surfaces [3; 17].

These influences are evident in Northern Turan settlements such as Aktobe-2 and Baba-Ata, where facades demonstrate increased compositional complexity compared to earlier proto-urban structures. Rectangular enclosures, proto-citadel formations, and accentuated entrances indicate a shift toward facade representation alongside defensive functions [14; 17].

The Baba-Ata temple complex (7th–12th centuries) represents a particularly illustrative case of layered architectural traditions. Archaeological investigations reveal the coexistence of proto-Zoroastrian cult spaces, Christian basilica-like compositions, and early Sufi khanaqah forms. The lower spatial level of the complex follows a basilical scheme comparable to early Byzantine models, suggesting the adoption of axial symmetry, tripartite organization, and rhythmic articulation of galleries [17; 18].

Early Sufism, spreading into Central Asia from Iraq and Syria, played a decisive role in shaping new sacred architectural typologies. Sufi khanaqahs inherited not only ritual principles but also facade dramaturgy from Christian basilicas: the movement from darkness to light, vertical emphasis of domed volumes, and tripartite facade composition. These principles later became foundational for Islamic portal-domed architecture [14; 20].

By the 9th–10th centuries, the formation of Islamic cities reinforced these tendencies. The circular plan of Baghdad (759–769), with its axial gates, rhythmic walls, and dominant central core, embodied the concept of the “city as facade,” expressing cosmic order through symmetry, rhythm, and scale [12]. These ideas spread through Khurasan and Transoxiana, influencing the architectural development of Bukhara and Khiva [3; 13].

A crucial technological turning point occurred in the 10th century with the transition from mud brick to fired brick construction. This innovation significantly expanded facade expressiveness, enabling new types of arches, domes, transitional zones, and layered wall surfaces, which produced increasingly complex silhouettes and light-shadow effects [7; 18].

The Samanid Mausoleum in Bukhara epitomizes this transformation. Its hierarchical composition of cube-polygon-dome reflects a cosmological model of the universe, while the sophisticated brick relief transforms the facade into a dynamic surface animated by light and shadow rather than applied ornament [7; 18; 19].

## DISCUSSION

The Seljuk period (11th–12th centuries) marked the full

maturation of facade architecture in Central Asia, when earlier formative principles were consolidated into stable architectural canons. This stage is characterized by the standardization of construction techniques, the widespread adoption of fired brick as the primary structural and expressive material, and the systematic use of pointed arches, recessed portals, and muqarnas systems. These innovations led to the formation of canonical facade schemes distinguished by pronounced vertical dominance, rhythmic articulation through niches and pilasters, and finely calibrated brick ornamentation that relied on relief, shadow, and texture rather than applied decoration [11; 14; 18]. The facade at this stage functioned not merely as an enclosure but as a carefully composed visual system, mediating between architectural mass, urban space, and symbolic meaning.

Architectural ensembles such as Shah-i Zinda in Samarkand and the Sultan Saodat necropolis in Termez demonstrate an advanced understanding of the facade as an element of ensemble composition rather than an isolated architectural surface. In these complexes, sequences of mausoleums are organized along linear axes or processional paths, creating a rhythmic succession of facades that guide movement and perception. Each individual facade maintains its compositional autonomy, yet simultaneously contributes to a unified spatial, visual, and symbolic order through consistent proportions, recurring structural motifs, and controlled variation in scale and detail [2; 7; 10]. This ensemble-based approach reflects a mature conception of architectural space, where facade rhythm becomes a primary tool for structuring collective experience.

Sufi complexes, including Baba-Ata, Bayankuli Khan, and the khanaqah of Ahmad Yasawi, further developed the facade as a metaphor of spiritual ascent and inner transformation. In these structures, the facade articulates a gradual transition from the profane to the sacred through contrasts between massive enclosing walls and deeply recessed niches, shadowed portals, and vertically emphasized volumes. Such compositional strategies not only organize physical movement but also encode hierarchical sacred meanings, directing the believer's progression from the external world toward increasingly interiorized and elevated spiritual spaces [14; 20]. The facade thus becomes an active participant in ritual experience, visually expressing the Sufi concept of the spiritual path (*tarīqa*).

Although the Timurid period later amplified these principles through hypertrophied monumental portals, strict axial symmetry, and extensive polychrome tile decoration, the conceptual foundations of facade

philosophy—hierarchical organization, symbolic articulation, proportional order, and the integration of structure with meaning—were firmly established during the early Islamic and Seljuk eras [18; 19]. It was precisely in this period that the facade in Central Asian architecture achieved its definitive role as a key instrument of representation, capable of simultaneously conveying cosmological ideas, political authority, and religious ideology through architectural form.

## CONCLUSION

The Islamic period in Central Asian architecture represents not a rupture but a continuous evolution of facade principles rooted in earlier regional traditions. From enclosing defensive walls to complex symbolic compositions, the facade transformed into a key instrument of architectural representation.

By the 12th century, Central Asian architecture had сформировала целостную философию фасада, in which structure, proportion, symbolism, and construction technology functioned as an integrated system. This architectural legacy laid the groundwork for the monumental achievements of the Timurid era and remains essential for understanding the historical and cultural identity of architecture in Uzbekistan and Central Asia as a whole.

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