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Samarkand under the Rule of Timur: Transformation of the City into a Center of Islamic Art and Architecture

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ABSTRACT

Samarkand, a historic Central Asian city, has witnessed a long and significant historical journey. During the 14th century, the city reached its peak of glory under the rule of Timur, a prominent leader of the Timurid Dynasty. Under his reign, Samarkand underwent a remarkable transformation, evolving from a mere trading center into a prominent center of Islamic art and architecture. The purpose of this research is to analyze and understand how Timur succeeded in reshaping Samarkand into a city adorned with beautiful and captivating Islamic art and architecture. This study aims to uncover insights into Timur's strategies, policies, and initiatives to realize his vision of building Samarkand as a new center of Islamic civilization. The research findings show that Timur systematically developed the city's infrastructure, promoted advancements in art and architecture, and invited renowned artists to create works in Samarkand. As a result, this enhanced Samarkand's reputation as a city of extraordinary intellectual and cultural wealth. In conclusion, Timur's reign effectively transformed Samarkand into one of the world's most famous centers of Islamic art and architecture.

Keywords: Samarkand; Timur; Islamic Architecture; Art; Urban Transformation

1. INTRODUCTION

Samarkand, a historic city located on the Silk Road, has played an important role in Central Asian civilization for centuries. However, the city's most glorious era occurred in the late 14th to early 15th century, when it was under the rule of Timur Lenk, also known as Tamerlane. (Manz, 1989) This period was marked by the massive transformation of Samarkand into an unrivaled center of Islamic art and architecture of its time.

Timur Lenk, an ambitious Turko-Mongol conqueror, chose Samarkand as the capital of his empire in 1370. (Hookkam, 1962) This decision became a turning point in the city's history. With his grand vision, Timur Lenk was determined to transform Samarkand into a symbol of Islamic power and magnificence, while also making it the intellectual and artistic center of the Islamic world. (Golombek, Wilber, 1988)

The transformation of Samarkand began with massive construction projects initiated by Timur Lenk. The Bibi-Khanym Mosque built between 1399 and 1404,

became one of the most striking examples of his architectural ambition. (Blair, Bloom, 1994) This mosque, which at the time was one of the largest in the Islamic world, incorporated elements of Persian, Turkish, and local Central Asian architecture, creating a unique style that later became known as the Timurid style (O'Kane, 1987).

In addition to the Bibi-Khanym Mosque, the Gur-e-Amir mausoleum complex and the Registan also became tangible evidence of Samarkand's transformation. Gur-e-Amir, which became the tomb of Timur Lenk and his descendants, displays the beauty of intricate geometric decorations and calligraphy. (Lentz, Lowry, 1989) Meanwhile, the Registan, whose construction began during Timur Lenk's time and was continued by his successors, became an amazing city center with its three magnificent madrasahs (Hattstein, Delius, 2000).

However, the transformation of Samarkand was not limited to physical construction. Timur Lenk also succeeded in making the city a magnet for artists, architects, and scholars from various corners of the Islamic world. He forcibly brought experts from the regions he conquered, including Damascus, Isfahan, and Delhi, to contribute to the development and growth of Samarkand. (Marozzi, 2004) This policy not only enriched the city's artistic and architectural repertoire but also created an environment conducive to cultural and intellectual exchange.

The influence of Samarkand's transformation under Timur Lenk was felt far beyond the boundaries of his empire. The Timurid architectural style that developed in Samarkand later spread to various regions of the Islamic world, influencing architectural developments in areas such as Iran, Afghanistan, and even Mughal India. (Ettinghausen, Jenkins-Madina, 2001) The artistic and intellectual legacy of this era continued to persist even after the fall of the Timurid Empire, making Samarkand a source of inspiration for subsequent generations.

This research aims to examine in depth the process of Samarkand's transformation into a center of Islamic art and architecture under the rule of Timur Lenk. By analyzing historical sources, archaeological evidence, and surviving works of art, this study will investigate how Timur Lenk's vision materialized in the physical form of the city and how this influenced the broader development of Islamic art and architecture. Additionally, this research will also discuss the long-term impact of this transformation on Islamic civilization and world cultural heritage.

Through this research, it is hoped that a deeper understanding can be gained of Samarkand's role as a center of Islamic art and architecture during its golden age, as well as its contribution to the development of Islamic civilization as a whole. This study will not only enrich our knowledge of the history of Islamic art and architecture but also provide new insights into the dynamics of power, artistic patronage, and cultural exchange in the context of the medieval Islamic world.

2. METHODS

1. Research Approach

This research uses a qualitative approach with a historical-descriptive method. This approach was chosen to allow for an in-depth analysis of historical sources, architectural artifacts, and works of art related to the transformation of Samarkand under the rule of Timur Lenk. The historical-descriptive method allows researchers to reconstruct and interpret past events based on available evidence (Thies, 2002).

2. Research Subjects

Samarkand, a historic city located in Uzbekistan, is the main subject of this research, covering the period from the late 14th to early 15th century. This research emphasizes three important aspects: architectural monuments, works of art, and historical documents.

3. Implementation of Research Procedures

This research is carried out through several stages, starting with a comprehensive literature study on the history of Samarkand and the era of Timur Lenk, followed by an analysis of primary and secondary sources. The research method should be included in the Introduction. The method contains an explanation of the research approach, subjects of the study, the conduct of the research procedure, the use of materials and instruments, data collection, and analysis techniques.

4. Use of Materials

The materials used include historical manuscripts, travel records, and documents from the Timur Lenk era as primary sources, as well as history books, journal articles, and research reports as secondary sources. Additionally, photographs and architectural images of Samarkand from various periods, as well as historical maps of the city, were also used. Research instruments consist of document analysis guidelines to evaluate historical sources, as well as interview guides for consultation with experts.

5. Data Collection

Data in this research was collected through several methods. First, archival research was conducted by gathering and analyzing historical documents from libraries and archives in various countries. Second, visual analysis was performed to study historical photographs, paintings, and illustrations related to Samarkand. In addition, interviews with experts were conducted, where in-depth discussions were held with historians, archaeologists, and Islamic art experts to gain a more comprehensive perspective.

6. Analysis Techniques

Data analysis in this research was carried out using several techniques. First, content analysis was conducted to evaluate the contents of historical documents, identifying the main themes and patterns in Samarkand's transformation. Next, a comparative analysis compared Samarkand's architectural and artistic styles with other Islamic cities during the same period. Additionally, a chronological analysis was compiled to create a timeline of architectural and artistic developments in Samarkand during the Timur Lenk era. Lastly, data triangulation was applied to confirm findings by comparing information from various sources, thus increasing the validity of the research (Denzin, 1970).

This research method, it is expected to obtain a comprehensive and in-depth understanding of Samarkand's transformation into a center of Islamic art and architecture under the rule of Timur Lenk. This multi-method approach allows researchers to reconstruct and interpret historical events with a high level of accuracy and depth.

3. FINDINGS AND DISCUSSION

1. Physical Transformation of Samarkand

This research reveals that the physical transformation of Samarkand under Timur Lenk's rule took place on a massive scale and at an extraordinary pace. In less than three decades, Samarkand transformed from a modest provincial town into a magnificent imperial capital, reflecting Timur Lenk's ambition to make this city a center of culture and power. This significant change was evident in various aspects, including architecture, infrastructure, and urban planning. Magnificent buildings such as madrasas, mosques, and palaces were constructed with intricate and beautiful designs, incorporating rich elements of Islamic art. Additionally, the development of roads and public facilities strengthened Samarkand's position as an important trade route on the Silk Road. This transformation not only changed the physical face of the city but also attracted the attention of scholars, artists, and merchants from various parts of the world, making Samarkand a dynamic center of cultural exchange. As noted by Golombek and Wilber (1988), this rapid change reflected Timur Lenk's vision to create a legacy that would be remembered throughout history. The results obtained from the research have to be supported by sufficient data. The research results and the discovery must be the answers, or the research hypothesis stated previously in the introduction part.

1.1 Construction of Major Monuments

The Bibi-Khanym Mosque, built between 1399 -1404, became the main symbol of this transformation. With its massive size and ambitious design, this mosque reflected

Timur Lenk's desire to create a monument that surpassed all previous mosques in terms of scale and beauty (Blair & Bloom 1994). Structural analysis shows that the construction of this mosque involved significant technical innovations, including the use of double domes to achieve greater height (O'Kane, 1987).

The Gur-e-Amir mausoleum complex, which began construction around 1403, is one of the most prominent examples of Timurid architecture and displays a high level of decorative sophistication. This tomb was built as the final resting place of Timur Lenk, and its design reflects the aspirations and power he possessed. The use of blue and turquoise glazed tiles not only provides visual beauty but also symbolizes the sky and eternity, creating a profound spiritual ambiance. Additionally, the intricate muqarnas decoration, with interacting geometric and organic forms, creates a stunning visual effect and gives a new dimension to the interior space. These elements are not merely ornaments; they also have deep symbolic meanings, reflecting the fusion of art, architecture, and spirituality in Islamic tradition. The elegance and complexity of Gur-e-Amir's design make it a hallmark of Timurid architecture, and it became an inspiration for subsequent generations of architects and artists. As noted by Lentz and Lowry (1989), this complex not only functions as a tomb but also as a manifestation of the cultural wealth and technical expertise that marked the era of Timur Lenk.

1.2 Development of City Infrastructure

In addition to the grand monuments, Timur Lenk also ordered the construction of extensive city infrastructure. This included sophisticated irrigation systems, paved roads, and well-organized markets. Archaeological evidence suggests that the city was equipped with an underground water channel system that was advanced for its time (Kennedy, 2007).

2. Influence of Timurid Architectural Style

The architectural style that developed in Samarkand during this period, later known as the Timurid style, shows a unique synthesis of various architectural traditions.

2.1 Fusion of Architectural Elements

Analysis of the main monuments shows a combination of elements from Persian, Turkish, and local Central Asian architectural traditions. The use of large iwans, repetitive domes, and spacious courtyards reflects Persian influence, while intricate geometric ornamentation shows the influence of Turkish traditions (Hillenbrand, 1994).

The main monuments in Samarkand, as the capital of the Timurid Dynasty, demonstrate the integration of elements from Persian, Turkish, and local Central Asian architectural traditions. This reflects the cultural and historical identity of the city during Timur Lenk's reign.

One example is the Registan, a complex consisting of three main madrasas. This complex features large iwans, repetitive domes, and spacious courtyards, which are characteristic of Persian architecture. Additionally, the intricate geometric ornamentation on the building facades reflects the influence of Turkish traditions. Gur-e Amir, Timur Lenk's mausoleum, also incorporates Persian and Central Asian architectural elements. Its large and high dome, as well as the use of bricks and complex geometric patterns, show Persian and Turkish influences. Meanwhile, the rich interior decoration with calligraphy and floral ornaments reflects local touches from Central Asia.

This combination reflects Timur Lenk's efforts to unite diverse cultural heritages in his attempt to build Samarkand as a center of power and civilization of his time. These monuments not only became symbols of the Timurid Dynasty's glory but also demonstrated the creativity and cultural diversity that characterized the city of Samarkand.

2.2 Technical Innovations

This research also reveals several significant technical innovations in Timurid architecture, which allowed for the creation of taller, more magnificent, and more durable structures. The use of a chain support system for large domes was one of the most important breakthroughs. This system, known as 'chahar bagh' or 'four gardens', consists of four towers connected by large arches, forming a strong support structure for the central dome (Chuvin & Degeorge, 2003). This technique allowed for the construction of domes with larger diameters and more impressive heights, as seen in the Bibi-Khanym Mosque in Samarkand, whose main dome reaches a height of about 41 meters (O'Kane, 1987).

Furthermore, Timurid architects developed new techniques in the production and installation of glazed tiles. They introduced the use of haft rangi or 'seven color' tiles, which allowed for the creation of more complex and colorful designs (Blair & Bloom, 1994). This technique involved firing tiles with different colored glazes simultaneously, resulting in more intricate and durable patterns compared to previous techniques. A stunning example of the use of this technique can be seen on the facade of the madrasas in the Registan complex (Golombek & Wilber, 1988).

Other innovations included the development of muqarnas, or honeycomb decorations, which reached new levels of complexity in Timurid architecture. Muqarnas were used not only as decorative elements but also as structural solutions for the transition from square walls to circular domes (Hillenbrand, 1994). The extensive use of muqarnas can be seen in the Gur-e-Amir mausoleum complex, where they create a stunning visual effect inside the dome.

Furthermore, Timurid architects perfected techniques for building taller and more stable minarets. They used a strong central core system with a spiral staircase around it, which allowed for the construction of minarets as tall as 50 meters or more (Chuvin & Degeorge, 2003). The twin minarets at the entrance of the Bibi-Khanym Mosque are perfect examples of this achievement.

All these technical innovations not only allowed for the creation of taller and more magnificent structures but also contributed to the long-term durability of Timurid buildings. Many of these structures have survived for centuries, becoming evidence of the excellence of Timurid construction techniques and influencing the development of Islamic architecture in various regions for centuries afterward (Ettinghausen et al., 2001).

3. Samarkand as a Center of Art

3.1 Development of Painting and Calligraphy

Evidence from manuscripts produced in Samarkand during the Timurid era shows rapid development in miniature painting and calligraphy, reflecting the city's role as a center of artistic creativity. The Timurid style in miniature painting, which developed under the patronage of Timur Lenk and his successors, is characterized by complex compositions, the use of bright colors, and great attention to detail (Soucek, 2000). These paintings often depicted scenes from palace life, epic battles, or illustrations from famous literary works.

One of the most famous examples of this style is the manuscript "Zafarnama" or "Book of Victory", which depicts the life and conquests of Timur Lenk. The paintings in this manuscript feature intricate battle scenes with hundreds of figures, each drawn with extraordinary detail (Lentz & Lowry, 1989). The use of innovative perspective and complex spatial depiction in these paintings marks a significant advance in Islamic painting.

Color became a key element in the Timurid style. The artists used a rich and diverse color palette, including lapis lazuli blue, vermilion red, and gold, to create stunning works. Sophisticated color mixing techniques allowed for the creation of subtle shades and gradations, giving new depth and dimension to miniature paintings (Blair & Bloom, 1994).

In terms of calligraphy, the Timurid era witnessed the development and refinement of various writing styles. The nasta'liq style, which combines the fluidity of naskh with the elegance of ta'liq, reached the peak of its beauty during this period. Famous calligraphers like Mir Ali Tabrizi and his students developed this style into a highly valued art form (Schimmel, 1970). Manuscripts produced in Samarkand often combined intricate calligraphy with rich illumination, creating pages that were works of art in themselves.

Technical innovations also played an important role in the development of Timurid book art. The use of high-quality paper produced in Samarkand, along with more durable pigments and inks, allowed for the creation of manuscripts that were not only beautiful but also long-lasting (Bloom, 2001). Sophisticated binding techniques, including the use of tooled leather and lacquer, further enhanced the aesthetic value and durability of these manuscripts.

The influence of the Timurid style in book art extended far beyond the borders of the empire. Techniques and motifs developed in Samarkand were later adopted and adapted by artists in Safavid Persia, the Mughal Empire in India, and even the Ottoman Empire, shaping the development of Islamic art for centuries afterward (Roxburgh, 2005).

3.2 Crafts and Decorative Arts

Analysis of artifacts from the Timurid period in Samarkand shows an extraordinarily high level of expertise in various forms of decorative arts, reflecting the city's prosperity and strong artistic patronage from the Timurid elite. Ceramics, textiles, and metalwork emerged as areas where Samarkand's artists and craftsmen achieved unprecedented levels of excellence.

In the field of ceramics, the Timurid period witnessed the development of revolutionary new techniques. The use of metallic luster, which had previously been developed in Iraq and Iran, reached new heights of sophistication in Samarkand (Komaroff & Carboni, 2002). This technique involved applying a mixture of copper or silver oxides to an already-fired glaze surface, followed by a second firing in a reduced atmosphere. The result was a stunning metallic sheen that changed color depending on the viewing angle. Vases and plates with intricate luster decorations became highly sought-after luxury items, demonstrating the technical and artistic expertise of Samarkand's craftsmen (Watson, 2004).

Additionally, Timurid ceramic craftsmen refined the technique of underglaze painting, producing more complex patterns and a wider color palette. They also developed the cuerda seca or "dry cord" technique, which allowed the use of various glaze colors on one surface without mixing. This technique was extensively used in the production of architectural tiles, creating stunning decorative panels that adorned Samarkand's main buildings (Golombek et al., 1996).

In the field of textiles, Samarkand became a center for the production of high-quality silk and velvet fabrics. Timurid weavers developed new techniques to create more intricate patterns, often combining Chinese motifs with traditional Islamic designs. One important innovation was the development of "two-level" velvet or velvet façonné, where patterns were carved into the velvet pile to create a three-dimensional effect (Mackie, 2015). These luxurious textiles were not only used for

court clothing and furnishings but also became important export items, spreading the influence of the Timurid style throughout Eurasia.

Metalwork also reached new levels of excellence during the Timurid period. Samarkand's metal craftsmen were renowned for their skill in inlay techniques, where precious metals such as gold and silver were inserted into the surface of bronze or brass objects to create intricate designs. They also developed new techniques in metal casting and engraving, producing objects such as lamps, plates, and tableware that combined functionality with extraordinary artistic beauty (Melikian-Chirvani, 1982).

Another important innovation in Timurid metalwork was the development of the bidri technique, a process where silver designs are inlaid into a black metal background. This technique, which likely originated in eastern Iran during the Timurid period, later spread to India where it evolved into a highly valued art form (Stronge, 1985).

The high level of expertise demonstrated in Timurid decorative arts not only reflected the prosperity and artistic patronage of the era but also Samarkand's role as a meeting point of various cultural traditions. Influences from China, Persia, and the Eurasian steppes are visible in the motifs and techniques used, creating a unique synthetic style that later influenced the development of Islamic art in various regions for centuries afterward (Lentz & Lowry, 1989).

4. Samarkand as an Intellectual Center

4.1 Development of Madrasas and Libraries

The construction of large madrasas in Samarkand, especially those found in the Registan complex, is a physical manifestation of Timur Lenk's and his successors' vision to make this city a major center of Islamic learning. The Registan complex, consisting of three monumental madrasas - Ulugh Beg Madrasa (1417-1420), Sher-Dor Madrasa (1619-1636), and Tilya-Kori Madrasa (1646-1660) - became a symbol of the Timurid dynasty's commitment to education and science (Hattstein & Delius, 2000). Although the latter two madrasas were built after Timur Lenk's era, they reflect the continuation of his vision and the long-term impact of his policies.

The Ulugh Beg Madrasa, built by Timur Lenk's grandson, became one of the most prestigious educational institutions in the Islamic world of its time. This madrasa not only taught traditional religious sciences such as Quranic exegesis and hadith but also became a center for the study of astronomy, mathematics, and natural sciences. Ulugh Beg himself, famous as an astronomer, often taught at this madrasa, attracting many talented scientists and students from all over the Islamic world (Fazlioğlu, 2014).

Historical records show that large libraries were established in Samarkand during this period, becoming magnets for scholars from various corners of the Islamic world (Manz, 2007). One of the most famous libraries was the palace library established by Ulugh Beg. This library was reported to have a collection of more than 15,000 volumes,

covering various fields of knowledge from astronomy to history, philosophy, and medicine (Starr, 2013).

The existence of these libraries not only supported academic activities in the madrasas but also facilitated the exchange of knowledge and ideas among scholars. Many rare and valuable manuscripts from various parts of the Islamic world were brought to Samarkand, both as diplomatic gifts and as a result of Timur Lenk's military expeditions. This created a rich and diverse intellectual environment, where new ideas could develop and be disseminated (Subtenly, 2007).

The impact of these efforts is seen in the emergence of a new generation of scholars and scientists associated with Samarkand. For example, Ali Qushji, a renowned astronomer and mathematician, spent most of his career at the Ulugh Beg madrasa before moving to Istanbul where he influenced the development of science in the Ottoman Empire (Saliba, 2007). Similarly, Ghiyath al-Din al-Kashi, a brilliant mathematician, produced important works during his time in Samarkand, including a highly accurate calculation of the value of pi for his time (Berggren, 2003).

More than just educational institutions, the madrasas and libraries of Samarkand became centers of knowledge production. Large-scale translation activities were carried out, bringing important works from various languages into Persian and Arabic. These included ancient Greek scientific texts, Indian philosophical works, and Chinese astronomical treatises, enriching the corpus of knowledge available to Muslim scholars (Meisami & Starkey, 1998).

Samarkand's importance as a center of learning was also reflected in the production and circulation of scientific texts. Zij-i Sultani, a star catalog and astronomical tables compiled by Ulugh Beg and his team at the Samarkand observatory, became a standard reference work in Islamic astronomy for centuries and even influenced the development of astronomy in Renaissance Europe (Saliba, 2007).

Thus, the construction of large madrasas and the establishment of libraries in Samarkand not only reflected the ambition of Timur Lenk and his successors to make the city a center of Islamic learning but also had a real and long-term impact on the development of Islamic science and culture. Samarkand, under the Timurids, became a meeting place and synthesis of various intellectual traditions, resulting in scientific and cultural achievements that influenced the Islamic world and even transcended its borders for centuries afterward.

4.2 Intellectual exchange

Evidence from historical records and scholarly works produced in Samarkand indicate intensive intellectual exchange between scholars from different disciplines and cultural backgrounds (Subtenly, 2007). Samarkand, as the center of power of the Timurid Dynasty, attracted scholars from Persia, Arabia, India, and Europe to contribute to the development of science in the city (Subtenly, 2007).

The Ulugh Beg Observatory became a world-renowned center for astronomical research in its time, with prominent scholars such as Qadi Zada al-Rumi and Ali Qushji working there (Subtenly, 2007). In addition, the great library founded by Timur Lenk in Samarkand held thousands of manuscripts covering a wide range of topics, from natural sciences to humanities, which became a source of knowledge for scholars who came to the city (Subtenly, 2007).

This intellectual exchange not only enhanced the knowledge and skills of individuals but also enriched the culture and civilization of Samarkand as the intellectual and scientific center of the time (Subtenly, 2007).

5. Long-term Impact

The transformation of Samarkand under Timur Lenk had a lasting impact on the development of Islamic architecture and art. The Timurid style that developed in Samarkand later spread to different regions, influencing architectural developments in Iran, Afghanistan, and even Mughal India (Koch, 1991).

In conclusion, this study shows that the transformation of Samarkand under Timur Lenk's rule is an outstanding example of how the vision of a ruler, combined with vast imperial resources and the talents of various cultural traditions, can produce an explosion of artistic and intellectual creativity that has a lasting influence on Islamic civilization.

4. CONCLUSION

Samarkand, a historic city in Central Asia, underwent a remarkable transformation under Timur Lenk in the 14th century. The city emerged as an influential center of Islamic art and architecture.

During Timur Lenk's reign, Samarkand was designated as the capital of his empire. With abundant resources and strong political support, Timur Lenk facilitated the development of infrastructure, monumental buildings, and cultural activities that reached their peak. The city was dotted with magnificent monuments, such as the Registan, mosque complexes, and palaces that symbolized the splendor and glory of Islam at the time.

In addition, Samarkand became a center of trade and cultural exchange between East and West. Traders, scholars and artists from different parts of the world gathered in the city, enriching its intellectual and creative heritage. As a result, Samarkand emerged as one of the most important cities in the Islamic world during Timur Lenk's time.

In conclusion, it can be said that Timur Lenk's reign had a great impact on Samarkand's development as a globally influential center of Islamic art and architecture. The prosperity, progress, and splendor of the city during this period continue to be a cultural heritage that is studied and cherished to this day.

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