

THE INFLUENCE OF AMIR TIMUR AND THE TIMURID RENAISSANCE ON THE DEVELOPMENT OF SCIENCE AND ARCHITECTURE

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Abstract. This article analyzes the scientific-enlightenment upsurge, cultural, and architectural development that occurred during the era of Amir Timur and the Timurids. The Timurid Renaissance is one of the most significant renaissance periods in the history of Central Asia, during which science, education, art, and architecture developed to an unprecedented degree. During this period, the cities of Samarkand and Herat became major scientific and cultural centers of the world. The article also highlights the contribution of the Timurid era to the development of world civilization.

Keywords: Amir Timur, Timurid Renaissance, science, architecture, Samarkand, Mirzo Ulugbek, observatory, culture, renaissance, history.

Introduction

There are certain periods in world history that serve as crucial turning points not only for a specific region but for the progress of all humankind. The Timurid Renaissance, which took place in Central Asia during the 14th and 15th centuries, is one such historical event. This period is closely intertwined with the name of the great statesman and military commander, Amir Timur. The centralized state established by Amir Timur created a solid foundation for political stability, economic progress, and cultural growth. As a result, science, education, literature, art, and architecture rose to a new level.

According to historians, the Timurid period is considered the second stage of the Eastern Renaissance. The scientific and cultural heritage created during this era has not lost its significance even today. Under Timurid rule, the cities of Samarkand, Herat, Bukhara, and Shahrisabz became the world's most advanced scientific and cultural centers.

Amir Timur's Contribution to the Progress of Science

Amir Timur considered science and enlightenment to be among the most important factors in state governance. Throughout his activities, he consistently supported scholars, sages, historians, architects, and artists. Specialists invited to Samarkand from various countries contributed significantly to the formation of a rich scientific and cultural environment.

The madrasas and libraries founded by Amir Timur served as primary centers for scientific advancement. In these institutions, alongside religious sciences, subjects such as mathematics, astronomy, geography, history, medicine, and philosophy were taught. Consequently, scientific thinking and enlightenment flourished.

In state governance, Timur paid special attention to relying on the opinions of knowledgeable people. Valuable thoughts regarding the role of educated and experienced individuals in societal progress are also outlined in his work "Tuzuklar" (The Institutes of



Timur). For this reason, science became one of the vital directions of state policy during Timur's reign.

The Scientific Environment and Education System in the Timurid Era

After the passing of Amir Timur, his descendants paid even greater attention to the development of science. During the reigns of Shahrukh Mirza and his son Mirzo Ulugbek, the scientific environment was further consolidated. In madrasas, not only religious but also secular sciences were studied deeply.

Many scientific centers were established during the Timurid era. In these centers, scholars engaged in mutual scientific debates and made new discoveries. The results achieved particularly in the fields of mathematics and astronomy occupy a special place in the history of world science.

As a result of the development of the education system, numerous scholars emerged. Their scientific heritage was widely studied by both Eastern and Western scholars in the centuries that followed.

Mirzo Ulugbek and the Rise of Astronomy

One of the brightest figures of the Timurid Renaissance is the great scholar Mirzo Ulugbek. Along with being a ruler, he left his mark in history as a major representative of mathematics and astronomy.

Ulugbek built the most advanced observatory of his time in Samarkand. This observatory was considered one of the largest centers of 15th-century science. As a result of observations carried out at the observatory, the movements of stars were precisely calculated, and new milestones were reached in astronomy.

Ulugbek's work "Ziji Jadidi Koragoni" (The New Koragoni Astronomical Tables) is considered one of the most important scientific sources in the history of astronomy. In this work, the coordinates of 1018 stars were calculated with high precision. This scientific labor was later widely utilized by European scholars as well.

Great scholars such as Qadizada al-Rumi, Ghiyath al-din Jamshid al-Kashi, and Ali Qushji worked alongside Ulugbek. Their scientific research exerted a profound influence on the development of mathematics and astronomy.

The Development of Literature and Art in the Timurid Era

The Timurid era is considered a period of flourishing not only for science but also for literature and art. The city of Herat, in particular, became the center of Eastern culture.

During this period, the creative work of Alisher Navoiy acquired special significance. Navoiy demonstrated the vast potential of the Turkic language, elevating it to the level of a high literary language. His works promoted the ideas of humanism, justice, goodness, and enlightenment.

The activities of Abdurakhman Jami, Kamoliddin Behzod, and other creators also made a major contribution to the development of Timurid culture. Miniature art, calligraphy, and the art of music achieved high levels of development precisely during this period.

The Progress of Architecture and Construction in the Timurid Era

The era of Amir Timur and the Timurids is considered the golden age of architectural art. The architectural monuments built during this period continue to amaze the world today with their grandeur and beauty.

Timur viewed architecture as a symbol of state power. For this reason, he carried out grand construction works in Samarkand, Shahrisabz, and other cities.

The Bibi-Khanym Mosque in Samarkand was considered one of the largest religious buildings of its time. Its high portals, massive domes, and exquisite decorations are regarded as prime examples of Timurid architecture.

The Gur-e-Amir Mausoleum is one of the most famous monuments of the Timurid dynasty. This mausoleum stands out for its exquisite tiles, complex geometric patterns, and unique architectural design.

The Shah-i-Zinda ensemble, on the other hand, is considered a masterpiece of Eastern architectural art. The mausoleums in this complex are famous for their colorful tiles and rare decorations.

The Ak-Saray Palace in Shahrisabz was one of the most majestic palaces built during the reign of Timur. Its towering portals and decorations demonstrated the power of the state.

Distinctive Features of Timurid Architecture

Timurid architecture possesses a number of unique aspects. First and foremost, the massive scale and majesty of the buildings catch the eye. Secondly, decorative art was exceptionally developed, with tilework, ganch (gypsum) carving, and ornamental painting raised to a high level.

The widespread use of shades of blue and turquoise is one of the characteristic features of Timurid architecture. Furthermore, complex geometric shapes and inscriptions decorated with verses from the Quran bestowed a special charm upon the buildings.

Architects paid great attention not only to the exterior appearance of the buildings but also to their interior decorations. This placed Timurid architecture among the highest examples in the history of world architecture.

The Role of the Timurid Renaissance in World Civilization

The Timurid Renaissance is regarded as one of the most crucial periods of cultural upsurge in world history. The scientific and architectural heritage created in this era maintained its influence over subsequent centuries.

Ulugbek's astronomical research served the development of European science. Timurid architecture, meanwhile, influenced the formation of many architectural styles in India, Iran, and the regions of Central Asia.

Today, the monuments of the Timurid era in Samarkand, Shahrisabz, and Herat are inscribed on the UNESCO World Heritage List, recognized as invaluable assets of human civilization.

Conclusion

In conclusion, the era of Amir Timur and the Timurids represents one of the greatest renaissance periods in the history of Central Asia. During this time, science, education, culture, literature, and architecture developed to an unprecedented degree. The school of astronomy led by Mirzo Ulugbek made a massive contribution to the progress of world science. The works of Alisher Navoiy and other thinkers served the elevation of spiritual life. Architectural monuments such as the Bibi-Khanym Mosque, Gur-e-Amir Mausoleum, Shah-i-Zinda ensemble, and Ak-Saray are priceless historical heritages that display the greatness of the Timurid era. The Timurid Renaissance remains an important scientific and cultural source not only for its own time but also for modern-day progress.

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