

DEVELOPMENT OF EDUCATION, SCIENCE AND CULTURE IN THE XIV - XV CENTURIES**Akmaljanov Akbarjon Akmaljan o'gli**

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Annotation: In this article, the role and importance of the various actions carried out in the path of science education and cultural development in the territory of our country in the XIV-XV centuries, the centers of sciences and the development of literature and visual arts are discussed.

Key words: General madrasa, higher madrasa, science centers, mathematics, astronomy, scholars, scientific heritage, Samarkand Academy, observatory, literary figures, historians.

INTRODUCTION

In the 14th and 15th centuries, the role and importance of various activities carried out in the field of science education and cultural development in the territory of our country developed rapidly, and the continuous effort for the development of the country continued. During the period of Timur and the Timurids, the madrasa served as a center of higher education. There were many madrasahs in Movarounnahr and Khorasan, which were built mainly with the funds of the state and state-owned individuals. In madrasa, along with theology, secular sciences: jurisprudence (fiqh), logic, mathematics (riyazat), geometry (handasa), astronomy, medicine, history, geography, literature, poetry (ilmi aruz), Arabic language and its morphology (rhyme) is taught. The most accomplished specialists taught in the madrasa. They were paid separately. In 1404, Saraymulkhanim built such a madrasa in Samarkand that it was distinguished by its luxury from other buildings of that time. It was taught by famous scientists of their time. There are 36 madrasahs in Herat region alone, and students from different countries came to study in these madrasahs and in the houses located in this area. Amir Feruzshah's madrasa and house near Herat were especially famous. The Ikhlosiya madrasa and the Khalosiya house, located on the banks of the Injil River, were built during the reign of Husayn Boykara. Education was conducted on the basis of a competition, and in the monthly competition, empty students were dropped, and only the strong ones continued their studies. In 1417, in Bukhara, in 1420 in Samarkand, in 1433 in Gijduvan, madrasahs were established by Ulugbek's decree. Even the gate of the Bukhara madrasa is engraved with the slogan "Education is the duty of every Muslim man and woman." The ilmgoths established in these three ancient 147 cities of Movarounnahr, in particular, were the dorilfun of the Samarkand madrasa era. Ulugbek madrasa. The Samarkand madrasa opened in 1420 had two floors and fifty rooms. Each room is divided into three rooms: kaznaq (storage), bedroom and classrooms. Maulana Shamsiddin Mohammad Khawafi, one of the talented scholars of that time, was the leading mudarris in the madrasa. Famous scholars of the Middle Ages, Qazizada Rumi, Ghiyaziddin Jamshid Koshani, Mirzo Ulugbek and his student Alauddin Ali Kushchilar, taught various subjects. On the day of the opening of the madrasa, the first lesson was taught by Shamsiddin Muhammad Khavafi, and ninety students of science attended the lesson. Qazizada Rumi taught astronomy in the madrasa. A sanad (certificate) is given to a student who has studied at the madrasa for at least 15-16 years, fully mastered the subjects according to its program and was able to demonstrate his knowledge in the exams. At that time, in addition to the

Ulughbek madrasa, Khanim, Qutbiddin Sadr and Muhammad Sadr madrasas also existed in Samarkand. Students of madrasa and khanaqah used to analyze many books from different fields of science. In the palaces of Amir Temur and his descendants, there were rich libraries where rare works of the ancient world and the middle ages are preserved. In Samarkand, the rich libraries of Amir Temur and Ulugbek, and in Herat Shahrukh, Boysungur, Husayn Boygaro and Alisher Navoi were engaged in distributing ziya.

MATERIALS AND METHODS

Science centers. In the 15th century, a large group of scholars, poets, and composers gathered in Samarkand and Herat. The contribution of Ulugbek, who was brought up in the cultural environment of his time and gained fame as a famous scientist at a young age, in the development of science and art is extremely great. In addition to managing the country, Ulugbek is engaged in scientific work and actively participates in the discussions of scientists. Ulugbek studies in detail the works of his predecessors Ahmad Farghani, Abu Nasr Farabi, Muhammad Khorezmi, Abu Rayhan Beruni and Ibn Sina. Through the works of these great thinkers, he gets acquainted with the classical works of ancient Greek scholars Plato, Aristotle, Hipparchus, and Ptolemy. Great achievements in the field of astronomy and mathematics brought great fame to the Timurid state. This fame is primarily related to the name of Ulugbek. Ulugbek observatory. In 1424-1429, Mirzo Ulugbek built an observatory near the city near the city of Obirakhmat with the direct participation and help of famous scientists gathered around him. The height of this huge building, which still arouses the interest of scientists, was 31 meters. The main measurement equipment of the observatory - a huge sextant - was installed under the leadership of Giyaziddin Jamshid. The Samarkand sextant was considered the largest sextant known in the East at that time.

Ulugbek Observatory Interior view of Ulugbek Observatory. It has 149 rooms and a rich library of its time. About fifteen thousand volumes of books related to almost all branches of science are stored in this library. With the active participation of Ulugbek, the Ulugbek observatory becomes a high-level science center equipped with astronomical instruments and equipment perfect for the conditions of that time. In the observatory, along with Ulug'bek, among the famous mathematicians and astronomers, Qazizoda Rumi, known as "Plato of the Age", Ghiyaziddin Jamshid Koshony, Ali Kushchi, who became famous as "Ptolemy of his time", and many other scientists made scientific observations and researches. they go So, Ulugbek created a whole school of astronomy in Samarkand. Thanks to the observations and research conducted in the observatory, the position and position of 1018 fixed stars are determined and their astronomical table is compiled. Based on the results of research conducted at the observatory, a number of rare works related to mathematics and astronomy were created. Ulugbek's masterpiece is the book "Zizhi jadidi Koragoniy" (New Astronomical Table of Koragoniy). "Zizhi Jadidi Koragoniy" mainly consists of two parts: a broad introduction and tables that specify the positions and positions of 1018 fixed stars. Ulugbek's astronomical table is distinguished by its high level of accuracy among similar tables of that time. Also, if we compare Ulugbek's annual calculation with current calculations, it differs by only one minute and two seconds. This is a very high accuracy for the 15th century and is very close to modern measurements. * Academy - a higher scientific organization * Observatory (observatory) - a scientific institution specially equipped for the study of celestial bodies and the building where this institution is located Sextant - a mirror-reflecting device designed to determine the height of celestial bodies 150 Ulugbek also wrote a historical work called "Tarihi arba' ulus" (History of Four Nations) and five treatises on

the science of music. Ulugbek's school of astronomy was a unique academy of its time. The world-famous Samarkand observatory, named after more than 100 scientists organized around Ulugbek, fulfilled this task. The famous French philosopher, writer and historian scientist Voltaire (1694-1778): "Ulugbek founded the academy in Samarkand. "He ordered the measurement of the globe and took part in the compilation of astronomical tables," he wrote. Ulugbek's school of astronomy had a great influence on the development of astronomy in the medieval Muslim East

METADODOLOGY

Classical literary figures. The literature of the peoples of Central Asia improved in terms of artistic style and rose to a new level. Many rare artistic and lyrical works were created both in prose and verse. Central Asian peoples, in particular, the Uzbek "Samarkand Academy" was the second "Dar ul-ilm" after the "House of Wise Men" (Ma'mun Academy) established in Khorezm in 1004 151 and Tajik literature. Communication and cooperation expanded and strengthened. Translation literature was born. Inextricably linked with the development of literary literature, literary studies also developed, rare works were created. The epic "Yusuf and Zulayho" reworked by Durbek, the poem of the poet Atoi from Tashkent are the masterpieces of the fiction literature of this period. Lutfiy (1366-1465) occupies a special place among Uzbek poets during this period. Until Navoi, there was no poet in Uzbek poetry who reached the level of Lutfi. He not only wrote works in Turkish, but also wrote odes in Persian. Love of truth and justice, promotion of compassion and benevolence, love of science and art are prominent in Lutfi's work. The great statesman, great poet, scientist, thinker Alisher Navoi (1441-1501) and the great Persian-Tajik poet Abdurahman Jami (1414-1492) made great contributions to the development of 15th century fiction. Navoi devoted all his work and creativity to the struggle for human happiness, the peace of the people, the prevention of mutual wars, the development of science, art and literature. He raised the Uzbek literary language and Uzbek classical literature to a new level. Navoi wrote more than thirty major works of art. "Khamasa", "Khazayin ul-Maani", "Mahbub ul-Qulub", "Lison ut-Tayr" are among them. Alisher Navoi, the great poet and thinker of the Uzbek people, took a worthy place among the great figures of world literature with the extremely humanitarian ideas he raised in his invaluable works. Abdurrahman Jami was Alisher Navoi's contemporary, teacher and friend. Their friendship and cooperation is a bright symbol of the friendship and cooperation of Uzbek and sister nations. Alisher Navoi 152 If we call this great person a saint, he is the saint of saints, if we say a thinker, he is the thinker of thinkers, and if we say a poet, he is the sultan of poets. Islam Karimov. "High spirituality is an invincible power." Historians. Mirkhand (1438-1498), whose real name is Muhammad Khovandshah ibn Mahmud, is one of the great representatives of the science of history. Although he was born in Balkh, he spent most of his life in Herat. Mirkhand's ancestors were originally from Bukhara, and they were famous as advanced scholars of jurisprudence of their time. There is very little information about Mirkhand. Some information about him was written down by his grandson Khondamir: "In his youth, Mr. Amir Khovand Muhammad worked diligently and diligently in order to study various sciences and perfect his noble qualities. took a drink. He studied (more) history and started researching the world situation and antiquities. Oliyjanab forgot to master this subject in a short period of time, but his character did not allow him to join the people of life, he did not give in to pleasure and excitement. The passion for teaching and commanding enlightenment did not appear in his clear memory at all. But (this situation) continued until the Qiblah of dreams and security, that is, His Holiness the Sultan (Hussain) went to his close friend (Amir Alisher Navoi) and received his various blessings, favors, favors and favors. Under the guidance and patronage of Alisher Navoi, Mirkhand writes the work "Ravzat us-safo"

("Garden of Paradise"). Khondamir stated that this work was not completed by Mirkhond. The work was written by Khondamir. The work "Ravzat us-safo" describes the social and political events that took place in the countries of Central Asia, the Middle East and the Middle East from the creation of the world to 1523. This work of Mirkhond gained great fame in Eastern countries. There are many manuscript copies of the work "Ravzat us-safo" in the libraries of the world. In Europe, Mirkhond's work served as an important source of Eastern history for a long time. Mirkhond's grandson Khondamir (1475-1535) is also a famous historian of his time. He was a student of Hazrat Alisher Navoi. Khondamir came to the attention of Alisher Navoi at the age of 15-16 and remained with the great poet until his death, managing his library. Khondamir gained the respect of a great scientist and thinker poet with his extensive knowledge and his pursuit of science. Navoi Khondamir wrote the following in his work "Majolis un-nafais": "Mawlana Khondamir is the son of Mirkhond and a young man with potential. He probably has a knack for history." Khondamir was a prolific scientist. He wrote about ten historical works. With his immortal historical works, Khondamir enriched the treasure of our centuries-old culture and left an indelible mark in the history of science. Khondamir beautifully described the past history and events of our nation in his works. Especially his work "Habib us-siyar" is one of the important and valuable sources for studying the socio-political history of Central Asia and Khorasan at the end of the 15th century and the first quarter of the 16th century. The art of literature. In the 15th century, the art of reading, i.e. copying and writing manuscripts, and the related art of calligraphy, 154 painting, engraving, and lithography developed extremely well. In the era before the printing press and book publishing, creating a book and making copies of it was an extremely difficult and time-consuming task. Each book was made according to certain rules, from its paper to its cover, from its ink to its coloring and gilding. In order to become a calligrapher, it was necessary to train with patience and passion for a long time, to be perfectly literate, and to have a high artistic taste. Skilled calligraphers taught their method and style to their students. In this way, the traditions of calligraphy were continued and developed.

RESULTS

The famous calligrapher Mirali Tabrizi (1330–1404) invented a new style of calligraphy called nastaq. One of the famous calligraphers was Sultanali Mashhadi (1432–1520). More than 50 books copied by Sul Tonali and many continents have reached the present day. Sultanali was also skilled in the art of carving. He also wrote a special work on the types of calligraphy art. Sultanali Mashhadi is famous with the names "Qiblat ul Kuttab" (Qibla of Scribes) and "Sultan ul-Khattotin" (Sultan of Calligraphers). Special palace libraries were established in Samarkand and Herat. The librarian or librarian was in charge of the library work. Under him, calligraphers, painters and painters, skilled lithographers and scribes fulfilled the orders. For example, forty calligraphers and several painters were busy making copies of manuscripts and decorating them in the library of Ulugbek's brother Boysungur in Herat. In 1429, the famous epic "Shahnoma" by Abul Qasim Firdawsi was written in this library. Husayn Boygaro and Alisher Navoi take care of enriching the palace library with rare works. Fine art. In the 15th century, visual art achieved great achievements - it consisted of portraits, life scenes, natural scenes, buildings and works of art. Among the images of figures, the images of Jami, Navoi, Abdullah Khatifi, Behzad, Husayn Boygaro, Babur and others have survived to us. Artists tried to depict the appearance of these historical figures more accurately and perfectly, and in some cases even to reveal their spiritual world. For example, in the image of Navoi painted by the famous artist Mahmud Muzahib, the poet is leaning on a cane, his figure is slightly bent, and his gaze shows signs of fatigue, as well as majesty and nobility. Kamoliddin Behzod (1455-1536) is a great

representative of the visual art of the 15th century. He became the founder of a new creative style in painting called "Hirot School". In his time, Behzod was honored as Monii Soni (Second Moni). As a master artist, he effectively influenced the development of the visual arts of Central Asia, Iran, Azerbaijan and other countries. Behzod's work has a diverse content, from portraits of historical figures (Husayn Boygaro, Shaibani Khan, Alisher Navoi) to reception ceremonies in the palaces of serjilo rulers and scenes of the battlefield. Especially his lyrical scenes dedicated to Dehlavi's epic "Layli wa Majnun" or the fierce battle on the battlefield painted for Sharafuddin Ali Yazdi's "Zafarnama" are extremely attractive and impressive. Behzod's traditions had a positive influence on the creation of ras soms of the next period. His work and heritage are widely studied by art historians and artists. Perpetuating the name of Behzod, according to the decree of the First President of the Republic of Uzbekistan Islam Karimov dated January 23, 1997, the State Award named after Kamoliddin Behzod was established, and the National Institute of Painting and Design was named after Behzod. In November 2000, the 545th anniversary of Behzod's birth was widely celebrated in the cities of Tashkent, Samarkand and foreign countries under the auspices of UNESCO, and a memorial garden named after Behzod was established in Tashkent. An international scientific conference dedicated to Behzod was held at the State Museum of the History of the Timurids in Tashkent with the participation of art historians from Great Britain, Turkey, India, Azerbaijan, Tajikistan and Uzbekistan. So, the development of works of fine art and fiction shows that one of them had an effective influence on the other.

CONCLUSION

In conclusion, we can say that in the XIV-XV centuries in the territory of our country, the role and importance of various actions in the direction of science education and culture development, the centers of sciences and the development of literature and visual arts developed with great intensity and principle. As a result, the people, the state and the nation have developed and progressed, and not only science and education, but also culture has been rapidly formed, and today our country has become one of the most developed countries in the world in all the fields listed below.

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