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Statesman And Mirzo Ulug'bek, Patron Of Science And Education

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Abstract: This article reflects the gradual development of science, education and culture during the Timurid era, the life and scientific activities of Mirzo Ulugbek, a prominent representative of the Timurids, statesman, mathematician, astronomer. The activities of the madrasas founded by the scholar, scientific research conducted at the observatory, and the scientific heritage of scientists are also studied.

Keywords: Timurids, renaissance, Samarkand and Bukhara madrasas, observatory, philosophy, logic, astronomy, mathematics, globe, astronomical table, stars, calendar.

Introduction: The period of the rise of statehood, science and culture in Central Asia coincides with the era of Amir Temur and the Timurids and today is called the second Renaissance period. However, it should be noted that we can point to the achievements of the first Renaissance period in the IX-XII centuries as the basis for the development of science and culture in Central Asia, including Movarounnahr. According to the Swiss orientalist Adam Mez [1, p.473], the first madrasahs in Muslim countries arose and developed in Bukhara, Samarkand, Balkh, Nishapur, which in the IX-X centuries were major scientific centres of the East. In the work "Hudud al-Alam" ("Boundaries of the World" or "Limits of the World"), written in the X century, the author of which is unknown, emphasizes that Samarkand is a large and prosperous city, where scientists, entrepreneurs and artisans from all over the world come together. Abu Abdallah Muhammad ibn Ahmad al-Jayhani, who worked as a minister in the Samanid Empire, noted in his work “Ashkol al-Alam” that the people of Samarkand are engaged in great creative work, including spending huge donations on the construction of mosques and madrasahs. By the XIII century, science and culture in Central Asia were oppressed due to the Mongol invasion, but after a century and a half Amir Temur put an end to these processes.

MATERIALS

It is known that after the foundation of the centralized state by Amir Temur, science, culture and creativity received an unprecedented level of development in Movarounnahr. Thanks to his military campaigns, he brought to Samarkand people of various professions from other countries, including scientists, builders, artisans, even doctors. Amir Temur was very interested in science, and in order to create conditions for the creativity of scientists, he built madrasahs in different parts of the country. In particular, he built such madrasahs as the Edigu Temur Madrassah, Firuz Shah Madrassah, Muhammad Sultan Madrassah, Mir Burunduk Madrassah, Kutbiddin Sadr Madrassah, Bibi-Khanym Mosque and Madrassah, Abu al-Layth al-Samarqandi Madrassah, Fakih Abu al-Layth Madrassah, Amir Shahmalik [2, p.179-182]. Qadi Zada al-Rumi, Jamshid al-Kashi, one of the famous thinkers of his time, taught at the madrasah [3, p.23]. According to the notes of academician B. Valikhodjaev, Arabic, Persian and Turkish languages were taught in the Edigu Temur Madrasah, taking into account the conditions of Samarkand [4, p.16]. His descendants Shah Rukh, Ulugh Beg, Sultan Husayn Bayqara continued this work.

METHODS

For example, Ulugh Beg a well-known representative of the Timurid era, was born in Sultania in 1394, during the five-year military campaigns of his grandfather. Ulugh Beg first received the name Muhammad Taragai, and later became known as Ulugh Beg. After the death of Amir Temur, the youngest son of Amir Temur, Shah

Rukh, came to power. During the reign of Shah Rukh, the main capital was the city of Herat, and Samarkand was a secondary capital, ruled by Ulugh Beg. During the period of Shah Rukh and Ulugh Beg, Herat and Samarkand became important cities for the development of science. At the time when priests grew up at the court of Shah Rukh, the passion for science was strong at the court of his son Ulugh Beg. Despite the fact that he was a statesman, Ulugh Beg lovedscience, literature and art. In particular, he was a great talent, having mastered such subjects as astronomy, mathematics, history, philosophy, music, and poetry. Accurate information about the primary education and teachers of Ulugh Beg has not been preserved, but he was brought up first by his grandmother Saray Mulk Khanym, and then by Amir Shahmalik. The famous scientist A.Ahmedov suggests that Mawlana Ahmad, one of the greatest scientists at the court of Amir Temur, may have given Ulugh Beg knowledge of early astronomy, but Ulugh Beg in his work "Zij" calls Qadi Zada al-Rumi his teacher [5,p.28]. Ulugh Beg became one of the great scientists of his time in his youth, influenced by astronomers and mathematicians such as Mawlana Ahmad and Qadi Zada al-Rumi. Thanks to the great initiative and efforts of Ulugh Beg to develop science, madrasahs were built in 1417 in Bukhara, in 1420 in Samarkand, in 1433 in Gijduvan. Ulugh Beg paid special attention to science, education and madrasah. It deserves special recognition that he placed on the facade of the Bukhara madrasah the hadith "Education is the duty of every Muslim man and Muslim woman" and the phrase "The door of God's mercy is always open for those who seek knowledge"[6, p.6]. According to academician V.V. Bartold, this hadith, which calls every person to gain knowledge, is also located in the tomb of Ahmad Yasawi in Turkestan [7, p.33]. On the reliable side, the Russian tourist N.V. Khanikov, who arrived in Turkestan in the middle of the XIX century, gave information that the madrasas of Bukhara are still operating, students are given 3,5 gold scholarships a year. The French Timurist Lucien Karen notes that the greatest achievements that brought fame to Shah Rukh and Ulugh Beg were those that laid the foundation for a centuries-old culture known as "the revival culture of the Timurid period".

RESULTS

As a result of his influence and motivation, new centres of culture arose and developed in Central Asia. In turn, Ulugh Beg founded an academy in Samarkand, supported the intelligentsia, and built beautiful buildings[8,p.203-204]. Indeed, the Ulugh Beg madrasah in Samarkand deserves special attention, it carried out the largest scientific research of its kind and was called the "highest madrasah". The Samarkand madrasah has two floors, four domes and four minarets, and the sky covered with stars is depicted on the facade. Therefore, among the subjects taught in the madrasah, special importancewas attached to astronomy. Ulugh Beg attracted the foremost scholars of his day to the madrasah. Including such scientists as Mawlana Muhammad Havofi, Saladin Musa, Qadi Zada al-Rumi, Jamshid al-Kashi, Abdulali ibn Muhammad Birjandiy, Ali Qushji, Mawlana Isomiddin, Fazlullah Abu al-Layth, poet Abd ar-RahmanJami and conducted scientific and practical research in this field of astronomy [9, p.152]. For example, in 1436, Jami, who arrived in Samarkand, took an exam from Qadi Zada al-Rumi, and later studied with them and worked together [10, p.46-47]. One of the prominent representatives of the Samarkand madrasah was Jamshid al-Kashi, who wrote a work called “Zij Elkhani” in honour of Shah Rukh. In 1416, al-Kashi came to Samarkand at the invitation of Ulugh Beg and, together with Rumi, took part in the construction of Ulugh Beg's madrasah and observatory. Rumi as Ulugh Beg's mentor and a prominent scientist and researcher of his time, in addition to teaching at the madrasah, he was engaged in scientific research and made astronomical observations at the observatory. His treatises on astronomy and mathematics "Sharh ashkol at-ta'sis", "Sharh al-mulakhhas fi-l-hayl" on astronomy, mathematics and geometry served as textbooks in the Movarounnahr madrasah [11, p.147]. The textbooks created by Rumi were taught in madrasahs in Khurasan, Iran and Rum, except for Movarounnahr, and various commentaries were written on them [12, p.13]. In the Ulugh Beg Madrasah in Samarkand, Rumi was appointed senior teacher and worked as a teacher until the end of his life [13, p.28-29]. The fact that Ulugh Beg mainly lectured on astronomy, mathematics and geometry in the madrasah, we can learn from the description of the scientist Jamshid al-Kashi in the following letter to his father: "He achieved great success in this field of science. He is well versed in astrology and duly prove it with deep arguments. He teaches Tazkir and Tuhfa so well that nothing needs to be added to it"[14, p.278]. Ulugh Beg, as a teacher and scientist, made good use of the method of discussion with students during lectures. al-Kashi wrote the following about this in his letters: "From time to time such disputes arose between Ulugh Beg and the students that it is impossible to describe"[15, p.292]. One of the scholars of the madrasah, Muhammad Havofi gave the first lecture in Ulugh Beg's madrasah, and Mahmud Vasifi wrote the following about this in his work Badoe' al-wakae: "Ulugh Beg called Mawlana Havofi to him and asked about all the sciences... After that, Ulugh Beg honoured him by dressing him in his

unique clothes. Ulugh Beg took Mawlana Havofi to Rumi, praised him a lot and taught him a lesson. It is said that on the day of the assembly of scholars, Mawlana Havofi gave a lesson from Almagest (Great Construction, by the Greek scholar Claudius Ptolemy, who lived in the second century) in front of ninety scholars. Of the ninety scholars who listened to his lesson, no one understood him, except for Ulugh Beg and Rumi".Ulugh Beg pointed out that Mawlana Havofi is skilled and perfect in all sciences. Even if they throw all the books into the river and there is no trace of knowledge left in the world, Mawlana Havofi will be able to restore all knowledge without any flaws. Havofi was more busy with educational work in the madrasah and could not actively participate in scientific work [16, p.16-17]. Abu al-Layth al-Samarqandi, another scholar who worked in the Ulugh Beg Madrasah, was a jurist and Arabist, taught jurisprudence and Arabic at the Madrasah. Ali-Shir Nava'i wrote about this in his work Majolis un-nafois [17, p.37]. Ali Qushji, a well-known representative of the field of astronomy in the madrasah of Ulugh Beg, studied in Kirman in 1414-1417 and wrote a treatise on philosophy. Later, he studied with such teachers as Rumi, Mawlana Havofi, al-Kashi, Ulugh Beg and worked as a mentor. He gave lectures to students of the madrasah on specific, social and theoretical sciences, including logic, jurisprudence, literary criticism, and conducted scientific research. In 1425, Ali Qushji wrote works called "Risolai hisob" on mathematics, "Risolai mantiq" and "Risola al-istiorat" on logic in 1430. These works of Ali Qushji were distributed as textbooks in the madrasas of the cities of Movarounnahr. Ulugh Beg accepted Ali Qushji as a student, expressed many positive reviews about him, calls him "son" (farzandi arjumand). Ali Qushji went to Herat in 1429-1430 and got acquainted with the educational processes in madrasas, the life and activities of students and teachers. Ali Qushji introduced the students of Herat to the scientific activities of the Samarkand Madrasah and invited Abd ar-Rahman Jami and other students studying there to study at the Ulugh Beg Madrasah in Samarkand. Thanks to his contribution to science, education and learning in many areas of the Timurid Empire, the name of Ali Qushji was immortalized for his time and for later times. Ali Qushji's contribution to science and education was spread in Iran, the Middle East and other countries by scientists Miram Chalabi, Abduqadir Royani, Mullah Abduali Birjandi and continued his traditions.

DISCUSSION

The well-known poet, writer, thinker Abd ar-Rahman Jami went to Samarkand in the Ulugh Beg madrasah and worked as the teacher of this madrasah until 1452, having received education from Rumi and Fazlullah Abu al-Layth. He studied Arabic and poetry at the madrasah. During his career in the Samarkand madrasah, he wrote a work called "Risola-i kabir dar muammo", dedicated to the Timurid ruler Abul-Qasim Babur, and presented it to him when he went to Khurasan. In the Samarkand madrasah, the practical activity of Ulugh Beg in thefield of scientific and pedagogical training of scientists and high-level teachers is extremely remarkable. Before hiring teachers who worked in the madrasah, an examination was held and suitable candidates were honestly selected. The opinion of Academician B. Valikhodjaev that “we can be witnesses of how much attention was paid to the system of education and training, which was considered the main criterion of a person in the Timurid era", is indicative [18, p.43]. According to Davlatshah Samarqandi, who lived and worked in the XV century, in his work "Tazkirat ash-shuaro" "Ulugh Beg built a higher madrasah in Samarkand, in perfection and grandeur, there is no one like it in seven climatic zones" [19, p.348-349]. After the tragedy of Ulugh Beg, some scientists, including Ali Qushji, Fazlullah Abu al-Layth, Mawlana Burhoniddin Nafis, continued their work. The historian Mirkhvand in his work "Rawzat as-safa" notes that after the death of Ulugh Beg, his son Abdu al-Latif once attended an Arabic grammar class in the Ulugh Beg madrasah [20, p.119]. In the XV-XVII centuries, Mawlana Amir Kalon, Mawlana Miri Kalon Samarqandi, Mir Jamoliddin Khorazmi, Saki Zamini worked in Ulugh Beg's madrasah. But besides the aforementioned scientists, the names of many other scientists have not been established. The names and works of the mentioned thinkers and scientists are remembered with respect by people of science to this day. At the beginning of the XVI century, Mawlana Khoja Tabrizi, Mirza Khorazmi and Mawlana Amir Kalon worked in the Ulugh Beg Madrasah under the leadership of Mahmud Vasifi. According to the information given in the work of the historian Amir Sayyed Sharif Rokim Samarqandi "Tarihi kasira" (XVII century), it is mentioned that Samarkand judge Saki Zamini taught in the madrasah.

CONCLUSION

There is no information about the activities of the Ulugh Beg Madrasah at

the end of the XVII - beginning of the XVIII century. The madrasah continued to function since the reign of the Mangyt Amir Shah Murad, that is, from the end of the XVIII century to the beginning of the 1918. At the beginning of the XX century, there were sixty students and two teachers in the madrasah [21, p.127]. In the city of Samarkand, there are several madrasahs related to the renaissance of the Timurids, some of which have been preserved to this day, some of which have not

been preserved. Among them are Kukeldash Madrasah (which has not reached us), Prince Abdullah Madrassah, Amir Qasim Madrassah, Gijduvan Madrassah in Bukhara [22, p.26-27]. In conclusion, it should be noted that science, education and learning in society developed through madrasas during the Timurid period. Themost advanced specialists of their time taught in the madrasah, and new teachers were selected for advanced research, which led to the development of science.

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