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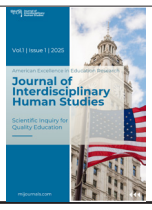

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MIRZO ULUGBEK AS SCHOLAR AND RULER: HIS SCIENTIFIC LEGACY AND INTELLECTUAL CHARACTER IN CONTEMPORARY PERSPECTIVE

Abstract. *The Timurid prince and astronomer Mirzo Ulugbek (Muhammad Taraghay Kuragan, 1394–1449) stands among the most distinguished polymath scholars produced by the medieval Islamic world. This article re-examines Ulugbek's intellectual legacy and personal character through three principal lenses: the legislative and institutional framework through which Uzbekistan and the international community have recognised his contribution; the primary-source testimony preserved in a letter written by mathematician Ghiyasuddin Jamshid al-Kashi to his father around 1420–1421; and the broader tradition of Samarkand astronomy culminating in the Zij-i Jadid-i Guragan. The al-Kashi letter preserved in the Sipahsalar Library, Tehran, and translated into numerous languages provides uniquely intimate evidence of Ulugbek's memorisation of the Quran and its commentaries, his mastery of Arabic grammar, his exceptional command of mathematics and observational astronomy, and his active participation in scholarly disputations at the madrasa and court. The article argues that recovering this multidimensional portrait of Ulugbek as jurist, linguist, mathematician, and ruler is essential both for accurate historiography and for the transmission of intellectual and moral heritage to younger generations.*

Keywords: *Mirzo Ulugbek, Timurid astronomy, Samarkand school, Ghiyasuddin al-Kashi, Zij-i Jadid-i Guragan, Islamic intellectual heritage, Central Asia, polymath scholarship, heritage education, Uzbekistan.*

INTRODUCTION

The fifteenth century occupies a distinguished place in the history of Central Asia as a period marked by remarkable advances in science and culture. This intellectual flourishing is closely associated with the name of Mirzo Ulugbek, a prominent representative of

the Timurid dynasty who combined political authority with outstanding scholarly achievement. As both a ruler and a scientist, Ulugbek played a pivotal role in transforming Samarkand into one of the leading centers of learning in the medieval Islamic world.

This article seeks to re-examine the intellectual legacy and personal character of Mirzo Ulugbek through a contemporary scholarly perspective. The study is structured around three principal dimensions. First, it considers the legislative and institutional frameworks through which Uzbekistan and the international community have recognized Ulugbek's contributions. Second, it analyzes primary-source evidence preserved in a letter written by the distinguished mathematician and astronomer Ghiyasuddin Jamshid al-Kashi, which offers valuable insight into Ulugbek's intellectual abilities, including his mastery of the Quran, Arabic grammar, mathematics, and observational astronomy. Third, the article situates Ulugbek within the broader tradition of the Samarkand astronomical school, culminating in the creation of the seminal work Zij-i Jadid-i Guragani.

The relevance of this research lies in its attempt to reconstruct a multidimensional portrait of Mirzo Ulugbek as a jurist, linguist, mathematician, and ruler. Such an approach is essential for achieving greater accuracy in historiography and for ensuring the effective transmission of his intellectual and moral heritage to future generations.

MAIN PART

The accumulation of scientific knowledge in the Islamic world produced, across several centuries, a chain of intellectual centres whose contributions remain traceable in the foundations of modern scholarship. Cities such as Damascus, Cairo, Kufa, Basra, Mecca, Medina, Baghdad, Samarkand, and Bukhara served as crucibles in which scholars of remarkable range were formed figures whose works shaped not only the Islamic tradition but the trajectory of world science. Among them, Mirzo Ulugbek occupies a singular place: a ruling prince who was simultaneously a practising mathematician and observational astronomer of the first order.

The sustained institutional interest in Ulugbek's legacy within Uzbekistan reflects both scholarly recognition and a broader educational policy. The 27th Session of the UNESCO General Conference included Ulugbek's anniversary among the world commemorations to be celebrated in 1994. Acting on this decision, the first President of the Republic of Uzbekistan, Islam Karimov, signed Presidential Decree PF-796 on 19 March 1994,

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declaring 1994 the Year of Mirzo Ulugbek (Lex.uz, 2024a). More recently, President Shavkat Mirziyoyev signed Resolution PQ-323 on 12 September of the current year, establishing a programme for the wide commemoration of the 630th anniversary of Ulugbek's birth (Lex.uz, 2024b). This resolution explicitly identifies the promotion of Ulugbek's scientific and educational legacy both nationally and internationally as its central objective, and frames that legacy as a resource for cultivating the intellectual and moral capacities of the rising generation.

The present article takes these institutional developments as its starting point and seeks to enrich the portrait of Ulugbek through careful attention to primary sources above all the remarkable letter of Ghiyasuddin al-Kashi and to situate his achievement within the wider history of Islamic astronomy. It concludes by reflecting on the pedagogical dimensions of this heritage.

The history of medieval Islamic astronomy cannot be written without sustained attention to the contribution of Central Asian scholars. From the Baghdad observatory established under the Caliph al-Ma'mun in the ninth century where al-Khwarizmi carried out his foundational work through the observatories of Umar Khayyam in Isfahan, Nasiruddin al-Tusi in Maragha, and Abu Mahmud al-Khujandi, the tradition of systematic observational astronomy advanced steadily across four centuries. It reached its medieval apogee at the Samarkand observatory founded by Ulugbek, where the precision of the principal astronomical instruments surpassed that of any preceding institution (Mamadazimov, 1989).

The roster of scholars associated with this tradition reads as a roll of honour of Islamic intellectual history: Muhammad al-Khwarizmi, Ahmad al-Farghani, Abu Nasr al-Farabi, Abu Rayhan al-Biruni, Abu Ali ibn Sina, Nasiruddin al-Tusi, Qadizade al-Rumi, Ghiyasuddin Jamshid al-Kashi, and Mirzo Ulugbek himself. Their collective output constitutes a patrimony shared not only by Central Asian peoples but by humanity as a whole. The nearly seven-century arc of vigorous activity in Eastern astronomy found its consummation in Ulugbek and his academy. The Zij-i Jadid-i Guragan the great astronomical tables produced by his school served for a full century after its compilation as a standard reference for observatories across both the Islamic East and Latin West (Mamadazimov, 1989).

Among the most valuable primary sources for the study of Ulugbek's intellectual character is a letter written by Ghiyasuddin Jamshid ibn Mahmud al-Kashi one of the

E-ISSN 3069-8375

leading mathematicians and astronomers of the fourteenth and fifteenth centuries to his father in Kashan, dated to approximately the seventh day of Dhul-Qa'da in the years 1420–1421. Al-Kashi had spent his youth in Kashan engaged in mathematics and astronomy, translating and commenting on the works of ancient Greek and Iranian scholars. At the recommendation of Qadizade al-Rumi, Ulugbek invited him to Samarkand in 1416, where he remained until the end of his life. He was renowned across the Near and Middle East for his encyclopaedic work Miftah al-Hisab («The Key of Arithmetic») (Mamadazimov, 1989; Hasanov, 2011:190–191).

The letter's value lies in the directness and specificity of its testimony. Al-Kashi wrote from Samarkand to Kashan as a scholar reporting to a family member on the intellectual life of the city and the character of its ruler. He opens by describing Samarkand's cultural superiority over Kashan as a centre of learning, and then turns to Ulugbek himself who was twenty-six or twenty-seven years old at the time of writing with a series of detailed observations that amount to the most intimate contemporary account of the prince we possess.

Al-Kashi records that Ulugbek had memorised the greater part of the Quran together with its commentaries and the opinions of the exegetes on individual verses, and that he would habitually support his spoken arguments with appropriate Quranic quotations (Hasanov, 2011:190–191). He notes Ulugbek's thorough command of Arabic, with particular proficiency in morphology (sarf) and syntax (nahw), and praises the beauty of his Arabic calligraphy. He describes Ulugbek's participation in major scholarly disputations held at the madrasa and the court, and singles out Qadizade al-Rumi Ulugbek's own teacher as the most learned scholar of the circle.

In the domain of astronomy, al-Kashi's testimony is particularly striking. He records Ulugbek's extraordinary memory for numerical data, noting that the prince could calculate the longitude of the sun to the precision of degrees and minutes entirely from memory. He mentions Ulugbek's reading of al-Tusi's Tadhkira («Memoir») and the Tuhfa («The Royal Gift»), describing the lectures that resulted as remarkable. He also records the existence of a sundial mounted on the observatory wall a detail not mentioned in Ulugbek's own writings, but one that confirms the hypothesis advanced by Qari Niyazi in his study Ulugbek's Astronomical School (Hasanov, 2011:190–191).

The letter further reveals that al-Biruni's Qanun al-Mas'udi served as a constant working reference for Ulugbek and his collaborators Qadizade al-Rumi, al-Kashi himself,

E-ISSN 3069-8375

and others testifying to the direct intellectual continuity between the Samarkand school and the great tradition of al-Biruni. Al-Kashi also alludes to the dedication to Ulugbek of Sharh ‘ala al-Fiqh al-Akbar («Commentary on the Great Jurisprudence») by Ala al-Din al-Bukhari in 1447, a work glossing Abu Hanifa’s foundational legal text a dedication that makes perfect sense given the portrait of Ulugbek’s jurisprudential and Quranic erudition that the letter itself provides.

The letter was preserved in a collection volume held at the Sipahsalar Mosque Library in Tehran. Its Persian text has been translated and published by the Iranian scholar M. Tabatabayi (Tehran, 1940), the Turkish scholar Aydin Sayili into English and Turkish (Ankara, 1960), the American scholar E. Kennedy into English (Rome, 1960), the Arab scholar Ahmad Sa’id Damardash into Arabic (Egypt, 1963), the Tajik scholars Gh. Sabirov and N. Babayev into Russian (Dushanbe, 1973), and subsequently into Russian (Tashkent, 1979) and Uzbek (1996) (Boboyev, 2024).

The convergence of testimonies from al-Kashi’s letter and other sources establishes a portrait of Ulugbek as a scholar of exceptional range. Al-Kashi explicitly notes his mastery of jurisprudence, logic, literature, mathematics, and astronomy areas in which only conjecture had previously been possible (Ahmedov et al., 1996:312). The great Timurid poet and statesman Alisher Navoi provides an independent confirmation of this portrait in his biographical anthology Majalis al-Nafais (Vol. 12):

«Ulugbek Mirzo was a wise ruler. His accomplishments were exceedingly numerous. He knew the Holy Quran in all seven canonical readings by heart. He was thoroughly versed in astronomy and mathematics to the extent that he composed a Zij and established an observatory, and to this day his Zij is in wide circulation. Despite these attainments, he occasionally turned to poetry. The following opening verse is his: ‘Although the realm of beauty is beneath your seal of sovereignty, do not be vain for the eyes of the wicked are lying in wait for you.’»

(Ahmedov et al., 1996:6)

The intellectual conditions of the Timurid period that made Ulugbek’s formation possible are themselves significant. Al-Kashi’s letter together with his other observations on scientific activity at Herat and Samarkand constitutes important evidence that the Timurid courts of Khurasan and Transoxiana provided wide scope for cultural flourishing and for the free scholarly activity of scholars arriving from distant lands (Mamadazimov, 1989).

E-ISSN 3069-8375

The relevance of Ulugbek's legacy extends beyond the domain of historical scholarship. President Shavkat Mirziyoyev has identified the cultivation of a historically grounded sense of identity as a central task of contemporary Uzbek education: «Another important issue that always concerns us is connected with the morality, conduct, and in a word the worldview of our young people. Today, the age is changing rapidly. Who feels these changes more than anyone else? young people. Let young people be in harmony with the demands of their era. But at the same time, let them not forget themselves. Let the call 'Who are we, and whose great descendants are we?' always resonate in their hearts and urge them to remain true to themselves. How do we achieve this? Through upbringing, upbringing, and only upbringing» (Mirziyoyev, n.d.).

This educational vision finds a concrete point of application in the study of figures such as Ulugbek. The madrasa he founded in Samarkand in 1420 in which he himself delivered lectures served in his own era as a genuine source of inspiration for young scholars. The rich scientific and historical legacy of Muhammad Taraghay Kuragan constitutes today an invaluable resource for cultivating in young people love of their homeland, devotion to learning, and fidelity to the values of their civilisation.

CONCLUSION

The image of Mirzo Ulugbek that emerges from Ghiyasuddin al-Kashi's letter represents a substantial and lasting contribution to the scholarly and cultural heritage of Uzbek history. The letter is a foundational primary source demonstrating Ulugbek's mastery across Quranic sciences, linguistics, jurisprudence, and the exact sciences a range of competence rarely united in a single individual, and virtually unprecedented in a reigning sovereign. The scientific school and observatory that Ulugbek established served as a genuine source of inspiration for young scholars in his own era and exerted a powerful formative influence on subsequent generations of scientific thinkers. Deepening the study of this legacy cultivates in the rising generation precisely the pride of intellectual lineage that President Mirziyoyev has identified as a cornerstone of contemporary Uzbek education: an awareness of who we are and of the great ancestors from whom we descend. The primary responsibility of future specialists in this field is to use the example of such scholars to raise young people as patriots, individuals of high moral character, and guardians of national values.

E-ISSN 3069-8375

REFERENCES

1. Ahmedov, B., Uvatov, U., Karimov, G., et al. (1996). Amir Temur va Ulug'bek zamondoshlari xotirasida [In the memory of contemporaries of Amir Timur and Ulugbek]. O'qituvchi.
2. Boboyev, A. (2024). Fan taraqqiyotida Movarounnahrlik ulamolarning o'rni (6-qism) [The role of Transoxianian scholars in the development of science (Part 6)]. Retrieved from https://www.bukhari.uz/?p=18262&lang=oz.
3. Hasanov, F. (2011). Ma'naviyat yulduzlari [Stars of spirituality]. O'zbekiston milliy ensiklopediyasi.
4. Lex.uz. (2024a). Presidential Decree PF-796 of 19 March 1994: On declaring 1994 the Year of Mirzo Ulugbek. Retrieved from https://lex.uz/docs/-196013
5. Lex.uz. (2024b). Presidential Resolution PQ-323: On the wide commemoration of the 630th anniversary of Mirzo Ulugbek. Retrieved from https://lex.uz/uz/docs/-7102072.
6. Mamadazimov, M. (1989). Mirzo Ulug'bek va ilmiy merosi [Mirzo Ulugbek and his scientific legacy]. Fan va turmush, 6.
7. Mirziyoyev, Sh. (n.d.). Speech at the conference on 'Ensuring social stability and preserving the purity of our sacred religion as a demand of the age'.

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