THE INFLUENCE OF THE ANUSHTIGINID–KHWAREZM SHAH ERA SCHOLARS' HERITAGE ON THE DEVELOPMENT OF SOCIO-PHILOSOPHICAL THOUGHT

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Abstract. The article provides a scholarly justification of the influence exerted by the intellectual heritage of scholars of the Anushtiginid–Khwarezm Shah period on the development of socio-philosophical thought. The social-aesthetic, political, and economic orientations of the youth of the Third Renaissance, as reflected in present-day approaches, should—above all—remain grounded in devotion to the heritage and traditions of our ancestors, love for the Motherland, spirituality, and the pursuit of enlightenment. In order to prevent these values from being overshadowed, it is essential to effectively utilize methods and means of cultivating in young people such qualities as respect for elders, attentiveness, prudence, faithfulness, patriotism, loyalty to the Homeland, and dedication. This is a requirement of the times for nurturing the devoted youth of the Renewing Uzbekistan.

Keywords: Renaissance, heritage, social, philosophical, thought.

One of the scholars who lived in the Anushtiginid–Khwarezm Shah state and contributed to the fields of mathematical geography (more precisely, geodesy and cartography) was Muhammad ibn Najib Bakran. The treatise Jahannama (جهان نامه), which has survived to the present day, is attributed to his authorship [1, p.145; 2, p.6].

From the standpoint of the exact sciences, it is particularly important that Najib Bakran made extensive use of mathematical and geographical methods in constructing his world map. More precisely, as it is written in Jahannama, the map contains meridian lines representing geographical longitude and parallel lines representing latitude. In other words, one of the essential elements of mathematical geography - the graticule (network of parallels and meridians) - is depicted on this map. The graticule had practical significance for determining the locations of cities.

Abu ʿAli al-Hasan ibn Haris al-Hububi, a scholar of mathematics and fiqh who lived and worked in Khwarazm in the 10th11th centuries, is a figure about whom we possess very limited information. His mathematical treatises were studied by J.Kh.Ibadov [3, pp. 72-81; 4, pp. 29-31; 5, pp. 118-120].

Among the major thinkers who lived in Central Asia was Fakhr al-Din al-Razi (1149–1209). According to historical sources, he was born in Rayy and, during his youth, came to Khwarazm, where he received his initial education. Later, he travelled to Mecca, Medina, and Baghdad, studied with renowned scholars, then returned to Khwarazm to continue his scholarly work.

Many works of Fakhr al-Din al-Razi have not survived to our time. In the book History of Persian Literature, published in Tehran in 1336/1917, the number of works attributed to Fakhr al-Din al-Razi is stated to be more than thirty.

In the introduction to his work Compendium of the Sciences (جامع علوم الـ) (Jāmiʿ al-ʿUlūm), the scholar writes: "The author of the book is Muhammad ibn ʿUmar Fakhr al-Din al-Razi. When I chose the path of knowledge, I committed myself to it with my intellect, debated and reasoned, and eventually found it necessary to compose this book. Thus, I resolved to write a book under this title. I strove to elucidate difficult and obscure matters. I sought to convey the secrets of several sciences - mathematics, astronomy, medicine, music, chemistry, physics, zoology, history, and botany -to those who pursue them. With this book, I have also guided those who live in ignorance."

The book is divided into sixty chapters, encompassing such fields as arithmetic, geometry, history, music, chess (shatranj), logic, medicine, linguistics, ethics, and many other branches of knowledge.

J.Kh.Ibadov studied the chapters related to the exact sciences through his annotated Uzbek translation [6, pp. 29-31; 7, pp. 118-119].

According to the Iranian orientalist Jalal Humayi, Fakhr al-Din al-Razi wrote the book in the ancient Khwarazmian capital of Gurganj in 1178, dedicating it to Sultan Takash ibn Arslan (1172–1200).

Khwarazmshah Takash was confident of achieving victory in the struggle to secure leadership in the Muslim East and feared no hardships. He continued the policy of his grandfather, Muhammad Khwarazmshah Atsiz (1127–1156), aimed at strengthening and developing Khwarazm.

During the period in which Fakhr al-Din al-Razi lived and worked, political changes took place in the country. Regarding these events, he writes: "From the moment I became interested in knowledge, I devoted myself to nothing else. I worked solely to attain this goal. While writing this book, I even suspended all matters related to my household and directed my full attention to this work. I completed Jāmiʿ al-ʿUlūm within three years in Khwarazm. I wrote this book to benefit the peoples living under the Khwarazmian

kingdom and others. This treatise unveils the secrets of the heart and enlightens the ignorant. Among the books known to people up to now, it is unique."

We shall provide information about the geometry section of Fakhr al-Din al-Razi's encyclopedic work.

The author refers to it as the science of geometry. This part of the treatise consists of three sections, in which the term "origin" (asl, "beginning") is used.

1.He writes: "If we examine the origin of any thing, we will be convinced that it is divided into two parts. For example, let us take a straight line. If we take an arbitrary point on it, that point divides the straight line into two parts. The origin of the matter we are investigating here is the plane. Therefore, we call the given object common to the parts into which it is divided. Similarly, let us examine time.

If we take the present moment in which we live, it connects the past with the future. In other words, the present separates the past from the future and is therefore common to both. It is the end of the past and the beginning of the future. This state is division. If we divide the number four by two, each side receives two. But if we divide an object, quantity, or number into two parts such that one part receives one and the other three, then there is no concept of a middle or a common element. That is, in such a case, there is no notion of the end of one and the beginning of the other."

2. "Origin–Foundation". Here, four types of adjacency—i.e., things that can be connected or attached (origin–foundations)—are described in geometry. These are: the straight line, the surface (plane), the body (solid), and time. The first has one dimension, the second has two, and the third has three. Time is measured by motion.

In this section, al-Razi gives an example to explain the formation of rotational bodies: "If one straight line is equal to another straight line, and one of them is motionless while the other moves around it and returns to its original position, a rotational body is formed".

3. "Origin–Foundation". This section discusses angles and their types, as well as triangles, quadrilaterals, circles, their surfaces, and geometric solids. Regarding this, Fakhr al-Din al-Razi writes: "If two straight lines have two directions, and if we extend them in their directions, they intersect at one point and form an angle. Euclid stated that 'an angle is formed by the gradual bending of two straight lines toward each other.' Shaykh al-Raʾīs Abu Ali Ibn Sina, however, objected to this definition. As evidence, he writes: 'If two straight lines meet perpendicularly, right and equal angles are formed. If they do not meet perpendicularly, then one of the resulting angles

is acute and the other obtuse".

During the Anushtiginid–Khwarezm Shah period—especially under the reign of Muhammad Khwarazmshah—Khwarazm experienced comprehensive development. Crafts, trade, scholarship, culture, and all branches of science flourished; and in major cities, madrasas, mosques, and libraries were built.

In the madrasas, along with religious sciences, mathematics, astronomy, geography, medicine, and similar disciplines were also given great attention. Achievements in the exact sciences were obtained during this period, and administrative, economic, cultural buildings and structures acquired practical significance.

The development of the exact sciences in the Anushteginid–Khwarazmshah state was greatly influenced by the scientific achievements of the Khwarazm Ma'mun Academy, especially by the works of Abu Rayhan al-Biruni. In particular, in the field of astronomy, this tradition was continued by Mahmud Chaghmini.

In the introduction to his treatise al-Mulakhkhas fi al-Hayʾa (الهيئة في الملخص), he states that his name is Mahmud ibn Muhammad ibn ʿUmar al-Chaghmini, and that Chaghmin was a village in Khwarazm [8, p.216]. In research literature, his name is also written as Abu'l-Fadl Mahmud ibn Muhammad ibn ʿUmar al-Chaghmini [9, pp.163]. This information is sufficient evidence for concluding that Chaghmini lived and worked in Khwarazm. According to the manuscript of his al-Mulakhkhas fi al-Hayʾa in the Leiden Library, the year of the scholar's death is recorded as 618/1221 [9, pp.163–175]. This date may have been inserted during the editorial process of the manuscript or by the copyist.

Some biographical information about Mahmud Chaghmini found in sources and studies is mentioned by P. G. Bulgakov in the introduction to his Russian translation of Qadi Zada al-Rumi's commentary on Chaghmini's astronomy, Sharh "al-Mulakhkhas fi al-Hayʾa" (شرح الملخص في الهيئة) [8, pp.7-8]. In his article dedicated to Qadi Zada al-Rumi's Sharh al-Mulakhkhas fi al-Hayʾa [9, p.173], Bulgakov also expressed views about Chaghmini. Based on Chaghmini's scientific heritage, it is indicated that he taught the exact sciences as a mudarris (professor) in the madrasas of the capital Gurganj [9, p.163].

The famous European historian of mathematics, George Sarton (1881–1956), in his Introduction to the History of Science, wrote that Chaghmini authored the following treatises:

1. Calculation by Nines.

2. A Commentary on Methods of Calculation in the Division of Inheritance and that these works are preserved in the Oriental Manuscripts Collection of Princeton University in the United States.

Mahmud al-Chaghmini's Mulakhkhas fi al-Hayʾa ("A Concise Book on Astronomy") is well known. Before writing this treatise, Chaghmini critically studied the works of his predecessors and contemporaries, as well as the translations of Ptolemy's writings. He also conducted long-term observations of the Sun, the Moon, and other planets. We know this from his remarks concerning the use of the astrolabe. The scholar writes the following about his activity in this field: "The content of the treatise is this: nature, earnest desire, and reflection taught me to ponder over various problems". On the other hand, he relies only on the numerical values obtained through measurement. Chaghmini avoided excessive calculations. Since the measurement results and methods achieved by mathematical sciences of that time were familiar to readers, he may have feared that the treatise would become verbose.

In the preface, the scholar writes: "In this treatise, I have tried to express my thoughts as clearly and concisely as possible. I wanted the title to reflect this purpose, and therefore I named it Mulakhkhas fi al-Hayʾa."

The manuscript consists of an introduction and two parts. In the introduction, Chaghmini describes the general state of the classification of celestial bodies.

During the rule of the Khwarazmshahs, particularly in the periods of Sultan Takash and ʿAlaʾ al-Din Muhammad, cultural life flourished. Especially the works of panegyric and epic poets blossomed. One of them was the poet and scholar Rashid al-Din Muhammad al-Umari (1115–1182). Rashid al-Din Vatvat dedicated his book on poetic aesthetics, Khadāʾiq al-Siḥr fī Daqāʾiq al-Shiʿr ("The Magical Gardens of the Subtleties of Poetry"), to Khwarazmshah Atsiz.

Vatvat's collection Rasāʾil ("Epistles") is extremely valuable and consists of two parts:

1. Letters addressed to caliphs, rulers (kings), sultans, viziers, amirs, governors, judges, and muftis.

2. Letters written to scholars, shaykhs, eminent persons, poets, friends, and others.

These materials are of great importance for studying the socio-political, economic, and cultural life of the period.

Sources show that under the Khwarazmshahs there lived great scholars who left a bright mark on science, culture, and social and political life. Among them was al-Hakim ʿAli ibn Muhammad al-Hijazi al-Qaʿni, a distinguished physician and a scholar well-versed in the medical and other sciences. He wrote epistles (rasāʾil) on medical science and practical medicine. His work

Kitāb fī al-Ḥikma ("Book on Wisdom") was dedicated to the just conqueror, Khwarazmshah Atsiz ibn Muhammad [11, 238b].

The philosopher Bahāʾ al-Din Abu Muhammad ʿAbd al-Jabbār ibn Muhammad Sābit ibn Kharaji was one of the learned men of Marw and the author of works on astronomy and logic. Khwarazmshah Atsiz respected Bahāʾ al-Din Kharaji and invited him to Khwarazm. This scholar also wrote books on history.

Amir Zayn al-Din Ismail ibn Hasan was a physician. With his rare works he revived medicine and other sciences. The just conqueror Khwarazmshah ʿAlaʾ al-Din Atsiz showed him great honor for many years. While in Khwarazm, Imam Zayn al-Din wrote the following works:

• al-Ṭibb al-Mulūkī (الـمـلوكـى الـطب) – "Royal Book of Medicine,"

• Kitāb al-Aghrāḍ (الأغـراض كـ تاب) – "Book of Purposes,"

• Kitāb fī Radd al-Falasifa (الـ فلاسـفة رد فـ ي كـ تاب) – "Book in Refutation of the Philosophers,"

• Kitāb Tadbir Yawm wa Layla (وال لـ يـلة يـ ومـ تـ دبـ يـر كـ تاب) – "Book of Daily and Nightly Regimen,"

• Kitāb Wasfnāma (و صـ فـنامة كـ تاب) – "Book of Descriptions," and others.

• Abu Muhammad Mahmud ibn Muhammad ibn Abbas ibn Arslon al-Khwarazmi (1099–1172) was a theologian and historian. He is the author of the treatises Kafi al-Fiqh (افـ قه كـاف ي) and Tarikh Khwarazm (خوارزمـ تـ أريـ خ).

• Mahmud ibn Umar al-Chaghmini al-Khwarazmi was a scholar of astronomy. He authored Al-Mulakhkhas fi al-Hayʾa (الـهـ يـئة فـ ي الـمـلخص). In this treatise, he discussed the space and motion of the planets, solar and lunar eclipses, the causes of earthquakes, the change of seasons, the equality of day and night, and explained the poles, the equator, and meridian lines. The work has been widely commented on by renowned astronomers. One of the commentaries was written by Salah al-Din Musa ibn Mahmud Qazizadah al-Rumi, several copies of which are preserved in the manuscript collection (item no. 7761/III) of the Institute of Oriental Studies named after Abu Rayhan Beruni, Academy of Sciences of the Republic of Uzbekistan. This work will be discussed further below.

• Zurullāh Abu al-Qasim Mahmud ibn Umar ibn Muhammad al-Zamakhshari (1075–1144) was a scholar in grammar (nahw) and lexicography, and he became a master of Arab and Persian scholars. He also received the titles an-Nahwi wa al-Lughawi. He authored numerous treatises on rhetoric, stylistics, astronomy, and other sciences [12, 321–328; 12, 392–393].

• Among Mahmud al-Zamakhshari's notable works are: Muqaddimat al-Adab (الأدب مقدمة), Asas al-Balaghah (الـ بلاغةا ساس, "Foundations of Eloquence"), Faiq al-Lughah (الـ لغةفائـق, "The Best of Dictionaries"), Atwaq al-Zahab (الـ ذهب أطـباق, "Layers of Gold"), and the Quranic exegesis Al-Kashshaf (الـ كشاف). These works hold great significance.

• According to Shahab al-Din Nasawi, Siraj al-Din Ya'qub al-Sakkoki had profound knowledge of astronomy. He wrote works in all fields of science. Sultan ʿAlaʾ al-Din Muhammad and his mother, Turkan Khatun, highly respected Sakkoki.

• Abdul-Karim ibn Muhammad ibn Mansur Abu Sa'id ibn Abu-Muzaffar al-Marwazi al-Samani (d. 1167) was one of the prominent scholars, writers, and historians of Marw. He traveled extensively and authored Kitab al-Ansab ("History of Lineages") and Hayli Tarikh Baghdad ("The Extensive History of Baghdad") [14, 98b].

• Majid al-Din Nasawi composed the Shahanshahnama (نـامه شهاد شاه) in Persian, dedicated to Khwarazmshah ʿAlaʾ al-Din Muhammad.

• Shahab al-Din Nasawi was a poet, historian, and state official. He served as secretary (munshi) in the court of Khwarazmshah Sultan Jalal al-Din Manguberdi and sometimes acted as the sultan's envoy to other states to resolve governmental affairs. He compiled letters and documents sent by the sultan to kings and rulers and authored the treatise Sirat Sultan Jalal al-Din (الـ ديـن جلال سـلطان سـيرة) [15, 345b].

In conclusion, it can be said that under the Anushteginid Khwarazmshah dynasty, scholars were active in various fields of knowledge. In this state, scientific research covered philology (literature and grammar), philosophy, theology, jurisprudence, natural sciences, agriculture, medicine, mathematics, and astronomy, as well as architecture, hydraulic engineering (dams, canals, qanats), shipbuilding, metallurgy, and various crafts (goldsmithing, coppersmithing, pottery, leatherworking, etc.) - both theoretical and practical aspects. Khwarazmshah Atsiz focused on expanding the territory of the state and, in particular, developing trade with Eastern and Western countries. Ensuring the safety of Great Silk Road caravans further increased the flow of foreign merchants to Gurganj, and the markets were filled with imported goods. Khwarazm exported vast quantities of raw materials and valuable goods to global markets. All of this was accomplished due to the state's independence. In the Khwarazmshah palaces, representatives of various nations—including Turks, Iranians, Indians, Chinese, and Slavs—worked and contributed. The interaction of these cultures created conditions for the flourishing development of science and scholarship in Khwarazm.

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