THE GREAT SCHOLARS OF IX-XII CENTURIES IN MOVARAUNNAHR AND KHURASAN.

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ANNOTATION: The article deals with the great scholars of the IX-XII centuries in Movarounnahr and Khurasan, highlighting their immense contributions to intellectual and scholarly pursuits during this period. These scholars, hailing from diverse fields such as philosophy, theology, mathematics, and astronomy, played a pivotal role in shaping the intellectual landscape of the Islamic world. Their works not only preserved knowledge from ancient civilizations but also laid the foundation for future developments in various disciplines. The enduring legacy of these scholars continues to inspire modern scholarship and serves as a testament to the vibrant intellectual heritage of Movarounnahr and Khurasan in the medieval era.

KEY WORDS: intellectual pursuits, philosophy, theology, mathematics, astronomy, Al-Farobiy, Al-Beruniy ,Avitsenna, Umar Xayyom, Nasir al-Din al-Tusi.

INTRODUCTION: The IX-XII centuries in Movarounnahr and Khurasan were a golden age of intellectual pursuits, where great scholars made significant contributions to various fields such as philosophy, theology, mathematics, and astronomy. These scholars not only advanced knowledge in their respective disciplines but also played a crucial role in preserving the heritage of ancient wisdom and laying the foundation for future developments. Their enduring legacy continues to inspire modern scholarship and highlights the vibrant intellectual heritage of the region. Abu Nasr Muhammad al-Farobiy**:** Al-Farabi, also known as Alpharabius in Latin, was a renowned Islamic philosopher, scientist, and musician who lived in the 9th and 10th centuries. He was born in the city of Farab in present-day Kazakhstan, which was part of the Persian-speaking region known as Khurasan. Al-Farabi is often referred to as the "Second Teacher" (Aristotle being the first) due to his profound knowledge of Aristotelian philosophy and his contributions to the field of logic. Al-Farabi made significant advancements in various areas of philosophy, including metaphysics, political theory, ethics, and logic. He wrote extensively on Aristotle's works and sought to reconcile Greek philosophy with Islamic thought. Al-Farabi's philosophical ideas

were influential in shaping Islamic intellectual traditions and had a lasting impact on later Muslim philosophers.One of Al-Farabi's most famous works is "The Book of Letters," where he discusses the philosophical significance of the Arabic alphabet and its connection to logic and metaphysics. He also wrote treatises on music theory, where he explored the relationship between music, mathematics, and the human soul.Al-Farabi's legacy extends beyond philosophy to include contributions to science, particularly in the fields of astronomy and mathematics. He made important advancements in the study of optics and wrote treatises on astronomy that influenced later scholars. During the 70-80s of the 20th century, Al-Farabi was famous for the following works among the philosophical writings of Forobiy written in Tashkent and Almaty: "The Meaning and Emergence of Philosophy","Introduction to Logic", "Introduction to the Science of Logic", "On the Emergence of Sciences", "Great Book on Music","On Achieving Happiness","The Essence of Problems", "Ethics", "Meanings of Wisdom","On Reason", "The Virtue of Sciences and Arts","Book on Laws","Discussion on Substance","On the Perpetuity of Celestial Motion","On Poetry and Rhymes", "Book on Rhetoric", "Discussion on Quantity and Measure", "On Music", "Book on Physical Methods","Virtuous Qualities", "Thoughts of the Virtuous City's Population", "On the Origin of Bodies and Accidents",“On the Purpose of Aristotle's Book "Metaphysics". These works are considered important philosophical writings that encompass Al-Farabi's philosophical ideas, logical issues, mathematical concepts, social and ethical problems, and research. These works have greatly contributed to the development of Uzbek philosophy and have been a significant aid in studying the disciplines of philosophy.

Al-Beruni was probably the greatest and certainly one of the earliest. He was born in 973 A.D. in a village outside the city of Khwarizm or Khiva in Central Asia, what is now Uzbekistan. The full name by which he is known in history is Abu Raihan Muhammad bin Ahmad Al-Beruni. In those days Khwarizm was a big city with a large number of villages around it. As Abu Raihan did not belong to the city proper but came from one of these villages, he came to be known as Al-Beruni which means "the outsider". The province of which this city was the chief town was also called Khwarizm. It is a beautiful region in Central Asia and is watered by the river Oxus and the smaller streams which flow into it. Its soil is rich and the rainfall is plenty. It is, therefore, covered with large forests and wide grasslands. In the days of Al-Beruni and for many years after that it had a large population. It was full of villages and little towns and most of the inhabitants were fairly well off. Almost all villages and little towns and most of the inhabitants were fairly well off. Almost all villages had little markets of their own where one could buy all that one needed.It is a matter of great regret what we know next to nothing about the childhood of Al-Beruni. We have no information about his parents beyond the fact that his father's name was Ahmad. When Al-Beruni

grew up, he became a great author and wrote a large number of books. But in none of them has he told us anything about his boyhood or about his family. Perhaps, this was due to the fact that he wrote largely on scientific subjects in which there was little occasion to talk about himself. It is, however, almost certain that he did not belong to a rich or well-known family. An unfriendly poet once wrote a poem once wrote a poem finding fault with his forefathers. Al-Beruni replied by saying that a man's merit must not be judged by his birth but by his personal qualities. It appears that Al-Beruni spent the first twenty-three years of his life at Khwarizm. We are quite certain that during this period, he led a comfortable life through the generosity of his teacher and the members of the ruling family. But about that time, the House of Iraq was overtaken by slings and arrows of outrageous misfortune and its last ruler, Abu Abdullah was put to death by a neighboring chieftain, Mansur bin Muhammad. Al-Beruni was then obliged to bid farewell to the land of his birth. He spent some time in wandering about from place to place and at last came to Rayy. His condition was then pitiable. He was in a strange city without money of friends. He must have been reduced to extreme poverty, as may be judged from certain verses of an old poem in which he says:*"An old has said that a man's worth depends upon two little things, his heart and his tongue. I find from experience that a man's worth depends upon two pieces of silver. If a man has no glittering coins in his pocket, nobody pays heed to him, not even his wife."* To stress the same point, Al-Beruni adds the following story:*"While I was staying at Rayy, I went to see a person who was considered at that time to be the greatest scholar of astrology. On a certain problem, I expressed a difference of opinion with him. He felt so offended that he was rude to me and used improper language, although in knowledge he was far inferior to me. He was rude chiefly because at that time I was in a miserable condition for want of money. Later, when my condition improved, the same person began to seek my friendship.* In 1029 A.D., Al-beruni returned to Ghazna. He used the results of his Indian studies to write his second great work, the *Kitab-Ul-Hind*. About 30 years earlier, he had written his first great work, *Asar Al-Baqiya* which we have already mentioned. Al-Beruni was a pioneer in these fields. In the field of Astronomy, he named various stars and studied in depth their orbital movements. Moreover, he minutely studied the solar system and after some calculations gave scientific reasons for days or nights getting longer or shorter; absence of night in some parts of the world; change of seasons; waxing and waning of moon. Al-Beruni explained the difficult subjects of Astrology in easy language in the form of questions and answers. For this subject, he mainly relied on old Greek books, Hindu religion and some verses of the Holy Quran. He could piece together various events and foretell the future with remarkable accuracy. A few simple scientific facts which he was the first to discover are mentioned here. Al-Beruni explained the working of natural springs by the principle that water keeps its level. From the observation of the stones and layers of the

earth in the Indus Valley, he arrived at the correct conclusion that it was an ancient sea basin. He found the latitudes and longitudes of a number of important towns and discussed intelligently the problem of the earth's rotation on its axis. He also discovered that light travels faster then sound. It was Abu Raihan Al-Beruni who gave methods for drawing on paper, which has a plane surface, maps of portions of the earth which has a curved surface. He found with great exactness the specific weights of 18 precious stones and metals. He also recorded the densities of various metals, liquids and gems. Al-Beruni's calculation of the circumference of the earth was only 80 miles off from the modern measurement (i.e. 1/5 of 1%). He also discovered an Astrolabe, an instrument used for measurement of celestial bodies and as an aid in navigation. Ibn Sina, also known as Avicenna, was a Persian physician and philosopher who lived during the Islamic age.He was born in the city of Bukhara, Uzbekistan, and died in Hamadan, Iran. Ibn Sina’s father, a high official, and scholar gave his son solid theological training in Arabic grammar and natural sciences. Ibn Sina was a gifted student and he went on to study medicine from an early age.At the age of 18, he already mastered the Greek physician Galen and began to develop his medical theories. In addition to medical research, Ibn Sina had a keen interest in philosophy and wrote extensively on a wide range of subjects including metaphysics, ethics, and logic.His philosophical writings, written in Arabic and Persian, have had a profound impact on the Islamic world and beyond. Ibn Sina was also a prolific author of treatises, his most famous work being his five-volume Medicine, which was used as a textbook for years in schools of medicine in the Islamic world and Europe.In addition to his contributions to medicine and philosophy, Ibn Sina was an important figure in the development of Islamic theology and jurisprudence. He has written extensively on Islamic theology and is known for attempting to reconcile Islamic beliefs with Greek philosophy. Ibn Sina is widely regarded as one of the most important figures in the history of medicine and philosophy. 1.Al-Qanun fi al-Tibb (The Canon of Medicine)This is Ibn Sina’s most famous work and is considered one of his most important medical books in history. Canon of Medicine is a comprehensive medical encyclopedia covering subjects such as anatomy, physiology, pathology, pharmacology, and medical ethics. 2. Al-Shifa (The Book of Healing)This is Ibn Sina’s philosophical masterpiece and is considered one of his most important works of Islamic philosophy. Healing books cover subjects such as logic, metaphysics, ethics, and theology. 3. Al-Ilahiyyat min al-Shifa (The Metaphysics of the Healing)This is a section of the healing book with a special focus on metaphysics, including the nature of God, the soul, and the universe. 4. Kitab al-Najat (The Book of Salvation)It is a philosophical and theological work that explores the nature of God, the human soul, and the afterlife. 5.

Kitab al-Hikmah (Book of Knowledge)This is a collection of Ibn Sina's philosophical and scientific writings covering subjects such as logic, metaphysics, astronomy, and physics.6. Kitab al-Shifa (The Book of the Cure)This is a collection of short works by Ibn Sina, including essays on logic, metaphysics, and theology Omar Khayyam was a Persian mathematician, astronomer, poet, and philosopher best known for his remarkable contributions across various disciplines. It is no surprise that Omar Khayyam, a name that echoes throughout history as a polymath of unparalleled genius, emerges as one of the greatest minds of all time. Born in the historical city of Nishapur, Omar Khayyam's life was woven with threads of mathematics, poetry, and philosophy. Khayyam wrote little, but his works—some fourteen treatises identified to date—were remarkable. They can be categorized primarily in three genres: mathematics, philosophy, and poetry. His philosophical works which have been edited and published recently are:"A Translation of Ibn Sīnā's (Avicenna's) *Lucid Discourse*" (*Khutbah al-ghurra' Ibn Sīnā*) (Aminrazavi, 2007, 303–317.)"On Being and Necessity" (*Risālah fī'l-kawn wa'l-taklīf*) (Aminrazavi, 2007, 321-342)"On the Necessity of Contradiction in the World, Determinism and Subsistence" (*Ḍarurat al-taḍād fi'l-'ālam wa'l-jabr wa'l-baqā'*) (Aminrazavi, 2007, 344–368)"The Light of the Intellect on the Subject of Universal Knowledge" (*Risālah al-ḍiyā' al-'aqlī fī mawḍū' al-'ilm al-kullī*) . This treatise has also been called "The Treatise on Transcendence in Existence" (*Al-Risālah al-ūlā fi'l-wujūd*)."On the Knowledge of the Universals Principles of Existence" (*Risālah dar 'ilm kulliyāt-i wujūd*)."On Existence" (*Risālah fi'l-wujūd*)[4]"Response to Three Philosophical Problems" (*Risālah jawābān līthulth masā'il*) (Mālik (ed.).Except the first work mentioned above which is a free translation and commentary on a discourse by Ibn Sīnā, the other six philosophical treatises represent Khayyam's own independent philosophical views. It is noteworthy that Khayyam's philosophical treatises were written in the Peripatetic tradition at a time when philosophy in general and rationalism in particular was under attack by orthodox Muslim jurists—so much that Khayyam had to defend himself against the charge of "being a philosopher." "A philosopher I am," my enemies falsely say,
But God knows I am not what they say;
While in this sorrow-laden nook, I reside
Need to know who I am, and why Here stay. (translation by the author.)In "On Being and Necessity", Khayyam defines "philosophy" along the Peripatetic line: "The essential and real issues that are discussed in philosophy are three, [first], 'is it?'…second, 'what is it?'…third, 'why is it?'" (Mālik (ed.), 335). While these are standard Aristotelian questions, for Khayyam they have a wider range of philosophical implications, especially with regard to the following topics:
1.The existence of God, His attributes and knowledge
2.Gradation of being and the problem of multiplicity

3.Eschatology
4.Theodicy
5.Determinism and free will
6.Subjects and predicates
7.Existence and essence

In several respects Khayyam's mathematical writings are similar to his texts in other genres: they are relatively few in number, but deal with well-chosen topics and carry deep implications. Some of his mathematics relates in passing to philosophical matters (in particular, reasoning from postulates and definitions), but his most significant work deals with issues internal to mathematics and in particular the boundary between geometry and algebra. Nasir al-Din al-Tusi (1201-1274) was a prominent Persian polymath, philosopher, mathematician, astronomer, and theologian who made significant contributions to various fields of knowledge during the Islamic Golden Age. He played a crucial role in the development of Persian and Islamic intellectual traditions.Some of his notable works include: "Tajrid al-I'tiqad" (The Sum of Beliefs) - This work discusses Islamic theology and philosophy, including topics such as the existence of God, prophecy, and the nature of the soul."Akhlaq-i Nasiri" (Nasirean Ethics) - A treatise on ethics and moral philosophy, drawing on both Islamic and Greek philosophical traditions."Tahrir al-Majisti" (Commentary on Ptolemy's Almagest) - A comprehensive commentary on Ptolemy's astronomical work, which includes Tusi's own refinements and corrections to the model."Zij-i Ilkhani" - A major astronomical handbook that served as a model for later Islamic astronomers."Risala fi l-Hay'a" (Treatise on Astronomy) - A work on theoretical astronomy that discusses topics such as the motion of celestial bodies and the structure of the universe."Akhlaq-i Muhsini" - Another work on ethics and moral philosophy, focusing on the virtues and vices of human behavior. "Kitab al-Shakl al-Qatta" (The Quadrilateral Figure) - A mathematical treatise that introduced the concept of the plane with four points not lying in the same plane, a precursor to projective geometry.

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