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THE CLASSIFICATION OF SCIENCES IN THE PHILOSOPHICAL VIEWS OF ABU RAYHAN AL-BIRUNI AND ABU ALI IBN SINA

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Abstract
This text explores Ibn Sina's classification of sciences and his understanding of human practical activity, which he explains as developing along three main directions. It highlights Ibn Sina's method of evaluating sciences based on their connection to human behavior, existence, and their practical significance in daily life. The discussion further emphasizes the respect given to prominent Muslim scholars of the 10th and 11th centuries—such as Muhammad Khwarizmi, al-Farabi, Ibn Sina, and al-Biruni—whose contributions significantly influenced both Eastern and Western intellectual traditions. The annotation also covers al-Biruni's scientific legacy in social sciences, affirming his status as a great medieval naturalist and philosopher who made lasting contributions to philosophy, history, and philology. The enduring philosophical views of these scholars on the coexistence of religion and philosophy are noted, particularly their rational approach to faith and divine existence.

Keywords: Ibn Sina, Al-Biruni, Classification of sciences, Ethics, Central Asia, Renaissance, Geology.

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Introduction

The name of Abu Rayhan Muhammad ibn Ahmad al-Biruni al-Khwarizmi is widely renowned in both world history and Islamic intellectual tradition. In Arabic texts, his name and honorific are often recorded as Abu Rayhan al-Biruni al-Khwarizmi, while among Iranians he is popularly known as Abu Raykhani or Bu Rayhan. In Latin sources and among European scholars, he is referred to as Al-Biruni, a pronunciation that has also become standard in contemporary global academia.

Al-Biruni deeply studied the intellectual traditions of Central Asia, India, the Arab world, and Ancient Greece. He authored numerous unique works dedicated to the construction and use of astronomical and geodetic instruments. His writings span a broad range of disciplines, including astronomy, mathematics, geodesy, geography, cartography, climatology, history, ethnography, religious studies, philosophy, literature, and other fields.

In the introduction to his work Tahdid Nihayat al-Amakin li-Tashih Masafat al-Masakin ("Determining the Ultimate Limits of Places for Verifying the Distances Between Settlements"), al-Biruni discusses the origins of various fields of knowledge. He arrives at a conclusion that applies equally to both the natural and social sciences—a conclusion remarkable for his time and worthy of admiration. He writes:

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Methods and analysis of literatures

Al-Biruni believed that the scholar's duty was to serve science selflessly, and that the role of science was to meet human needs. In his words:

"The value of science lies not in acquiring gold and silver, but in obtaining what is necessary through its help".

According to al-Biruni, regardless of the field in which a scholar works, they must be a philosopher and possess sufficient knowledge of all branches of science. He stressed the importance of this requirement for all scientists. In his work Geodesy, he writes in support of this view.

Although al-Biruni did not leave behind a single, dedicated treatise outlining a comprehensive philosophical system, his major works are infused with philosophical thought that allows us to understand his worldview. His discussions with Ibn Sina (Avicenna), the first book of al-Qanun al-Mas'udi ("The Mas'udi Canon"), the introductions to al-Asar al-Baqiya ("The Remaining Signs of Past Centuries") and Mineralogy, contain insights into his philosophy of nature. On the conflict between science and religion, valuable content can be found in Geodesy, al-Asar al-Baqiya, and particularly in specific sections of Kitab fi Tahqiq ma li'l-Hind ("The Book Confirming What is in India")[1.80]

A Brief Overview of al-Biruni's Contributions to the Social Sciences and the Legacy of Ibn Sina even a brief review of Abu Rayhan al-Biruni's scientific legacy in the field of social sciences is enough to acknowledge that, in addition to being a great natural scientist of the medieval world, he also ranks among the most prominent scholars in three major areas essential to medieval thought: philosophy, history, and philology. His research is not only valuable for the science of his time but also holds significant relevance for modern science in certain areas[2;82].

Discussion and Results

Al-Biruni's exceptional intellectual capacity distinguishes him as a rare and extraordinary figure in the history of science. Even today, his intellectual brilliance places him alongside the leading scientists of the most advanced countries. His distinguished contributions across various scientific disciplines are truly astonishing. If we call him an astronomer, both French and Arab astronomers recognize him as one of the finest. In geology, modern geologists regard him as a top-tier geologist. As a historian, he carried out deep and meticulous research with great attention to detail. Al-Biruni was a scholar capable of exploring all fields of knowledge through observation, inquiry, and experimentation.

Abu Ali Ibn Sina (Avicenna), another genius thinker acknowledged during his time and beyond as a towering figure in human intellectual history, made extraordinary contributions to all fields of medieval science. He conducted groundbreaking research in medicine and psychology, mathematics and astronomy, physics and chemistry, logic and philosophy, geology and zoology, as well as numerous other disciplines[3;81].

Across centuries, Ibn Sina's scientific ideas have gained even greater importance, continuing to attract the attention of researchers due to their profound content and enduring relevance. His works testify not only to his mastery of the natural, mathematical, and other sciences, but also to his significant role in their advancement. Because of the remarkable scientific achievements that

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placed him far ahead of his contemporaries, Ibn Sina is rightfully recognized as a genius of Eastern scientific thought.

Ibn Sina's spiritual legacy has been widely studied not only in the Muslim East but also in the West, and his works have been translated into various languages. Significant bibliographic works have been created in the study of Ibn Sina's contributions. In some works dedicated to medieval scholars, specific sections have been devoted to Ibn Sina, where valuable information about him is presented. For example, the German scholar K. Brockelmann's History of Arabic Literature can be cited in this regard.

In 1937, a collection titled Ibn Sina was published in Istanbul. It included diverse articles on the great scholar's life, philosophical views, and his medical and literary heritage. Among Turkish scholars, Osman Ergin published a catalog of Ibn Sina's works preserved in Turkish libraries[4;22].

Ibn Sina's legacy has also been thoroughly studied by Arab scholar J. Sh. Qanawati, Iranian scholars Yahya Mahdavi and Said Nafisi, and Russian scholars such as I. Yu. Krachkovsky, A. Yu. Yakubovsky, Ye. E. Bertels, A. Ya. Borisov, A. A. Semyonov, T. I. Raynov, P. M. Faktorovich, P. G. Bulgakov, V. N. Ternovsky, A. K. Arends, M. A. Sale, Yu. N. Zavadovsky, B. E. Bykhovsky, A. Bogoutdinov, S. N. Grigoryan, and many other experts.

Azerbaijani scholars have also studied Ibn Sina's scientific heritage. In recent times, works by A. K. Zakuev such as The Life and Activity of Ibn Sina, Some Materialistic Tendencies in Ibn Sina's Psychological Teachings, and The Psychology of Ibn Sina have been published. Baku-based philosopher A. O. Makovelsky has discussed Ibn Sina's philosophical legacy[5;34]. M. E. Efendiyev, in his articles like Some Views of Ibn Sina on Healthcare, has reached noteworthy conclusions about Ibn Sina's genius.

In the study of Ibn Sina's socio-philosophical ideas, the outstanding scholar I. M. Mo'minov played an invaluable role. For many years, he led research on Ibn Sina's work. Under his direct supervision and editorship, a collection titled On the History of Socio-Philosophical Thought in Uzbekistan was published in Russian in 1957. A significant portion of this collection was devoted to Ibn Sina. Shortly thereafter, a similar collection was published in Uzbek under Mo'minov's editorship. These collections featured not only Ibn Sina's well-known works but also excerpts from his previously unknown major writings. By 1976, an expanded version of this collection was also published[6;345]. I. Mo'minov wrote the foreword to these collections.

Among our philosophers, V. Y. Zohidov authored the work Three Titans, about Farabi, Beruni, and Ibn Sina. The chapter titled The Great Scholar and Physician is especially notable for being dedicated to Ibn Sina's creative legacy, his socio-political and philosophical ideas.

M. M. Khayrullayev's works are also noteworthy in the study of Ibn Sina's scientific legacy. His work related to the Renaissance period[7;456], prepared for publication by the Academy's Institute of Philosophy and Law under the title Sketches on the History of Social and Philosophical Thought in Uzbekistan, revealed new aspects of Ibn Sina's life, activities, scientific heritage, ontology, classification of knowledge, and, more broadly, the worldviews of the great scholar.

The articles by A. Sharipov on the philosophical correspondence between Ibn Sina and al-Biruni are particularly noteworthy. His articles such as Largely Unknown Pages of the Correspondence between al-Biruni and Ibn Sina and Philosophical Correspondence between al-Biruni and Ibn

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Sina shed light on the questions and answers exchanged between these two great scholars. Through these writings, it becomes possible to understand the issues that interested scholars of that era and to grasp the scope of their thoughts.

In the study of Ibn Sina's socio-philosophical and scientific legacy, the works of M. M. Khayrullaev, O. Fayzullaev, R. N. Nosirov, M. Baratov, A. Zoxidov, A. B. Jumaev, M. O. Usmonov, and D. E. Fayzikhodjaeva deserve mention.

Foreign scholars have also written numerous books about Ibn Sina and his scientific heritage. Arab philosophers such as Jamil Salibo, Muhammad Usman Najoti, Albert Nasri Nadir [8;112], Taysir Shaykh al-Ard [9;345], and Hamuda Gharoba, as well as Iranian scholars like A. Zulmajid and Muhammad Shahvardiy, have published works on Ibn Sina. Other groups of scholars have documented the scientific and philosophical legacy of the great scholar in their own works dedicated to his life and creativity.

Ibn Sina classified the sciences and defined their functions. Accordingly, in his classification of the sciences, we observe his views on existence and its modes of manifestation. In the theological section of his Canon of Medicine (Donishnoma), Ibn Sina pays particular attention to the sciences and their distinctions. At this point, he first provides a classification of the sciences. Afterward, he discusses the existence of the classified sciences. Specifically, Ibn Sina categorizes the sciences and shares his views on their existence.

The first section concerns several philosophical sciences.

Within every science, there is something that indicates its state. These things are of two types:

The first type is dependent on our actions.

The second type is independent of our actions.

An example of the first type is our deeds, while examples of the second type include the Earth, the Heavens, animals, and plants.

Thus, philosophical sciences are divided into two kinds:

One kind informs us about our actions and is called practical science. Its purpose is to guide us in conducting our affairs correctly in this world and knowing what to do to hope for the Hereafter.

The other kind informs us about the state of the existence of things so that our soul can find its reflection in them and be happy in the Hereafter, just as it is properly reflected. This is called theoretical science.

Each of these two sciences has three aspects.

Practical science is divided into three types:

The first is the science of governing the public. This is a means by which people maintain order and harmony in society. It is of two kinds: one pertains to Sharia (Islamic law), and the other relates to politics. The former is the foundation, while the latter is like its branches and subdivisions.

The second type is the science of managing the family. This is a means of regulating relationships within the family, such as those between husband and wife, father and son, master and servant.

The third type is the science of the self, which concerns how a person's character and personality ought to be.Thus, human affairs are understood either in relation to oneself alone, in participation with others, or within the context of family and fellow citizens. Accordingly, practical science is threefold: the science of governing the city, the science of managing the family, and the science of self-governance.

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Explanation: When Ibn Sina classifies the sciences, he focuses on their characteristics. According to Ibn Sina, knowledge clearly differs in two ways: it can be either practical or theoretical. As mentioned above, this distinction depends on whether the existence of the science is related to our actions or its essence. If our actions play the primary role in the existence of knowledge — that is, if through our own initiative we create or realize something — then this knowledge arises from our practical activities and is called practical science.

The theoretical science in Ibn Sina's classification differs slightly from that of other philosophers. Specifically, the philosopher understands theoretical science as independent of human actions. That is, these sciences exist according to certain laws governing the surrounding reality. They manifest as knowledge even without human influence, and this is what is called theoretical science. This aspect is especially evident in Ibn Sina's classification of the sciences, where he properly evaluates existence and its influence and draws conclusions accordingly.

Ibn Sina carefully explains these two types of knowledge. For example, he demonstrates the threefold nature of practical science in human activity. The first is the science of governing the public, where a person has the knowledge, skills, and experience to govern a community beyond oneself. The second is the science of managing the family, where one has the ability and expertise to manage one's own household on a smaller scale than society at large. The third is the science of self-governance, where a person possesses knowledge to manage and regulate their own self and character.

Thus, Ibn Sina explains and clarifies that a person's practical actions generally develop in three main directions.

When classifying the sciences, Ibn Sina first examines how a given science corresponds to human activity and behavior, as well as its relation to existence. After that, the importance of the science and its relevance to human life are assessed. Once the purpose and objectives are clearly defined, Ibn Sina explains the external aspects of this knowledge—its existence as perceived from the outside and its practical benefits for people.

Conclusions and advises

The fact that the names of Muslim Eastern scholars and thinkers of the second half of the 10th century and the 11th century—such as Muhammad Khwarizmi, Ahmad Farghani, al-Farabi, Ibn Sina, al-Biruni, Abdullah Khwarizmi, and others—are mentioned with great respect in the works of both Eastern and Western scholars is certainly not without reason.

Moreover, a brief overview of al-Biruni's scientific legacy in the social sciences alone highlights his stature as a great natural scientist of the medieval world. It also fully justifies including him among the renowned scholars who left a deep mark in the three fundamental social sciences of the Middle Ages—philosophy, history, and philology. Worldwide, the philosophical views of such geniuses and their perspectives on Islamic philosophy have had a lasting influence. For example, Abu Nasr al-Farabi and Ibn Sina believed that the existence of God, His eternal power, and faith in Him remained within the bounds of rational discourse. They believed in the possibility of coexistence between religion and philosophy, and as a result, their conclusions aligned with religious and legal (Sharia) requirements.

At the same time, it is undeniable that when these thinkers sought to reconcile religion, Sharia, and philosophy, they did so influenced by the political and ideological circumstances of their

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time, taking into account the dominant position of Sharia and Sufism.In any case, the emergence of rational currents opposed to religion during the second half of the 8th century and the first half of the 10th century, as a result of the rapid development of secular knowledge, became one of the most important phenomena in the conflict between revelation and reason. In this context, al-Farabi's treatise On the Intellect, which focuses on cognition, logic, and reason, and addresses his teachings about human nature, became a significant event.

The prominent scholar of Eastern philosophy and literature, Ye. E. Bertels, explains that the conditions for the development of secular knowledge were created not only by socio-political factors but also by the continuous struggle of peoples oppressed by the Arabs against their conquerors[10;168].

Certainly, socio-political factors played an important role in societal progress. However, in al-Farabi's era, alongside other social and cultural conditions, there was also a scientific and cultural rapprochement among different peoples. Many books by thinkers such as Plato, Aristotle, Galen, Euclid, Ptolemy, and others on medicine, mathematics, astronomy, logic, psychology, and other sciences were translated into Hindi, Persian, Arabic, and Greek. Translation efforts received great attention during the reigns of the caliphs al-Mansur (754–776), Harun al-Rashid (786–809), and al-Ma'mun (813–833). This had a positive impact on the development of philosophy and logic.

Overall, the role of our great scholars and thinkers in medieval philosophy was distinguished by its unique characteristics.

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