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**MICROCOSM AS OMAR KHAYYAM'S PHILOSOPHY**

The oeuvre of the great scientist, poet, philosopher, mathematician, astronomer, astrologer Omar Khayyam arouses the enduring interest of researchers. Each direction of science is aimed at the cognition of the world, to which the oriental sage has devoted his life to solving the mystery.

The purpose of the article is to analyze the scientific, philosophical and literary heritage of the scientist, his educational contribution to the world's cultural treasury. The authors determine the place and role of the creative heritage of Omar Khayyam in the modern world by investigating historical sources which describe facts about the life and work of a scientist.

The article contains a multi-level research concept, and they are not reducible to simplified schemes of the scientist's life and career. Studying the multidimensionality of the phenomenon of Omar Khayyam in literature, history, philosophical and his educational tractates, the authors of this article note the multipolarity of scientific approaches and interpretations of the Rubaiat. The personality of Omar Khayyam ranks with the great names of Rudaki, Ferdowsi, Sanai, Jami, Saadi, Hafiz, Rumi and other philosophers. He was called as the most educated person of the century, a connoisseur of truth, the king of philosophers of the East and West.

The authors also analyze the original writing style of Omar Khayyam, filled with "pessimistic" humor, cosmic meaning, and also analyze texts reflecting the life and creative changes in the fate of the poet. For many centuries, he was known as a famous mathematician, astronomer and physicist, but only in the XIX century the publication of European translations of his poetic lines really made him a world's famous writer.

**Key words:** "rubai", philosophical sense, treatise, poet-philosopher, functional poetry.

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**Омар Хайям философиясының әлем кеңістігіндегі орны**

Шығыстың ұлы ғалымы, ақын, математик, астроном, астролог Омар Хайямның шығармашылығына деген зерттеушілердің қызығушылықтары қашанда толастамаған. Шығыс ғалымы бар өмірін ғылымның әр саласын зерттеуде әлемдік таным мен оның құпияларын зерттеуге арнаған.

Мақаланың мақсаты – ғалымның ғылыми-философиялық және әдеби мұрағатын, оның әлемдік мәдениет қазынасына қосқан үлесін талдау. Тарихи мұраларды зерттей отырып ғалымның өмірі мен шығармашылық мұрағатын дәлелдейтін фактілерді негізге алған авторлар оның қазіргі заманда алатын орнын талдайды. Мақалада ғалымның өмірі мен шығармашылығын сипаттайтын мәліметтерден тыс бірнеше деңгейден тұратын күрделі зерттеу концептілері қарастырылған. Авторлар Омар Хайямның жан-жақтылық ерекшеліктерін сараптай отырып ғалымның әдебиеттегі, тарихтағы, философиялық және ғылыми ағартушылық трактаттары мен рубайяттарына деген ғылыми көзқарасын атап өткен. Омар Хайям тұлғасы ұлы Рудаки, Фирдоуси, Санай, Джами, Саади, Хафиза, Руми сияқты сөз шеберлерімен бір қатарда тұр. Омар Хайямды ғасыр ғалымы, ақиқаттың білгірі, Шығыс пен Батыс философтарының патшасы деп атаған.

Авторлар тек Омар Хайямға ғана тән "пессимистік" әзіл-сықақ пен оның кеңістік ой-сезімін зерттей отырып, ақынның өмірлік және шығармашылық тағдырының түрлі кезеңдерін талдайды.

Талай ғасырлар бойы атакты математик, астроном, физик ретінде танымал болып келген Омар Хайямның аты XIX ғасырда Европада аударылған әдеби шығармалары мен өлеңдері арқылы әлемге әйгілі болды.

**Түйін сөздер:** «рубай», философиялық мағынасы, трактат, ақын-философ, функционалдық поэзия.

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### Микрокосм как философия Омара Хайяма

Творчество великого ученого, поэта, философа, математика, астронома, астролога Омара Хайяма вызывает непреходящий интерес исследователей. Каждое направление науки нацелено на познание мира, разгадке тайны которого посвятил свою жизнь восточный мудрец.

Цель статьи – анализ научно-философского и литературного наследия ученого, его просветительского вклада в мировую сокровищницу культуры. Исследуя исторические источники, описывающие факты о жизни и творчестве ученого, авторы определяют место и роль творческого наследия Омара Хайяма в современном мире.

Статья содержит многоуровневый исследовательский концепт, несводимый к упрощенным схемам жизненного и творческого пути ученого. Изучая многоаспектность феномена Омара Хайяма в литературе, истории, философские и научно-просветительские трактаты ученого, авторы отмечают многополярность научных подходов и трактовок рубайята. Личность Омара Хайяма стоит в одном ряду с великими именами Рудаки, Фирдоуси, Санаи, Джамии, Саади, Хафиза, Руми и другими мастерами слова. Его называли ученым мужем века, знатоком истины, царем философов Востока и Запада.

Авторы также проводят анализ оригинального стиля письма Омара Хайяма, наполненного «пессимистическим» юмором, космическим смыслом, а также анализируют тексты, отражающие жизненные и творческие перипетии в судьбе поэта. Много веков он был известен как знаменитый математик, астроном и физик, но только в XIX столетии публикации европейских переводов его поэтических строк по-настоящему сделали его всемирно знаменитым литератором.

**Ключевые слова:** «рубай», философский смысл, трактат, поэт-философ, функциональная поэзия.

### Introduction

Nowadays, Omar Khayyam is known all around the whole world. Mostly as the author of the immortal Rubai, who so subtly and with inspiration felt the contradiction of life being. In the research literature there is a version that Omar Khayyam is a fiction, a myth and such a person never existed on our planet. Another option is that under this name there are hidden several persons, not one. There was a time when the poet Omar Khayyam and the mathematician Omar al-Khayyam were determined as different people. For example, in the Russian Encyclopedic Dictionary of Brockhaus and Efron, in volume 42, there is an article “Omar Al-Qayami” about a scientist, and in 73rd volume – an article “Heyyam or Omar Heyyam” about the poet (Charusai A., 2014).

Nowadays, scientists are united in the opinion that such a person existed and there is convincing evidence for this. Note, that in Persian writings the author referred as Omar Khayyam, and in Arabic – Omar al-Khayyami.

The subject of the research is the life and creative activity of one of the brightest geniuses of the East, an encyclopedic scholar, poet Omar Khayyam.

Purpose of the study: analysis of the scientific, philosophical and literary heritage of the scientist, his educational contribution to the world treasury of culture.

The complete and accurate biography of Omar Khayyam does not exist, even the dates of his birth and death are set approximately. There were such situations when a pen of scientist was “broke” in the proof of the authorship of Khayyam’s works. This case is facilitated by the ever-increasing verses of imitators and parodists. At one time, George Gulia wrote a novel about the Persian scholar, which was based on reliable facts, although not all material of his novel have reached us (Gulia G., 1976).

Objectives: to study the historical facts about the life and work of the scientist, presented in various sources. Determine the place and role of the creative heritage of Omar Khayyam in the modern world.

Methods: content analysis, discourse observation, semantic, comparative and linguistic stylistic analysis.

### **Materials and methods. Scientific methodology**

The study is based on articles and websites devoted to the study of the life and work of a medieval sage – Giyasaddin Abul-Fath Omar ibn Ibrahim al-Khayyam Nishapuri. He was born on May 18, 1048, in Nishapur. In some works, it is written that Nishapur is a small village located in the east of Iran. In fact, Nishapur at that time was a fairly large city and belonged to the ancient cultural province of Khorasan.

In the process of research, the following methods were used: historical content analysis, discourse observation, comparative analysis of various versions and interpretations proposed by researchers of Omar Khayyam's work.

It is a very interesting fact that the horoscope, developed by historian Abu-l-Hasan al-Bayhaqi, who personally knew him, helped to establish Khayyam's date of birth. The first analysis of the horoscope was performed by the Indian researcher Swami Govinda Tirtha, he received the exact date of birth – May 18, 1048. In his calculation, Govinda used the medieval Indian tables of the movements of the planets. Later his calculations were repeatedly checked. Prior to the analysis of the horoscope, most sources (including the second edition of TSB) indicated 1040 year of birth.

The future torch of eastern scholarly thought was born in the family of the tentor. The word "Khayyam" literally means "tent master", from the word "Khaimah" – tent. Later Khayyam will beat this fact in his quatrain, calling himself: "A master who sews tents of silk of the mind ..." (M. Kurgantsev, 1986).

Ibn Ibrahim in his name means the "son of Ibrahim". Thus, Khayyam's father was called Ibrahim and he came from a kind of artisans. Omar was the only son, so the father did not spare the funds for the education of his son, especially since he was incredibly capable, he grasped everything on the fly. When he was 8 years old, he already knew the Koran from memory, studied astronomy, mathematics and philosophy. At the age of 12 he became a student of the Nishapur madrasa. He brilliantly completed a course in Muslim law and medicine, having obtained the qualifications of a hakim, that is, a doctor. But medical practice was of little interest to Omar. He was fond of mathematics, and he studied the works of the famous mathematician and astronomer Sabit

Ibn Curry, the works of Greek mathematicians.

Khayyam was sixteen years old when his parents died during the epidemic. He had to sell his father's house and workshop and go to Samarkand, where Khayyam was a student, then a mentor in a madrasa. All sources tell that he demonstrated remarkable abilities to science already in his youth.

The final stage of the study consists of the first experience of independent scientific work of Khayyam, dedicated to extracting the root of any positive integer degree  $n$  from a positive integer  $N$ . It is indicated that in this treatise Khayyam, on the basis of earlier works of Indian mathematicians, in fact, proposed a method for solving the equations  $x^n = a$  ( $n$  is an integer), similar to the method of Ruffini-Horner. In addition, the treatise, apparently, contained a rule for the decomposition of the natural degree of the binary term  $(a + b)^n$ , that is, the well-known Newton binomial formula for natural indicators (Pompeev Yu.A., 2003).

Further, due to his patrons, the scientist manages to work in science harder. At the time of Khayyam, a scientist was not a wealthy man, and in this case he could systematically do science only at the court of one or another ruler, holding one of four posts: secretary (dabir), poet, astrologer or doctor, sometimes combining these posts. Nizami Arusi Samarkandi in the "Collection of rarities" explains in detail: "Dabir, a poet, an astrologer and a doctor, are the king's neighbors, and it is impossible for him to do without them. In dabir – the fortress of government, on the poet – eternal glory, on the astrologer – good organization of affairs, doctor – health of body. And these are four grave affairs and noble sciences from the branches of science of philosophy: dabirism and poetry are from the branches of logic, astrology is the branch of mathematics and medicine is the branch of natural science" (Nizami Aruzi Samarkandi, 1963). The fate of the scientist depended on the will of the ruler, on court intrigues and palace coups. Omar Khayyam was no exception. He also depended on the patrons whom he always mentioned and thanked in his writings.

It is believed that the first of the well-known patrons of Khayyam was the chief judge of the city of Samarkand Abu Tahir Abd ar-Rahman ibn Alak. In the introduction to his algebraic treatise, Khayyam talks about his disasters: «Most of those who currently have the appearance of scientists dress the truth with a lie, not going beyond falsification in science and pretending to seem as knowledgeable ... And if they meet a person distinguished by that he seeks truth, tries to reject lies and hypocrisy and reject

boasting and deception, they make him the object of their contempt and ridicule” (Y. Kosagovsky, 2013). The outstanding mathematical abilities of the young Omar Khayyam were noticed by the ruler of Bukhara, Shams-al-Mulk, who, inviting him to his place, as the legend says, “put him with him next to the throne as a sign of higher respect” ... (Omar Khayyam. Rubayat, 2009 ).

A special page in the life of Khayyam is the time spent at the court of Sultan Malik Shah. The city of Isfahan was a real power, stretching from the Mediterranean Sea in the west to the borders of China in the east, from the Main Caucasus Range in the north to the Persian Gulf in the south. Hotels, caravanserais, mosques, beautiful houses, bazaars of Isfahan aroused the admiration of travelers. An observatory was built here and the best astronomers were invited. Under the supervision of Omar Khayyam, scientific observations were conducted at the observatory for five years, as a result of which a new calendar was developed, distinguished by a high degree of accuracy. He was seven seconds more accurate than the current Gregorian calendar (developed in the 16th century), where the annual error is twenty-six seconds.

In 1077 Khayyam finishes his mathematical work «Comments on the difficulties in the introductions of the book of Euclid.» In 1080, Khayyam wrote the philosophical treatise on being and ought, and soon another philosophical essay – The Answer to Three Questions. The famous quatrains were created by Omar Khayyam, by the hypothesis of his biographers, throughout his life.

At the end of 1092, the mysterious deaths of the two patrons of Omar Khayyam, Sultan Malik Shah and Vizier Nizam al-Mulk, radically changed the life of Khayyam. In fact, the head of state was the widow of Malik Shah Turkan-Khatun, who, relying on the Turkic Guard, achieved the proclamation of her five year old son Mahmud by the Sultan. Omar Khayyam’s position at the court was shaken, although he also performed the duties of an astrologer and doctor at the new court. Turkan-Khatun did not recognize a talented scientist, sincerely not understanding why an observatory is needed and scientific research in general.

No wonder that Isfahan soon lost his position as a royal residence and main scientific center, the capital was again transferred to Merv in Khorasan. Khayyam makes an attempt to interest the new rulers in subsidizing the observatory – he writes a book with an obvious «populist» character «Nauruz-name» about the history of Nauruz, the solar calendar

and various calendar reforms. Alas, the book did not help – the Isfahan Observatory was closed.

About the late period of life of Omar Khayyam there are not much information, as well as about his youth. According to sources, the seditious fame of the free-thinker and apostate was added to the glory of Khayyam as an outstanding mathematician and astronomer. Khayyam’s freedom-loving views were not shared by the adherents of Islam. The relationship of the scientist with the higher clergy deteriorated sharply. They took such a dangerous character for Omar Khayyam that he was forced to make a long and difficult journey of pilgrimage to Mecca in his middle-aged years. Al-Kifti in the “History of the Wise Men” reports: “When his contemporaries blackened his faith and brought out those secrets that he hid, he was afraid for his blood and grabbed the reins of his tongue and pen and made a hajj because of fear, not because of God-fearing ...” (Sultanov S. Z., Sultanov K. Z., 2012).

At the end of his life, Khayyam “was stingy in writing and teaching.” He lived in Nishapur, had a few students, participated in scientific debates, occasionally traveled to Bukhara. In the “House of Joy” Tabrizi reported that Khayyam “never had an inclination for family life, and he left no offspring. All that remains of him are the quatrains and well-known works on philosophy in Arabic and Persian languages” (revolution.allbest.ru/philosophy). The date of his death is still arguing. The variant on December 4, 1131 – does not contradict any of the documents, and it seems that it should be considered the most probable date of death.

#### Literature review

According to the researchers (S.A. Erkaev, A.S. Erkaev, 2013): the scientific works, treatises, and rubies of Omar Khayyam are valuable sources on the history of the peoples of the East. They are all written in Arabic. His scientific views are presented in the works: in mathematics – “Al-Javob an-Salos Masoil” (1091; “Answer to three questions”), “Risola dar isboti Masalahi chabra mukobala” (1066-1070; “Treatise on solving the problem of contradictions” ), “Risola dar sarghi mush-kiloti Uklidus” (1098; “Treatise on the comments of Euclidean complexity”), “Mushkulot-ul-hisob” (1092; “Complexity of the accounting”). They are the highest achievement of Central Asian and Iranian mathematics of the XI – XII centuries.

According to Czech Iranianist Jan Rypka: “The legends related to Khayyam represent him as a God-fearing person who was very popular as a scholar until the mid-12th century ... In ancient sources, his



name is usually not mentioned in connection with poetry. Probably, his contemporaries considered his poems to be not so outstanding in comparison with his scientific activities” (Jan Rypka, 2013).

According to many experts, Khayyami rubai (and not Khayyam's rubai!) Is the folklore of the Persian people, actually “the product of the collective Persian.” A famous 19th century French orientalist, Zham Darmsteter, wrote that it was not just a free-thinker who lightened his heart by giving his own “rubai” for “rubai” by Khayyam (Zabikhullakh Safa, 2013).

Alam Dehhuda, the author of the 25-volume explanatory dictionary of the Persian language, notes: “He was not verbose; He did not write huge treatises and had no famous students. Even his charming Persian “rubai” are few, probably he considered himself a scientist, not a poet. Even his contemporary Nizami Aruzi, who was interested in his activities, mentioning his knowledge in astronomy, does not say anything about his “rubai” (Alam Dehkhud, 2013).

“The book “Rubayat”, known to many as the work of Khayyam, includes from 80 to 1,200 rubai. Almost everywhere is the confusion of thoughts. If we, for the sake of entertainment, leaf through the book of “rubai” and read the quatrains by ourselves, we will encounter contradictory ideas, different content, old and new themes. These contradictions are so obvious that if a person changed his convictions twice a day for 100 years of his life, his poems would not be as contradictory as Khayyam's quatrains ... “(Sadek Hedayat, 2013).

Khayyam translations made by O. Rumer in the 20s – early 30s, and then – the translations of I. Tkhorzhevsky became widespread in Russian.

As a result of research by orientalists, in particular, English scientist D. Ross and Danish – A. Christensen, some more rubai were found in Khayyam's manuscripts, the authorship of which is doubtful, and the total number of “wandering quatrains” reached 108. A disappointing discovery, especially when you consider that the time of the creation of the quatrains is separated from us by a gap of eight centuries, Khayyam's manuscript has not been preserved in its lifetime, and no reliable details are known of the writing of the quatrains. The texts of the quatrains do not contain datings (as well as indirect information on which they could be dated). True, the name Khayyam is found in some of the quatrains, but, strictly speaking, this cannot serve as proof of authenticity, because the author of a fake, for example, would begin with this. At one time (1904). Christensen A. , falling into complete

pessimism, argued that only 12 quatrains could be recognized as truly Hayam's, but later (1927) he refused from such a nihilistic position and suggested that 121 rubai could be considered authentic (stih. ru >2012/02/07/299).

### Results and discussion

The materials listed above are an example of the discourse in which the scale of the personality of the scientist-philosopher is currently being discussed. In all materials, one way or another, the topic of authorship of rubai, the significance of scientific research on philosophy, mathematics, and astronomy is touched upon.

In contrast, for example, to Avicenna, Omar Khayyam did not give a specific philosophical system, but his elaborations dealt with the most important philosophical questions. These are treatises on being and ought, on existence, on contradiction in the world, etc.

Joobin Bekhrad said: “What was the Rubáiyát of Omar Khayyám, and who was this enigmatic personage with whom Sotheran's, as well as innumerable others, were fascinated? An 11th-Century polymath from eastern Iran, Khayyám was revered in his lifetime for his groundbreaking work in astronomy and mathematics. As with other Iranian polymaths like Ibn Sina (Avicenna), Khayyám was also a poet. That said, his poetry was unlike that of any other Persian poet before him, and he has occupied, for centuries, a place wholly unique in the grand corpus of classical Persian literature” (Joobin Bekhrad, 2018).

The British mathematician Ian Stewart assigns a special place to the writings of Omar Khayyam, his works in many ways anticipating time (Ian Stewart, 2010). Researcher Kramar F. D. compares the development of Omar Khayyam and Nasiriddin Tusi on the theory of parallel lines (Kramar F. D., 1964). Scientists Rosenfeld B.A., Yushkevich A.P. also investigated the theory of parallel lines in the works of O. Khayyam (Rosenfeld, BA, Yushkevich, AP, 1983). He was engaged in Khayyam and astrology, but he did not attach any particular importance to it. He laughed at those who wanted to guess their fate by the stars. He said: “This mutt, stupid human, miserable shopkeeper is absolutely sure that the heavenly luminaries are so preoccupied with the fate of his worthless profits! Get rid of him! Let him not imagine himself that the whole Universe with its myriad stars is writhing with fear for its goods” (Ilyasov Yadvat, 1986).

Doctor, translator Shojaeddin Shafa believes that: Omar Khayyam is the most interesting figure among

the stars of Persian literature. His poetic pearls sparkle, like many centuries ago, and his “Jalali” calendar is more accurate than the modern ...

Roshdi Rashed wrote: Though initially published as an anonymous pamphlet, once the Rubáiyát was discovered by Rossetti, Swinburne and others, it swiftly became famous. It is said that its effect on Victorian England was no less considerable than that of Darwin’s *On the Origin of Species*, published in the same year, 1859 (The Guardian, 2018).

Maurice Boucher (French poet and playwright) writes: “I am one of Khayyam’s followers. Wine, beloved and courtier, from my point of view, are the flower of life, wisdom and intelligence.”

Gulruksor Safieva (national poetess of Tajikistan): “It has long been concluded that a wise man like Khayyam cannot repeat a hundred times like a parrot: drink wine, drink wine. I found Rubai twins, triplets ... They are all – imitating him in different centuries. Everyone who was not happy with their time spoke on behalf of Khayyam.”

Researcher Mujtaba Maynawi said: “We can say with great confidence that the Iranians consider every attractive “rubai” as the poetry of Khayyam and attribute it to the poet. Therefore, it is impossible to determine exactly which “rubai” actually belong to Khayyam and which are attributed to him” (Maurice Bushor and others, 2013).

### Conclusion

Thus, “in his homeland Khayyam was better known as a philosopher and mathematician, until the 19th century, the time of “discovery” of Khayyam by Europeans – his popularity as a poet was significantly less than that used, for example, by Ferdousi, Saadi, Hafiz” (Osmanov Magomed-Nuri, 1972). Over time, the memory of even the greatest people becomes weaker, and Omar Khayyam was expected by the usual posthumous fate of many remarkable scientists: mentioning in a few lines in the history of mathematics, astronomy and philosophy, which he was considered to be the greatest connoisseur during his lifetime. But fate decreed otherwise, immortality was not provided to him not by scientific treatises, but “frivolous” poems.

In Persian classical literature, the name of poetry – nazm – comes from the word “ordering”, it was a kind of system of speech turns. Another meaning of this word is “drilling and stringing pearls” which was often played up by poets and writers. It is not by chance that poetry is compared to fine jewelry work. Khayyam is, above all, best known for his quatrains – beautiful pearls: deep in meaning, brief in shape of rubai (Kondyreva N., 2014). The main themes of Khayyam’s poetry: “The mysterious potter

sculpturing the skull..”, the creator of everything on earth. The next topic is the brevity and fussiness of human life, the cycle of life and death: “Having seen the frenzy of the world, wait to grieve...”. Many variations on the topic of wine, as a means against all sorrows: “All heart-curing illnesses are treatable by wine ...”.

Khayyam’s poetic work became known to Europeans in the new time due to translations of the English poet Edward Fitzgerald. So in the XIX century Khayyam was re-opened. Readers loved him, and Fitzgerald’s book stood up to 25 editions by the end of the century. The audience was delighted with the short quatrains, they were taught by heart, quoted, inserted into advertising slogans. Fitzgerald was enthralled and declared that the poems had “the ring of true metal” (The Guardian, 2018.)

But not everyone so enthusiastically perceived the talent of the latter-day poet. In 1897, an article by scientist V.A. Zhukovsky’s “Omar Khayyam and the “wandering “quatrains” in which the author convincingly proves that most of the poems are mistakenly attributed to Khayyam, and the authorship of a minority is rather controversial. For the general public, this article did not have much value, but it deeply hurt the scholars of orientologists, who to this day calculate the author’s identity as a rubai.

What is the mystery of interest in the poet, such a stunning success of Khayyam’s creations? Perhaps in a special understanding of the eternal themes of life and death, love and hate, alternation of happiness and adversity. But these themes are presented in the works of other poets, about which no one remembers. Maybe this is a kind of magic of Persian versification, a prophetic gift, conciseness and directness of the poet’s address to the reader. One can only guess, and with inspiration once again plunge into the life lessons and edifications of the great poet.

So, what do we know about Omar Khayyam, in whose biography there are more legends than truth? Persian genius, combining the talents of a scientist and poet. Engaged in poetry, mathematics, astronomy and philosophy. In the literature he achieved recognition with his quatrains (“rubai”), in algebra he constructed a classification of cubic equations, created a more accurate calendar than European. Behind these dry sentences is a lifetime, about which we still know very little.

It is true, that the more you learn about a person, his life and career, the more one-sided and shallower is your initial idea of him. Probably every creative person is both complex

and simple. We simplify to understand, but behind this simplification there is always more. As in this case, before you is no longer the wise old man with a cup of wine in his hand, reclining in a Persian squash and composing his sparkling quatrains, but a great mind that thinks clearly and concisely, suffers and thirsts for truth. Khayyam's every quatrain is an equation, a clear formula. The abundance of a dash in verses gives rise to aphorism and memorability.

The poet is looking for the Unknown, combining different values. He is often alone in his truth, his philosophy, the conclusions are sometimes

contradictory, but this is the point, to which the testimony of the poet's remarkable rubai reveals the essence of Man. "His quatrains made their way, like springs, from the depths of folk art. Khayyam's every quatrain is a little poem. Khayyam cut the form of the quatrain as a precious stone, approved the internal laws of haikai, and in this area he has no equal" (V. Derzhavin, 1972).

The universe of Omar Khayyam shines with stars of wisdom, scientific discoveries, cosmic energy, a sense of unity with eternity. Humanity still lives according to the guidelines that Omar Khayyam once outlined.

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