



**FORMS OF EXISTENCE OF THE UNIVERSE IN FAKHR AL-DIN AL-RAZI**

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<b>A B S T R A C T</b>	<b>KEYWORDS</b>
<p>The study examines Fakhr al-Din al-Razi’s attitude to the principles of physics and categories such as atom, void, place, time, motion and quiescence, which are the forms of existence of the universe. During the research, the works written by Fakhr al-Din al-Razi and the scientific exploration of Western and local orientalists dedicated to the study of the thinker’s life, scientific heritage, religious-philosophical, and metaphysical outlook were used as crucial sources. In recent years, Fakhr al-Din al-Razi’s personality, scientific heritage, philosophical and religious outlook have been widely studied by Western scientists and are the cause of their great interest. In this regard, during our research, the principles of interrelatedness and systematicity; an attempt was made to solve the problems posed by the topic using research methods such as comparative-historical, hermeneutic, comparative analysis, and scientific objectivity.</p>	<p>Atom, atomic substance, jawhar atomism, forms of existence, kalam tradition, “Platonic” understanding, continuity, eternity, void, body, place, time, motion, quiescence.</p>

**Introduction**

Reforms in the modern era require knowledge, potential, effective work, high qualifications, high awareness, creativity, and a sense of responsibility to society from everyone. Today, our task is to study and analyze the valuable cultural and spiritual resources created by our ancestors, effectively utilizing the created conditions. In this regard, the relevance of the chosen topic is undeniable.

Fakhr al-Din al-Razi expressed his attitude to the forms of existence of the universe, which are considered crucial issues of philosophy in his philosophical outlook. In his philosophical works, it is emphasized that motion, quiescence place, time and void are an integral part of natural phenomena. Razi’s approach to the principles of physics analyzed first by Aristotle and later by Ibn Sina is a clear example of his philosophical style. The famous orientalists Peter Adamson and Fedor Benevich in their research note that in the discussions of the forms of existence of the universe in the philosophical reflections of Fakhr al-Din al-Razi, the ideas of the *kalam* tradition were also mixed and sometimes dominated [Adamson & Benevich 2023]. Along with following Ibn Sina’s philosophy, Fakhr al-Din expresses his objections in many places. He supports the idea of atomism of the Mu’tazilite and Ash’arite schools of thought against Ibn Sina’s concept of continuity. In other cases, he confirms the

views of Abu Bakr al-Razi, who is considered an atomist. That is, he accepts the “Platonic” concept, which defines place and time as independent categories, not the dimensions and boundaries of bodies and their movements [Adamson & Benevich 2023].

## Literature Review

The most fundamental difference in the physics of the word is between atomic matter (*jawhar*) or "indivisible part" on the one hand, and random properties (*a'rad*) belonging to these atoms on the other hand [Dhanani 1994, Sabra 2006]. From the first time Greek philosophy spread to the Muslim world, al-Kindi followed Aristotle's idea of continuity and rejected atomism. This is the view that every tiny part of any body, no matter how small, can theoretically be broken down into sub-parts. Avicenna was also a strong critic of atomism and a philosopher who rejected this idea [ Lettinck 1988, McGinnis 2013, Dhanani 2015]. His arguments were the cause of many authors' debates in the 12th century (see, e.g., McGinnis 2019). Fakhr al-Din al-Razi supports the long debate when he comments on atomism. His views on this issue are generally confusing. Muhammad Zarkan states in his researches that Razi rejected atomism in his philosophical works and accepted it only in his works on the science of the word [Zarkān 1963: 67–98]. Also, Anvar Matniyazov in his work entitled *Fakhr al-Din al-Razi, the great thinker of the 12th century Khorezm Shahs* makes the following comment: “Juvayni (d. 1058) and Fakhr al-Din al-Razi left this issue open. Because, the idea that the atom is made up of indivisible parts was scientifically based and strengthened the concept of the “Holy Trinity” of Christians” [Matniyazov 2022] However, his conclusion may indicate that he adopted *kalam* atomism as his view in *Matalib* [Dhanani 2015; see also Setia 2004 and 2006, and Baffioni 1982: 211–75].

## Discussion and Results

Fakhr al-Din al-Razi in *Matalib* states the following as a decisive argument in favor of atomism: “if continuism were true, each body would have an infinity of parts, so that a mustard seed could be “stretched” to coincide with the whole universe” [*Maṭālib* vol.6, 71; see Dhanani 2015: 102 for the passage].

Also, another atomistic argument is that if an exact matching sphere meets a matching surface, it will make contact at an indivisible point. We can further argue that: “Once it is established that the locus of contact is something indivisible, the existence of the individual atom must be acknowledged. For if we roll a sphere in a full circle on a plane surface, there can be no doubt that as soon as one point of contact ceases, contact is established with another” [*Maṭālib* vol.6, 48–9].

It is clear from the above argument that the atoms analyzed in *Matalib* are in ancient Greek atomism and they resemble geometric points rather than the very small, extended but indivisible bodies proposed by his predecessor, the atomist Abu Bakr al-Razi. This idea, in turn, is a legacy of the word tradition. Geometry was also used by some thinkers to refute atomism, thus, in both *Matalib* and a separate treatise devoted to this issue [Altash 2015], Fakhr al-Din al-Razi gives geometric arguments against atomism and offers refutations against it.

If Fakhr al-Din is indeed an atomist, it is logically correct that he believes in the existence of a void, because in the classic and the *kalam* atomism, these two doctrines are usually common together. Abu Bakr al-Razi and Abu l-Barakat al-Baghdadi were also supporters of the void, and both were influential figures for Fakhr al-Din. On this topic, he seems to be fairly consistent in upholding the possibility of void against Aristotelian and Avicennan arguments for its impossibility [Adamson 2018a]. For

example, he rejects Aristotle's case that if the speed of movement is inverse to the density of the substance, the motion in space will be infinitely quick: If we assume that part of the [required] time is to accommodate the motion in itself, and part of it to accommodate the hindrance, then the motion in pure void will take place in that amount of time that is appropriate to the motion as it is in itself. Motion occurring in a plenum, meanwhile, will occur in that amount of time plus a further amount of time, as rendered appropriate by whatever is in the interval that offers hindrance [*Maṭālib*, vol.5, 174.19–175.1]. So it is established that the conclusion they sought to force [on the proponent of void, sc. that motion in a void would be infinitely fast given the total lack of resistance] does not follow [Adamson & Benevich 2023].

In other words, the density of the substance will slow down the internal speed of the movement that is in a limited vacuum.

Void is defined either as a case in which two bodies fail to be in contact, with no body between them [*Arba'īn* vol.2, 32] or as a space that has nothing placed within it [*Maṭālib* vol.5, 155]. Physical evidence proves that void is unavailable but actually occurs, as when two flat surfaces are pulled apart: it will take some time, however minimal, until air rushes in to fill the empty space [*Arba'īn* vol.2, 35]. The second definition of the void mentioned above reflects the worldview of Fakhr al-Din al-Razi about the place and already suggests his view that place is not dependent on bodies, as Ibn Sina had claimed [Adamson 2017]. According to Avicenna, place is the inner boundary of a containing body, for example, the interior surface of a jug that surrounds the water placed in the jug [Lammer 2018: §5.3]. This theory of Fakhr al-Din al-Razi leads to many criticism, for example that a jewel inside a bag would remain in the same “place” even as it is being transported between cities [*Maṭālib* vol.5, 147]. Instead, place is for him indeed “space” (*faḍā', ḥayyiz*), which is independent of bodies and may be either occupied by a body or not.

However, orientalist N. Naimov at his dissertation is based on the thinker's opinions in *Al-risola ul-kamaliyya* when he states his thoughts on the void, like several previous philosophers, he emphasizes that he denies the existence of a void in place and there is no need to confirm the existence of a void in his philosophical system [Naimov 1970: 78]. Also, he brings the following link from Fakhr al-Din: “Something that is thought to be a void is not absolutely absence, there is something that has a surface (field). The void is a continuism (permanent) measure and it is undoubtedly a matter. So the void is not a net absence, but it is a matter that is available.” [*Kamaliyya*, 86]

If the atomistic views of the author in Fakhr al-Din Razi's works *Matalib* and *Arbain*, two rates of void and the presence of void in these rates are confirmed, the existence of space in the treatise *al-Risola ul-kamaliyya* is rejected, void is also defined as matter. In our opinion, the reason for these two conclusions is that Razi's attitude changed over time from philosophy and philosophical theology to theology, the distance from philosophy in the work of the period of “Ghurid interlude”, it can be explained by the fact that during this period he wrote works mainly on theology, tafsir, jurisprudence. (Ayman Shihadeh gave his point of view on the scientific and political activities of Fakhr al-Din al-Razi during the Ghurid period [Shihadeh 2022].) Because the treatise *al-Risola ul-kamaliyya* is an example of Razi's early scientific work on logic and philosophy. Also, in the work of Fakhr al-Din al-Razi before the “Ghurid interlude”, i.e. in his scientific and creative works under the patronage of the Khorezmshahs, his works on logic and philosophy (*al-Risolat ul-kamaliyya*, *Chahordah risoleh*, *Jami al-ulum*) are quite free about existence and God, critical and reactionary views are expressed. (We discussed this in our previous studies [Umarjonov 2023].)

In several studies, we can find a parallel between Fakhr al-Din al-Razi's views on space and his views on time [Setia 2008, Adamson 2018b, Adamson & Lammer 2020]. In I.A Kulmatov's research, he analyzed Fakhr al-Din al-Razi's thoughts on physical and philosophical concepts such as place, time, motion, and quiescence in the works of *Matalib*, *Al-Risola ul-kamaliyya*, *Mabahith* [Qulmatov online]. According to Ibn Sina, time is a measure of motion [Abd al-Muta'āl 2003, McGinnis 2003 and 2008]. In the first instance it is the measure of the motion of the outermost heaven. Because this is the fastest movement in the cosmos, which accounts for the apparent diurnal rotation of the fixed stars around the Earth. According to Fakhr al-Din al-Razi, this is a "peripatetic" interpretation of time. He rejects this in his work *Matalib*, and also rejects a version of the opinion of Abu l-Barakat Baghdadi, according to Razi, time is not a movement but a measure of existence. Fakhr al-Dīn does at least agree that time is real. To establish this he cites an old *kalām* idea that time offers a coordination between independent events [*Mabāḥith* vol.1, 761; *Maṭālib* vol.5, 47], which is why it is possible for me to arrange to meet with you tomorrow (one event) when the sun rises (another event). But time's existence is not supervenient on motions or cases of existence. Were that the case, then we would have multiple, simultaneous times for the various motions, which would need a superordinate time to coordinate them [Adamson and Benevich 2023].

According to Razi, time has a real, objective existence as a form of universe, matter. In the treatise *Al-Risola ul-kamaliyya*, he expresses the following opinion about time: "Based on our consciousness, we know that today is here, yesterday is already past and tomorrow is happening now. We rely on our intelligence to know the difference between yesterday, today and tomorrow and what will happen next, denying these is ignorance." [*Kamaliyya*, 81]

All movements and changes in existence occur at a specific time. Time has a duration of one dimension. It flows in only one direction - from past to future through today. Fakhr al-Din al-Razi in *Chahordah risoleh* makes the following comments about time: "You know that every period was preceded by another era." ("Bidon, ki pesh az har zamone zamani digar mavjud bud") [*Chahordah risoleh*, 24].

Razi emphasizes the independent existence of time and motion as follows: "Motion taken by itself cannot exist without time." ("Harakat az on ro'y harakat ast, ki be zamon na gavonad budan") [*Kamaliyya*, 83]. According to his point of view, movement and time are necessarily connected with space. There is no place outside of matter, and there is no matter outside of place. The movement of physical bodies occurs exactly in place and time. Also, place is as real and objective as motion and time. "We see or feel a body moving with the help of our sense organs, and we witness its movements, at least from one place to another. So if there is motion, then there is place. Motion exists, so place also exists in three dimensions." [*Kamaliyya*, 83]

Fakhr al-Din's discussions of time give us a nice example of how his views developed, even while circling around the same set of arguments [Adamson & Lammer 2020]. Peter Adamson and Fedor Benevich, referring to Fakhr al-Din al-Razi's reflections on time, cite his agnostic perspective in *Mabahith* as follows: "I have not yet arrived at the realization of the truth about time, so let your expectation from this book be a thorough examination and report of whatever can possibly be said [about time] from all points of view." [*Mabāḥith* vol.1, 761].

But Razi in his work *Mulakhkhas* thinks that the previous and the next are "items of consideration" (*umūr i tibāriyya*). Yet at the end of his career, he has adopted the contrary view [Adamson & Benevich 2023]. Now he endorses what he says is Plato's view of time: it is "a substance subsisting in itself and independent in itself" [*Maṭālib* vol.6, 76]. The allusion to Plato presumably refers to the *Timaeus*. He

is apparently following his fellow philosopher of Rayy, Abū Bakr al-Rāzī, both in accepting the independence of time and place and in seeing Plato as an authority for that physical theory [Adamson 2021a: ch.5]. One of the differences between the two Razis is that Fakhr al-Din al-Razi makes it clear that both time and space are created by God rather than “eternal” principles.

According to Fakhr al-Din al-Razi’s teachings, time and place are closely connected with motion. He says that time is an indispensable property of bodies in motion, without which bodies cannot live. Aristotle describes motion as follows: “Ignorance of movement leads ultimately to ignorance of nature.” [Qadirov 2021:17] It should be noted that this is the best description of the movement. In his article, our teacher Muhammadjon Kadirov quotes the following definition of Plato about movement: “The motion is a departure from the equation.” [Qadirov 2021:17] In other words, in today’s terms, it is a departure from the state of uniformity.

Researcher N. Naimov based on Razi’s thoughts about motion gives the following opinion in his research: “All material bodies and all material and immaterial processes occurring in nature are in motion. The external world consists of bodies and their various movements, every change in nature occurs due to movement” [Naimov 1970]. Movement and body are inseparable, they are closely related. When there are material bodies, there is motion, and when there is motion, there is material. Movement is inherent in all objects of the material world as a necessary and integral part of everything and event. Based on this, Razi states that “Movement is a characteristic of all bodies” [*Jami al-ulum*, 7].

Motion, according to Razi’s concept, is a general change. “Always, when a change occurs in a body, at the time when the change is assumed, the state in it is opposite to that at other assumed times, and all these changes are called motion.” [*Kamaliyya*, 80]

Taking into account that movement is the basis of all changes in nature, and understanding the reason for the occurrence of all changes in quantity, quality, time and place, Razi emphasizes that not only body and physical phenomena, but also spiritual phenomena and accidents are constantly moving and changing. disappears, and another appears. Razi emphasizes that their disappearance and appearance in this form is related to movement.

Razi, unlike many philosophers of the Middle Ages, clearly distinguished two types of action: natural and unnatural. “Natural (or spontaneous) motion is a motion that is inherent like a body. An unnatural movement is a process caused by a cause acting outside the subject.” [*Jami al-ulum*, 197]

It is worth noting that many philosophers of the Muslim East hold the opinion that motion can transform any possible body into reality. That is, they know that it is the change of one possible body into another body. And these thoughts were correct. [Naimov 1970:73]

Razi’s view of the movement is more in line with this. The exit of the event from the hidden state (position) means the exit to the manifest case. And getting out of the inner state into the manifest position is possible only with the help of motion. So, according to Razi’s teaching, motion is a transition from a potential state to an actual case. “The emergence of something is possible only when its existence prevails over its non-existence.” (“Dar vujud omadan on ast, ki xasti u bar nestoi u rajex shavad”). [*Chahordah risoleh*, 19]

Razi states in his work “*al-Risola ul-kamaliyya*” that movement has different forms. The main ones are quantitative, qualitative, orderly movement, replacement, and change. It should be noted that many philosophers who wrote their works in Arabic were also aware of these types of movements. Quantitative movements are considered to be the change of a certain body from one quantity to another.

For example, growth, weight loss, obesity, and similar changes in the body are quantitative movements. They understood that a body changes from one quality to another quality as a quality movement. For example, the freezing of water due to cold and the melting of ice due to heat are qualitative changes. Razi also states that movement, like a process, leads to changes in place, quantity, quality, and objects. In the same way, the position of the objects changes due to the force of motion. For example, “a body moves from one place to another.” The size, and the amount of the item change. For example, “the volume of water increases due to motion.” The quality of the subject will change. For example, “black turns to white, and salty turns to sweet.” (“Kam. Chunonki ob. Chun harorat dar vay ta’sir kunad, hajmi u ziyodat shavad. Kayf. Chunonki, siyoh sefed shavad va tursh shirin shavad. Va ammo dar in, chunonki, jism az joy ba joy digar shavad”). [*Kamaliyya*, 80]

According to Razi, change and development are characteristic of all bodies. (“Tagir va tabaddul bar xama jism ravo buvad”). [*Jami al-ulum*, 378]

During the analysis of Fakhr al-Din al-Razi’s thoughts about movement, it becomes clear that motion is inextricably linked with inactivity. Inactivity is a process that can only be known, has a relative character, and consists of a period of movement. Bodies can only be at rest according to some reference systems. Such a situation is conditionally accepted as inactivity. “Bodies are not separated from motion and motionlessness. Action and inaction are important. Because, as we guessed, if the objects are in their place, then they will be stationary, if they have not found their place, then they will move. So, it turns out that bodies are not far from motion and quiescence.” [*Chahordah risoleh*, 56]

According to Razi, quiescence does not mean that there is no change in existence, immobile, and no movement in the body at all. There is no complete and eternal immobility in existence and nature. All phenomena and objects that seem to us motionless and immobile are not quiescence and still at all. These bodies and phenomena are only in relative motion relative to other bodies, and they move together with other bodies. In this regard, he writes: “If someone asks us whether the stars (fixed) move”, we answer this question in this way: “Since Aries (Aries - constellation) is in motion, those fixed stars around (or next to) it are also moving with it. moves together.” [*Jami al-ulum*, 380]

Thus, it can be concluded from Razi’s above mentioned ideas that there is not body in absolute motion in the world and nature, all bodies are always in motion, always changing and renewing, always changing their properties, quantity, quality, state, and location. Summarizing his opinion on this issue, Razi emphasizes the following point: “All bodies at rest are in motion.” [*Jami al-ulum*, 6]

Furthermore, he said, during the period of movement, substances, and accidents, bodies and their properties also change. “During movement, not only objects change, but also their quality. It is clear that bodies and that which is inherent in bodies move and change.” [*Jami al-ulum*, 95]

In all of the above considerations, obviously, valuable ideas are presented about the various manifestations and qualities of matter and motion, and their interdependence. It should be said that Razi emphasizes the general nature of motion as follows: “The more place is in motion, the more the body in place is in motion.” (“Chun makon harakat kunad, lozim oyad, ki mutamakkin harakat kunad”). [*Jami al-ulum*, 381] Thus, his general understanding of physics presupposes a created spatiotemporal principle in which bodies can exist but need not exist.

## Conclusion

Thus, from the above, it can be concluded that in philosophy, Razi was not a simple follower or just an imitator of the philosophers of the ancient Greek and Muslim East. In solving many problems of

philosophy, he approaches materialistic ideas, developing the advanced aspects of the teachings of Aristotle, Democritus, al-Kindi, Farabi, and Ibn Sina. Despite the recognition of an abstract God, Razi's doctrine of existence is more closely connected with the natural-scientific achievements of that time and includes many material ideas.

Such valuable and progressive ideas, elements of materialism, and dialectic can be found enough in Razi's philosophical works. From the above information, it is known that it is the objective existence of the external world and its knowledge with the help of sense organs and consciousness, the formation and development of inorganic and organic nature as a result of the union of four simple elements, movement, space, time and their continuous interaction. recognized the objective existence of communication. All this, without a doubt, is the rational center of his teaching. And he played a hugely positive role because it is contrary to the main dogmas of Islam. Therefore, Razi can easily be considered as one of the free-thinking and advanced philosophers of the development of medieval philosophical thoughts, who played a major role in the development of the advanced philosophical thoughts of the peoples of the Near and Middle East, as well as one of those who had a huge positive impact on the outlook of several later philosophers of Central Asia and the Muslim East.

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