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FAKHR AL-DĪN AL-RĀZĪ ON TIME

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LIST OF ABBREVIATIONS

- MA Al-Rāzī, *al-Maṭālib al-‘Āliyah min al-‘Ilm al-Ilāhī*, ed. Aḥmad Ḥijāzī al-Saqā, 9 vols. Beirut: Dār al-Kitāb al-‘Arabī, 1987.
- MM Al-Rāzī, *al-Mabāḥith al-Mashriqiyyah fī Ilm al-Ilāhiyyāt wa al-Ṭabī‘iyyāt*, 2 vols. Qum: Maktabah Bīdar, 1966.
- SUH Al-Rāzī, *Sharḥ ‘Uyūn al-Ḥikmah*, ed. Aḥmad Ḥijāzī Aḥmad al-Saqā, 3 vols. Tehran: Manshūrāt Mu’assasah al-Ṣādiq, 1994.
- Tafsīr* Al-Rāzī, *al-Tafsīr al-Kabīr*. Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī, 32 vols. 1999.

ABSTRACT

Based mainly on the *Maṭālib*, the present study discusses al-Rāzī's views on time by elaborating on the arguments for and against the existence of time, its essence and God's priority to the world. After all of the above-mentioned points have been clarified, the thesis concludes that al-Rāzī's view of self-evident time is as central to his physics and metaphysics as absolute time is to Newton's philosophy. I believe that this thesis will provide a solid investigation of al-Rāzī's own idea of time, which can hopefully enlighten further research leading to an assessment of his idea of physics and metaphysics.

Introduction

Although Abū al-Faḍl, Muḥammad ibn ‘Umar al-Rāzī (d. 606/1209) extensively discusses time in several of his works, his discussion of time has never been studied in detail. Al-Zarkān briefly discussed al-Rāzī’s view on the existence of time. However, he did not elucidate the arguments for and against the existence of time, let alone elaborate on the divergent views concerning the essence of time, the existence of the now, God’s priority to the world and the levels of time, namely eternity (*sarmad*), perpetuity (*dahr*), time (*al-zamān*).¹

Besides al-Zarkān, Ceylan also discussed al-Rāzī’s idea of time, but he did not rely on the *Maṭālib*. As a result, his presentation leads to a certain misunderstanding of al-Rāzī’s view on time. He holds that al-Rāzī denied the existence of time before the point of creation and did not produce a solution to the problem (existence) of time, and then he quoted the *Mabāḥith* to support his idea.² As the present thesis will show, it is obvious that in the *Maṭālib*, al-Rāzī holds that time is pre-eternal and believes that he produces a solution to the problem of time. Although in the *Mabāḥith*, al-Rāzī candidly admits that he is agnostic concerning the existence of time, he candidly admits that he follows Platonian time in his later works. Perhaps the reason why Ceylan did not rely on to the *Maṭālib* when he discussed time is that at the time of his writing, the *Maṭālib* was still in the form of manuscript.

¹ Muḥammad Sālih al-Zarkān, *Fakhr al-Dīn al-Rāzī wa Arā’uhu al-Kalāmiyyah wa al-Falsafiyyah* (Cairo: Dār al-Fikr, 1963), 450-62, hereinafter cited as *Kalām*.

² Yasin Ceylan, *Theology and Tafsīr in the Major Works of Fakhr al-Dīn al-Rāzī* (Kuala Lumpur: International Institute of Islamic Thought and Civilization, 1996), 60, henceforth cited as *Theology*.

The present thesis will study al-Rāzī's view on time as has been stated mainly in the *Maṭālib*, the *Mabāḥith* and the *Sharḥ 'Uyūn al-Ḥikmah*. As we shall see, al-Rāzī's idea of time in the *Mabāḥith* is different from that found in *Sharḥ 'Uyūn al-Ḥikmah* and the *Maṭālib*. This fact requires us to know his works chronologically. As far as the *Maṭālib*, the *Mabāḥith* and the *Sharḥ 'Uyūn al-Ḥikmah* are concerned, the *Mabāḥith* was written most probably before he was thirty-six. This view is based on the date of his journey to Transoxiana thought most likely to have been 580 A.H./1184 C.E. Al-Rāzī himself states that the ninth debate of his Controversies in Transoxiana was held in 582 A.H./1186 C.E. He reports in one of his debates that the *Mabāḥith* along with the *Mulakhaṣ* and the *Sharḥ al-Ishārāt* were read by al-Farīd al-Ghailānī.³

Unlike the *Mabāḥith*, the *Sharḥ 'Uyūn al-Ḥikmah* should be considered as being from the later period. Al-Rāzī himself states that he wrote many books for thirty years before the *Sharḥ 'Uyūn al-Ḥikmah*. If he had started to write when he was around 20 years old, then he would most probably have written it around 1198 C.E.

The *Maṭālib* is the latest philosophical work written by al-Rāzī. He himself mentions that this book [time and space] was completed in 605 A.H./1208 C.E.⁴

Comparing these works, we find out that the *Maṭālib* is the most systematic exposition of al-Rāzī's ideas on time. The major arguments for time mentioned in the *Mabāḥith* and *Sharḥ 'Uyūn al-Ḥikmah* were incorporated in the *Maṭālib*. This does not necessarily mean the first two works were insignificant. They still remain significant because they provide us an insight into how al-Rāzī conceived time

³ Fathalla Kholeif, *A Study on Fakhr al-Dīn al-Rāzī and His Controversies in Transoxiana* (Beirut: Dār al-Mashriq, 1966), 82.

⁴ Al-Rāzī, *al-Maṭālib al-'Āliyyah min al-'Ilm al-Ilāhī*, ed. Aḥmad Ḥijāzī al-Saqā, 9 vols. (Beirut: Dār al-Kitāb al-'Arabī), 5: 185, henceforth cited as *MA*.

differently. We know that his views on time developed gradually. The final position, however, is found in the *Maṭālib* because it is the latest work. Thus, al-Rāzī's views on time that are not in line with the *Mabāḥith* should be considered as abrogated.

In his discussion of time, al-Rāzī mentions Plato (d. 348 B.C.E.), Aristotle (d. 322 B.C.E.), Abū Bakr Muḥammad ibn Zakariyyā al-Rāzī (d. 311 A.H./923 C.E. or 320 A.H./932 C.E.), al-Fārābī, Ibn Sīnā (d. 428 A.H./1037 C.E.) and Abū al-Barakāt al-Bagdādī (d. 560 A.H./1165 C.E.) by name. Apart from these names, al-Rāzī mentions some arguments, which it can be assumed refer to al-Kindī, al-Ghazālī (d. 505 A.H./1111 C.E.), and al-Shahrastānī (d. 548 A.H./1153 C.E.). Thus, when we present al-Rāzī's view, we also consult their original works to have a comprehensive outlook on his arguments. These include: the *Physics* of Aristotle, the *Timaeus* of Plato, *Al-Shifā'*, *al-Najāt*, *'Uyūn al-Ḥikmah*, of Ibn Sīnā, *Tahāfut al-Falāsifah* of al-Ghazālī, *Nihāyat al-Iqdām fi 'Ilm al-Kalām* of al-Shahrastānī and *Kitāb al-Mu'tabār* of Abū al-Barakāt al-Bagdādī. Abū Bakr al-Rāzī's *al-'Ilm al-Ilāhī* has been lost.

The present thesis is mainly based on the *Maṭālib* because it is the latest philosophical work of al-Rāzī and the most systematic elaboration of his philosophical ideas, including those on time. Other works, such as the *Mabāḥith*, the *Sharḥ 'Uyūn al-Ḥikmah* and the *Tafsīr* are used as supplementary texts. The different views of al-Rāzī concerning time in several of his works will be highlighted. Since the most important thinker that al-Rāzī invokes and critiques on this issue was Ibn Sīnā, the present thesis will focus on al-Rāzī's refutation of Ibn Sīnā's ideas.

The thesis analyzes closely, translates, paraphrases, clarifies and comments on the *Maṭālib*, which contains several passages which are problematic and ambiguous. It is hoped that this thesis will contribute to a better understanding of al-Rāzī's physics and metaphysics.

Chapter One

The Existence of Time

1. Time Does not Exist

Al-Rāzī's predecessors like al-Kindī,⁵ al-Ghazālī,⁶ and al-Shahrastānī have argued that time has no objective existence because it is a concept formed in the estimative faculty (*wahm*). In al-Rāzī's exposition on the arguments against the existence of time in several of his works, the holders of this view are not specifically mentioned.⁷ Al-Rāzī summarizes and systematizes these arguments, though they are not systematically elaborated in the works of these proponents. Al-Rāzī's exposition on their arguments in *al-Mabāḥith al-Mashriqiyyah*⁸ is less comprehensive than in *al-Maṭālib al-ʿĀliyyah* because the former belongs to an earlier period, while the latter belongs to a later period. Precisely and briefly stated, they argue that existents may be divided into two classes, (a) those (existents) whose persistence is due to the fact that each individual is successive to another one. This concept does not require an affirmation of something [sc. time] that is additional to them, and (b) those whose persistence is due to the fact that they permanently exist in the same way; this

⁵ In al-Kindī's view, infinite time is based upon the imagination. Alfred L. Ivry, *al-Kindī's Metaphysics* (New York: State University of New York, 1974), 59-70.

⁶ Al-Ghazālī repeatedly states in *Tahāfut al-Falāsifah* that time is the work of the imagination. For a detailed view of Al-Ghazālī, see *Tahāfut al-Falāsifah*, trans. Michael E. Marmura, *The Incoherence of the Philosophers*, (Provo: Brigham Young University Press, 1997), 31-38 passim. This work is hereinafter cited as *Tahāfut*.

⁷ Al-Rāzī, *Sharh 'Uyūn al-Ḥikmah*, ed. Aḥmad Ḥijāzī Aḥmad al-Saqā, 3 vols. (Tehran: Mu'assasah al-Ṣādiq, 1415 H), 2: 120, henceforth cited as *SUH*; and *MA*, 5: 9-19.

⁸ Al-Rāzī cites 5 arguments against the existence of time in the *al-Mabāḥith*, whereas he mentions 12 arguments in the *Maṭālib*. See Al-Rāzī, *al-Mabāḥith al-Mashriqiyyah fī al-'Ilm al-Ilāhiyyāt*, 2 vols, 2nd ed. (Qum: Maktabah Bīdar, 1966) 1: 642-47, hereinafter abbreviated as *MM*; and *MA*, 5: 9-19.

concept also does not require the affirmation of something that is additional. This argument is further elaborated as follows:⁹

(1) If time were existent, it would either be or not be permanently existent (*mustamirr al-wujūd*). If it were permanently existent, then today would be exactly the same as the day of the Great Flood (*al-ṭūfān*). On this supposition, today's event would be an event at the time of the Great Flood, even before it, even an infinite time before it, and this is an absurd contradiction. Moreover, by supposing that it always exists in the same way, it must be true that it existed before (it existed) and will exist after it has existed. If this concept required the affirmation of time (duration) for it, then time (duration) must require another time (duration), so an infinite regression would result, and this is impossible. If it were not permanently existent, then it would imply that the supposed parts of time are subsequent and successive (*muta'āqibah wa-mutawāliyah*); then it is right to say that each part of time is happening now, not before, nor after. If the judgment on each part of time that it is happening now, or that it happened before now, or that it will happen after now, required something else as a receptacle for each part, and if it is due to its occurrence in this receptacle that it is true that it happens now, or that it has happened in the past, or that it will happen in the future, then it would be necessary for time to require another time *ad infinitum*, and that is absurd.¹⁰

(2) It is self-evident that the parts of time do not occur simultaneously but subsequently. Thus, either each part of time has or has no occurrence

⁹ *MA*, 5: 9-19.

¹⁰ *Ibid.*, 5: 9; and *MM*, 1 : 642.

(presence).¹¹ As for the first alternative, if it had presence, then at the occasion of its presence, it would be indivisible; for otherwise it would consist of two parts in which the first part is prior to the second one, so that the present would not be present, and this is a contradiction. Thus, each part of time is indivisible, so time is composed of indivisible parts. It follows that a body would also be composed of indivisible parts, because if the extent of the distance along which something is moving in an indivisible now were divisible, then motion along one half of that distance would occur in one half of that now, and then the now would be divisible, whereas it was assumed as being indivisible, and this is a contradiction. Thus, if time were indivisible, it would lead to the affirmation of an individual substance (*jawhar fard*),¹² and this is wrong. As a result, time has no existence. As for the second alternative, if each part of time has no occurrence (presence) at all, time will have no existence. Each part of time has no occurrence because the past has been present and then disappeared and the future is not yet present. Thus, past and future are dependent on the present. When it is impossible for the present to exist, it is also impossible for the past and future to exist. Since the existence of time is neither in the present, nor in the past, nor in the future, its existence is impossible.¹³

- (3) Either time is originated or pre-eternal. If it were originated, then its non-existence would be before its existence. This before-ness is not in time because this occurs in the non-existence of time, which is prior to the existence of all time, and when this non-existence occurs, time does not exist.

¹¹ Either each part of time is or is not, i.e., occurring now.

¹² *jawhar fard* is used to refer to atoms (indivisible parts)

¹³ Cf. *MM*, I: 644-45.

Thus, priority has occurred without the occurrence of time and its occurrence does not depend on the existence of time. If time were pre-eternal, then this would be wrong because the existence of time is only established due to the subsequent priorities and posteriorities. This subsequence is change and it is the essence of time, hence, its essence is preceded by the existence of something else. Eternity, however, is not compatible with something else preceding. The combination of the essence of time and the essence of pre-eternity is impossible.

- (4) It is self-evident that yesterday's event is prior to today's event and yesterday is prior to today. What is prior and what is posterior cannot exist together. If this kind of priority required the existence of a receptacle in which this priority and posteriority occur, this receptacle would require the existence of another receptacle *ad infinitum*. If this kind of priority did not require a receptacle at all, then this would be the case also in all temporal events. It is impossible to affirm an infinite number of times, one encompassed within another, because on this supposition, today is not one day, but an infinite number of days, one encompassed in another, while their totality is present today. Also, yesterday is not one yesterday, but an infinite number of days, one encompassed in another, whereas their totality was present yesterday. Thus, the sum total of infinite yesterdays precedes the totality of infinite today's, and this precedence must be due to another time, which is a receptacle and a container for the other. A receptacle for the sum total of yesterdays must be outside time, due to the fact that the receptacle is different from what is being received. However, this totality of yesterdays is one of the yesterdays and therefore, it must be at the same time inside the

sum total of yesterdays. Thus, one thing in relation to this totality is both outside and inside this totality, and this is absurd.¹⁴

(5) God must precede today's events and it is impossible for His essence to be separated (*infikāk*) from this priority. The occurrence of this priority is either dependent on or independent of the occurrence of time. If this priority were dependent on time, then the necessarily existent-in-itself would require time. As a result, the necessarily-existent-in-itself would be the contingently-existent-in-itself, and this is a contradiction. Moreover, if the necessarily-existent-in-itself required the existence of time for its existence, then it would be self-evident that it is time which is rather the necessarily-existent-in-itself, although it is composed of successive and subsequent temporal events, and all that is impossible. Thus, God's priority over today's events is not dependent on time, but His priority over today's events is the same as the priority of any temporal precedent (*mutaqaddim zamānī*), to any temporal posterity (*mutakhkhir zamānī*) and there is no difference between the two, and so the existence of duration (time) is not taken into consideration even though these priorities (*al-taqaddumāt*) occur.

(6) There is no doubt that God is an enduring existent. In the same way as origination can only be conceived with an imagination of duration (time), endurance (*al-dawām*) can only be conceived also with the imagination of an enduring duration (time), because what endures (*al-dā'im*) has no beginning for its existence. If this imaginative proposition were true, God's endurance would require the existence of time, and what depends on something else is contingent-in-itself, and hence, the necessarily-existent-in-itself is

¹⁴ Ibid., 1: 643-44.

contingent-in-itself, and this is a contradiction. If this imaginative proposition were false, and the truth would be that the enduring of a thing is not dependent on the existence of duration (time), and this should be the case with regard to origination and change, then a thing's being before, or after, or simultaneous with something else does not depend on the existence of something else that is a receptacle or a container for what is prior and for what is posterior, and that is what is meant by the denial of time.

(7) Duration is contingent-in-itself because its parts are successive and originated. Thus, if time were an existent, it would be contingent-in-itself for the supposition of its non-existence after its existence does not entail absurdity (*fa-innahū lā yalzam min farq 'adamihī ba'da wujūdhī muḥāl*). If this posteriority could only be determined by time, then time would exist at the occasion that it was supposed to be non-existent, because its non-existence after its existence could be only determined by time. So if we suppose that time does not exist after its existence, then it would follow from its non-existence occurring after its existence, that it is existent, at the occasion of its supposed non-existence, and this is impossible. Thus, if time were an existent, the very supposition of its non-existence would necessitate its existence. Thus, the supposition of the non-existence of time necessitates an impossibility-in-itself, and hence, time is necessary-in-itself. Thus, if time existed, it would be contingent-in-itself according to the first consideration and would be necessary-in itself according to the second consideration, and this is impossible. Thus, the occurrence of priorities and posteriorities is not dependent on the existence of time.

- (8) The philosophers say that the existence of an originated thing occurs after its non-existence, so it has a preceding non-existence and a subsequent existence. It is impossible for the existence of an originated thing, after having been non-existent to be acquired from a separate cause because the precedence of its non-existence to its existence is a necessary fact in itself. It is impossible to suppose this existence unless it is preceded by non-existence. Since precedence (*al-masbūqiyyah*) is a necessary fact in the very essence of an originated thing, its existence cannot be acquired from a separate cause. I say: if this existence after its non-existence cannot be caused by something else, how could they say that this priority and this posteriority can only be determined by something else, which is called duration and time? A thing, being judged as before something else, can exist only with this priority and a thing, being judged as after something else, can exist only with this posteriority. Thus, the occurrence of priorities and posteriorities is something that takes place by itself. Since the necessary existent-in-itself is not the necessary-by-the other, one concludes that the occurrence of these priorities and posteriorities is not dependent on the existence of something else.
- (9) The essence of time (duration) must be quantity because it is receptive of being equal and different. This quantity is neither continuous nor discrete. As a result, time has no existence. It cannot be a continuous quantity because a continuous quantity is divisible into two parts that share a common single boundary. Time is divided into past and future, and both of them share a single boundary, i.e., the now, which is the end of the past and beginning of the future. However, past and future are non-existents and the now is existent. Thus, one of the two non-existents, namely the past, is connected to

the second non-existent, namely the future with a boundary that links both of them, namely the now. This cannot be accepted, because it cannot be accepted that two non-existents are connected to one another. Furthermore, it cannot be conceived either that a non-existent is described as having a boundary that exists. It cannot be a discrete quantity either, because otherwise it would follow that bodies are composed of indivisible parts, and that has been refuted.

- (10) If time were an existent, it would either be or not be an attribute of motion. However, both are false, so time is not an existent. As for the second alternative, time cannot be an attribute of motion for two reasons; (a) God “was” occurring in the pre-eternity and the non-existence of what now exists occurred in the pre-eternity. “Was” signifies time, and it has occurred even though motion and change have not, because the existence of God was devoid of motion and change. Similarly, the non-existence of today’s originated thing was also devoid of change in the pre-eternity. (b) The argument would become circular because motion requires time, and vice versa. As for the first alternative, it is impossible for time not to be an attribute of motion because time can only be determined by the occurrence of successive priorities and posteriorities. The occurrence of priority after posteriority and vice versa is change or motion. This implies that the essence of time can only be determined by the occurrence of motion. Thus, if time were existent, it would be or not be an attribute of motion. However, both are false, so time is not an existent.¹⁵

¹⁵ Ibid., I: 643.

(11) If time were an existent, it would either be or not be a measure of motion.

However, both are wrong, so time is not an existent. Time is not a measure of motion because otherwise it would mean that it were a measure of the extension of motion, and the extension of motion has no existence in the external reality (*a'yān*). The subsequent occurrences of a certain substance in subsequent spaces do not occur in the external reality; what only occurs is that a certain substance occurs in a certain space. Since the extension of a motion's existence does not occur in the external reality, its measure, which is an attribute of this extension, does not exist either.¹⁶ This extension is non-existent in the external reality, so it is impossible for the measure of this extension to exist in the external reality because an attribute of a non-existent can never be an existent. Al-Rāzī does not reject the view that time exists, but is not a measure of motion, because the discussion is focusing on the idea that time is a measure of motion, as maintained by Aristotle and his companions.

(12) The existence of any originated thing is preceded by its non-existence. The precedence is an aspect (*ṣifah*) of the non-existent, and hence, this aspect is non-existent. Thus, priority and posteriority do not exist at all in the external reality while pure non-existence does not require an existent substrate (*maḥāll mawjūd*). Thus, priority and posteriority do not require something existing to which they are attributed. Time has no real existence except as something to which this priority and posteriority are attributed. As a result, time (duration) cannot be an existent thing.¹⁷

¹⁶ Ibid., 1: 646-47.

¹⁷ MA, 5: 19.

According to these 12 arguments, time does not indicate anything more than that the existence of some existents is enduring, while others are successive and subsequent.

Commenting on the arguments against the existence of time, al-Rāzī admitted that he has no clear views in his early work, *al-Mabāhith al-Mashriqiyyah*.¹⁸ However, as we shall see, al-Rāzī's views in this early work were modified in his later works such as in *Sharḥ 'Uyun al-Ḥikmah* and in *al-Maṭālib al-'Alīyah*.

2. The Existence of Time is Self-Evident

Having systematically exposed the arguments against the existence of time, al-Rāzī proceeds to discuss the arguments for the existence of time. He holds that those who argue that time exists differ on whether it is a substance or an accident. Those who believe that it is a substance disagree as to whether it is an immaterial substance or a body. Those who regard time as an accident agree that it is a non-permanent accident that flows; however, they disagree as to whether it is motion or another accident, which is not motion.¹⁹ Al-Rāzī's position on this issue is that time is neither an accident, nor a body, but an abstract substance (*jawhar mujarrad*). In maintaining this view, al-Rāzī claims that he systematizes the arguments of Abū Bakr Muḥammad ibn Zakariyyā al-Rāzī and others²⁰ who state that time is a self-evident substance, and hence, proofs of its existence are not required. This can be

¹⁸ *MM*, 1: 647

¹⁹ *MM*, 1: 651.

²⁰ Although al-Rāzī did not mention them by name, it can be rightly assumed that Abū al-Barakāt al-Bagdādī is one of them because he maintains that time is like an existence, which can never be removed from the human mind. See further Abū al-Barakāt al-Bagdādī, *al-Mu'tabar*, 3: 39. The section on Metaphysics (*al-Ilāhiyyāt*) in the *Mu'tabar* has been edited by Wan Suhaimi Wan Abdullah, (M.A. thesis, University of al-Azhar, 1998), 263, henceforth cited as *al-Ilāhiyyāt*.

shown in various ways; however, as can be seen, these arguments are not devoid of repetition.²¹

1. Imagine someone who is blind sitting in a darkened house and unaware of the existence of the celestial spheres and stars. He still finds out necessarily that duration flows ceaselessly, even if he intends to bring all motions, including even those of his eye and soul to a state of rest. When he considers this circumstance from the early morning (*bukrah*) to morning (*dahwah*) and then from morning to the time of noon (*waqt al-zuhr*), then even if he is unaware of the motions of all the celestial spheres, he knows all by himself as a self-evident matter that what has passed from early morning to morning is a half of what has passed from the early morning to midday, and this spontaneous knowledge does not depend on his knowledge of the moving celestial spheres and stars. These considerations show that the knowledge of the existence of duration (time) is primarily self-evident and does not need any proof or explanation.

2. The human mind judges that a thing, whether existent or non-existent, is either in a state of origination and change or in a state of endurance and permanence. If we consider it in the state of its origination, then the mind affirms space and time and makes them a receptacle for the origination of a thing. The mind has to say that a thing has occurred at such and such a time. If we consider it in the state of its endurance, this endurance is only conceivable if it has existed in previous times as much as it now exists in the present time. Thus, the meaning of origination and endurance can never be conceived if time is removed from the human mind.

²¹ *MA*, 5: 21-32.

3. The prophet Adam's priority to the prophet Muhammad means that there is a specific duration between them and the simultaneous existence of twin brothers means that they exist at the same time. Thus, the knowledge of the existence of duration is very obvious in the human mind. The meaning of simultaneity and priority are not essences in themselves because their essences and their existences are the locus of division (*mawrid li al-taqṣīm*) for this simultaneity and this priority. The locus of division is known necessarily.
4. Whether a body is moving or at rest, the concept of motion presupposes time. The moving body occurs in a place, after having occurred in another place. This posteriority signifies that the body had occurred in another place, and then occurred at another time in another place. This shows that motion can only be understood after admitting the existence of duration (time). Also, a body, which is at rest, remains in one place for a long time. This also signifies that duration (time) exists. Thus, the knowledge of the essences of motion and rest occurs only after admitting the existence of duration (time), and as the knowledge of motion and rest is evident and primary, it follows that the knowledge of them can only be determined by accepting the existence of duration (time). Thus, something that is based on the evident assent (*al-taṣdīq al-badīhī*) is more appropriate to be primary. Thus, the knowledge of the existence of duration (time) is self-evident knowledge.
5. Every human mind knows self-evidently that what exists is either pre-eternal, i.e., that its existence has no beginning, or originated, i.e., that its existence has a beginning. That something exists without a beginning means that, if we consider a situation in former times (*al-azminah al-sālifah*), we can only

imagine that time already existed before that. Concerning the meaning of origination, it is that the existence of something has a beginning; in this case the human mind arrives at a moment in which it deems that the thing has been originated. Thus, the meanings of pre-eternity and origination can only be conceived by taking the existence of time into consideration.

6. It is obvious to the human mind that time can be divided into years, months, days, and hours, and it is known necessarily that an hour is a part of a day, which is a part of a month, which is a part of a year, which is a part of duration. The knowledge of these divisions and the knowledge that some parts are shorter or longer than others is necessary knowledge (*'ilm al-darūrī*). Time must be realized (*mutahaqqiq*) in the external reality, otherwise it could never be a locus of these divisions in the external reality.
7. Everyone knows that duration is either short or long and this is not merely a mental or a pure supposition because it is in conformity with an external thing.
8. Years are successive and the past, present and future are different from each other. If these attributes of duration can be known self-evidently, then that to which they are attributed is even more suitably known as self-evident.
9. We may say that two motions start simultaneously and stop simultaneously and that of two other motions one starts before or stops before or after the other. Our knowledge of this simultaneity in starting and stopping, and in this priority and posteriority, is a necessary knowledge. The meaning of simultaneity is that the two motions occur at the same time, and the meaning of priority and posteriority is that what is prior occurs before the occurrence

of what is posterior. All this shows that the knowledge of the existence of duration (time) is self-evident knowledge.²²

10. It is self-evident that the motion of a creeping ant is slower than that of a flying bird. The meaning of slow motion and fast motion is that the fast one covers the same distance as the slow one in a shorter time, or it covers a longer distance than the distance of the slow one in the same time. Thus, the knowledge of slow and fast motions is self-evident and the essences of the fast and the slow motions can only be conceived by taking the existence of duration (time) into consideration.²³

Having shown that the existence of time is self-evident, al-Rāzī then proceeds to show that time is not a motion of the celestial spheres, nor an attribute of that motion due to the following reasons:²⁴

1. Suppose a blind man is sitting in a darkened house and is observing the way duration (time) passes. He knows more or less how much duration passes, even without referring to the state of the celestial spheres. He finds out necessarily that duration passes persistently and endures ceaselessly, except if he is sleeping or if his thought is occupied with something different. Even if he imagines that all the celestial spheres are non-existent, or all moving things are at rest, or he is not aware of any of them, his mind is still convinced that something is passing, which is called duration. Even if he has been deaf and blind since the beginning of his creation, such that he has never seen the celestial spheres and never heard at all that God created these things, and even if he would force himself to bring his soul, his eyes, and the pupils

²² The ninth argument is a repetition of the third one.

²³ The tenth argument is a repetition of the seventh one.

²⁴ *MA*, 5: 26-32.

of his eyes to rest, then in these situations he would still find duration steadfastly in the mind. This shows that the knowledge of the existence of time is necessary and that time is not the motion of the celestial spheres.

2. It is possible for the mind to imagine that the prior part of the motion of the celestial sphere can be changed into the posterior part, and vice versa. When the celestial sphere moves from the East to the West, its motion in the Eastern region is prior to its motion in the Western region. If we imagine that the celestial sphere moved from the West to the East, then its motion in the Western region would be prior to its motion in the Eastern region. However, it is impossible for the mind to imagine that the prior part of time can be changed into the posterior part, and vice versa. Thus, duration is neither motion, nor its attributes, nor its adjuncts (*lawāḥiq*).
3. It is possible to question whether the motion of this sphere had occurred before this moment during a period of 100, 000 years, or shorter, or longer. However, it is not possible to question whether the previous duration that occurred before this present hour has occurred during a period of 100, 000 years.
4. The biggest celestial circle is the equator (*minṭaqah*). The parallel circles which are closer to the equator are faster and those which are farther from it are slower. Thus, the daily motions, which occur in the parallel celestial circles, vary in speed. If time were equivalent to the celestial motion, then its being equivalent to some of those circular motions would not be more primary than its being equivalent to the motions of the other circles. If it were equivalent to all of them, then this one day would not be one day but many days that occur simultaneously, in accordance with those parallel

circles, and this is absurd. If it is said that none of these is the very duration (time), but that time is something different, namely that it measures all of them, then this is what we were looking for. This view can be strengthened by saying that each of those circular motions occurs in one time. The mind judges that time is a receptacle for all those motions.

5. Motion is fast and slow, but time cannot be described like that. Time is neither slower than another, nor faster than another time. Moreover, the speed of motion is conceived because of time, for a slow motion covers a distance in a longer time, or it covers a shorter distance than a faster one in the same time, and a fast motion is what behaves in just the opposite way.
6. It is possible to conceive many celestial spheres in an infinite void, in which each of them is outside the other and is not connected with the other. On this supposition, it is possible to conceive many simultaneous motions, such that they will not follow one another, but it is impossible to conceive the occurrence of two simultaneous times.
7. We may say that a motion with all its attributes occurs in a certain time, but we cannot say that a motion occurs in itself, or in one of its attributes, or in another motion.²⁵
8. Time can be perceived without motion. Imagine that God makes all the celestial spheres non-existent at the occurrence of the resurrection and He leaves them to pure non-existence for a very long time until He creates them again at the resurrection. Then there is a specific duration, namely the intermediate duration between the beginning of the time of their non-existence and the beginning of the time of their remaking. The human mind is

²⁵ The text seems to be a repetition. *MA*, 5: 29.