

## The Study of Falak Science in the Qur'an: Analytical Study of Tafsir Al-Misbah

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### *Abstract*

The falak science is a discipline of practical astronomy which is more inclined to the relationship between the movement of celestial bodies and the practice of muslim worship. The movement of celestial bodies is often used as an indicator in the implementation of certain worship rituals. The five daily prayers are concerned with the rotation of the earth which causes day and night. The earth and moon revolutions led to the Syamsiah and Qomariah calendars to find out the schedule for the Hajj. The shape of the earth that is round and the sun's light at a certain time can be an indication of the Qibla direction. The definition of falak as the movement of celestial bodies as described above is interesting to study in the Qur'an. This study used a content analysis method of the Qur'an with interpretation media of Tafsir Al-Misbah. There were three concluding phases of this study; First, textual identification of falak verses were found in three words, namely al-falak, al-falaq, and al-fulk. Al-falak means the path of the earth, al-falaq means a cleaver, and al-fulk means ark (sailing ship). Al-Falaq which means the movement of celestial bodies has significance with the theory of nature's qadim. Scientifically, astronomy can prove scientifically that nature predates time.

**Keywords:** *Falak science, The Qur'an, Tafsir Al-Misbah*

### *Abstrak*

Ilmu falak merupakan disiplin ilmu astronomi praktis yang lebih condong pada hubungan antara gerak benda-benda angkasa dan amalan ibadah umat Islam. Pergerakan benda-benda angkasa sering dijadikan indikator dalam pelaksanaan ritual ibadah tertentu. Shalat lima waktu berkaitan dengan perputaran bumi yang menyebabkan terjadinya siang dan malam. Revolusi bumi dan bulan memunculkan penanggalan Syamsiah dan Qomariah untuk mengetahui jadwal haji. Bentuk bumi yang bulat dan cahaya matahari pada waktu tertentu dapat menjadi petunjuk arah kiblat. Pengertian falak sebagai gerak benda-benda angkasa sebagaimana

diuraikan di atas menarik untuk dikaji dalam Al-Qur'an. Penelitian ini menggunakan metode analisis isi Al-Qur'an dengan media tafsir Tafsir Al-Misbah. Ada tiga fase kesimpulan dari penelitian ini; Pertama, identifikasi tekstual ayat falak ditemukan dalam tiga kata, yaitu al-falak, al-falaq, dan al-fulk. Al-falak berarti jalan bumi, al-falaq berarti kujang, dan al-fulk berarti bahtera (kapal layar). Al-Falaq yang berarti gerak benda langit memiliki arti penting dengan teori qadim alam. Secara ilmiah, astronomi dapat membuktikan secara ilmiah bahwa alam mendahului waktu.

*Kata Kunci: Ilmu Falak, Al-Qur'an, Tafsir Al-Misbah*

## INTRODUCTION

It can be said that the falak science is a late Islamic discipline when it is associated with other Islamic disciplines. This is inseparable from the majority of Muslims (traditionalists) who feel that the most correct practice of worship is the same as during the time of the prophet, so that the stigma has made Muslims put aside the urgency of studying Islamic astronomy and have considered it a fardhu kifayah (Daud 2019).

Making the Prophet as a reference is a matter that is obligatory for muslims, but not all of them are general in nature. There are discourses that must imitate the prophet in totality, but there are also religious discourses that require ijtihad, especially new phenomena that may not have occurred at the time of the Prophet.

In addition, the controversy among muslim scholars who considered that the accuracy of astronomy is still doubtful has made muslims even more apathetic towards astronomical studies (Hambali 2013). Therefore, it is not surprising that the science of astronomy has come a long way in the west which is dominated by scientists and philosophers. Later, when the west was increasingly modern with technology, muslim jealousy began to emerge. There are efforts to catch up with the West including in the study of astronomy itself.

Historically, Muslims today are increasingly distant from the existence of the Prophet Muhammad who was still alive at his time. If it is likened to a gun being fired, the farther away from the Prophet's time, the farther the direction of the bullet is towards what is targeted. Not to mention that the differences in schools and religions make Muslims and one another have different understandings in interpreting something (Salam, M.Ag, 2012). So it is not surprising that there were differences in dates for Ramadan or Eid al-Fitr because

of the many methods and points of view of various courses. It is predictable that the debate surrounding such worship practices will become more pronounced in the future. When that happens, the only way to make it uniform is the application of the falak science.

The Qur'an itself informs a lot of treasures related to the science of astronomy. For example, it can be found the identification of falak problems in both the letter and the verse of the Qur'an (Fakhri 2010). In several verses of the Qur'an, names of objects that are part of the solar system such as al-qamar (moon) are mentioned 27 times, al-syams (sun) which are mentioned 33 times, and al-najm (stars) which are mentioned 13 times.

Apart from the text of the celestial bodies, it is also found that there are a number of letters in the Qur'an whose names mean various elements in the solar system. Such as Al-Buruj (stars), As-Shams (sun), Al-Qamar (moon), Al-Najm (stars), and Al-Ma'arij (places of rise) (Matondang and Erdian 2018). This shows that the Qur'an has called on mankind to study astronomy which in the Islamic world is termed as the science of falak.

It is interested in Surah Ali Imran verse 190; 'Indeed, in the creation of the heavens and the earth, and the alternation of night and day there are signs for those who are wise (Qs, Imran, and Mustofa 2016). Furthermore, the Qur'an clearly explained, one of the reasons for the creation of the solar system is that it can be used as a medium or reference in knowing the changes in time in the form of years, months, days, even minutes. In Surah Yunus verse 10 it is explained; 'It is He who has made the sun shine and the moon shine and He appointed manzilah (places) for the journey of the moon, so that you know the number of years and calculations (time)' (Fitria 2016).

## **RESEARCH METHOD**

This writing used a content analysis method, namely a scientific analysis of the content of a communication message. Content analysis technique is a research technique for making inferences (the process of drawing conclusions based on prior considerations or general considerations) that can be replicated and validated data with attention to the context (Rahayu, Rahayu, and Artikel 2014). Content Analysis (analysis) is a research method that is a discussion of the content of written information

Based on the explanation above, in this study the author used the method of content analysis of the Qur'an as a method for analyzing the content of the research discussion quoted from tafsir M. Quraish Shihab (Tafsir Al-Misbah, Message, Impression and conformity of the Qur'an). In addition, it will also be compared with various perspectives from other tafsir such as Jalaluddin As-Sayuthi, translation of Abdul Hayyie's team (Due to the decline of the Qur'an). Jalaluddin Abdurrohman As-syuyuthi, translation of Rohadi Abu Bakr (Asbabun Nuzul, due to the descent of the Qur'anic verses). Qamaruddin Shaleh (Asbababun Nuzul, historical background for the decline of the verses of the Qur'an).

## RESEARCH FINDINGS AND DISCUSSION

### Identification of Verses

Basically, the term 'falak' is derived from the Qur'an either as a whole or nearby. In its entirety, the word is only found in two verses of the Qur'an, namely Surah Al-Anbiya verse 33 and Surah Yasin verse 40. In these two verses, 'falak' is defined as the line or movement of celestial bodies. In language, the word 'falak' is also identified with the word 'madar' which means axis or orbit (Mujab and Nasir 2020). In terms, falak is a discipline that studies the movement of celestial bodies because it has relevance to Muslim worship practices (Anzaikhan 2020).

The terms that are close to the word falak in the Qur'an were found in Surah Al-Falaq verse 1 and Surat Al-An'am verse 95. In Surah Al-Falaq, 'falaq' means 'dawn' or at dawn (Sada 2016). This is interesting, considering that almost all dawn or fajr texts usually use the word 'as-subhi' or 'al-fajri'. In another interpretation, 'falaq' is meant as 'Rabbul falaq', namely God who splits the seeds of plants, splits fruit seeds, and divides the night so that the dawn will rise (As-Singkili, Hamka, and Shihab 2018). This is consistent with the word 'faliqqu' in Surah Al-An'am verse 95 which means 'to split' or 'to grow' plant shoots.

In the Tafsir Al-Misbah, this verse has discussed the change of time from night to day which is a very risky condition (Salatiga 2019). Although the context of the Al-Falaq verse did not discuss the movement of celestial bodies, if it is quoted based on the word (Al-Falaq), it was very clear that it intersects in the context of time. In the study of falak science, the time of dawn occurs due to the impact of the rotation of the earth and the sun so that there was a day and night.

Furthermore, there was the word 'fulk' in the Qur'an which means 'ark' (sailing ship) (Salah et al. 2017). The identification of the word al-fulk is mostly found in the Qur'an with more than 10 words, namely in surah Al-Baqarah verse 164; Hud verses 37, 38; Jasiyah verse 12; Al-Isra verse 66; Ibrahim verse 32; Yasin verse 41; Al-Mukninun verses 22, 27; Asy-Syuara verse 119, Al-Fatir verse 12, and An-Nahl verse 14. Related to the 'ark' itself, it is most often found in the stories of the Prophet Noah in the Qur'an, which have historically touched on ships and major floods.

In term, al-Fulk in the above verses did not specifically discuss the movement of celestial bodies. However, when referring to the word 'al-falaq' which means 'to split', then al-fulk has the relevance of 'splitting the ocean' (Al-Fatir: 12, and An-Nahl: 14). The term splitting the sea in the above verse was not like splitting the sea in the story of the Prophet Musa, but means crossing the sea so that it is in the middle of the ocean (Sawaluddin siregar 2018). The significance of navigating the oceans and astronomy is clearly connected, as is how sailors implement astrology as a radar.

Speaking of astrology means entering the area of astronomy or falak science. The role of astronomy was vital for sailors who did not have technology at that time. Sailors in the past used celestial bodies (constellations, sun symptoms, moon positions) as a compass to survive in the oceans (Hambali 2013). The knowledge of astrology allowed sailors to go and return in the right direction. Not only that, their mastery of celestial science allows them to predict when a storm will come, and predict when the sea water will recede or tide. In the study of astronomy, the process of tides and ebbs of sea water is influenced by the gravity of the moon (Ushuluddin 2020). When sailors use their understanding of the moon, especially when it is at the closest or farthest point from the earth, they are already in the implementation of astronomy.

### **Tafsir Al-Misbah**

Tafsir Al-Misbah is a monumental work by M. Quraish Shihab as an expert on interpreting the Qur'an in Indonesia. The Tafseer of Al-Misbah is 15 volumes containing the entire contents of the Al-Quran, amounting to 30 juz. The book was first published by the Lentera Hati Publisher in 2000. Then it was reprinted for the second time in 2004. Of the 15 volumes, they have different content weights and different numbers of chapters (Lufaei 2019).

M. Quraish Shihab explained his interpretation using the *mushafi tartib*. when interpreting the Al-Quran, he wrote them sequentially according to the arrangement of the Al-Quran writing pattern. That means he translated the Koran based on verse by verse starting from Al-Fatihah to An-Nas. Before entering into the interpretation of each chapter of the Qurais Shihab provides information as an introduction. The introduction in Tafsir Al-Misbah varies depending on the conditions of the verse and surah. Sometimes it starts with the explanation of the name of the surah, *asbabun nuzul*, its relationship with other verses, or directly to the verses' hidden treasures.

Methodologically, the systematics applied by the Quraish Shihab when compiling the Tafsir Al-Misbah is has no different from the systematic writing of commentaries in general. You could say that it wasn't something of a new or distinctive identity at all. In contrast to the Tafsir Hermeneutic which may be more moderate and controversial in various circles. Furthermore, in terms of type, Tafsir al-Misbah can be classified as *bi ar-ra'yis* as well as *bi al-ma'thur* tafsir (Wartini 2014). It is said to be *bi ar-ra'yi* because in describing the verse, the Qurais Shihab tends to do reasoning or rational reasoning (*burhani*) which is the characteristic of his interpretation. It is said to be *bi al-ma'thur* because almost all the verses that are interpreted have an explanation of the history between the verses, the explanation of the hadiths, the opinions of friends and the opinions of *tabiin* (Al-Jabiri et al. 2020).

In addition, Tafsir Al-Misbah also used the *tahlili* (description) method, a paradigm of tafsir work that seeks to reveal the contents of the Qur'an from various points of view (WN Afif 2019). So it was not surprising that Tafsir Al-Misbah has produced dualism or paradox meaning in the same text. This is implemented in order to produce an interpretation of the verse that is considered the closest to the universal order of reading the Qur'an (Salah et al. 2017).

### **Interpretation of Falak Verses**

Al-Quran has discussed quite a lot of discourses related to the science of astronomy, both in the macro cosmos and micro cosmos. Simply put, the macro cosmos is a study of the entire vast universe, while the micro cosmos is an ethnicity of the elements of the universe in miniature, namely humans (Ushuluddin 2020). So do not be surprised if the philosophers say that if you want to know Your God, then know yourself. This means that if the universe is

so vast that it cannot be reached due to the limitations of knowledge, then explore the elements of the attributes of the human (physical) body which are very affordable and even attached to anyone.

In the falak science itself, it is actually more focused on the macro dimensions of the cosmos, such as; theory of the creation of the universe, the movement of celestial bodies, eclipses, galaxies, stars, comets and other astronomical studies. Furthermore, the study of astronomy widened to the practical realm. This is because the movement of celestial bodies touches Muslim worship practices as described in the Al-Quran (Hana 2020). As a result of the movement of celestial bodies, the condition of the earth internally experiences a very large impact, such as day and night associated with the five daily prayers. Eclipses associated with eclipse prayers, the earth's revolution which produces the syamsiah and qomariah calendars, and the gravity of the moon which causes the tides of the sea water.

Due to the extensive study of practical astronomy (falak science), the identification of falak verses in this study only focuses on the text 'falak' in the Al-Quran. Both the word al-falak in the meaning of the circulation of celestial bodies, al-falaq in the meaning of division, and al-fulk in the meaning of the ark (sailing ship).

#### ***Al-Falak as an Orbit***

Explicitly, the text al-falak which means 'orbit' or path is in two verses. Namely in Surah Al-Anbiya verse 33, and Surah Yasin verse 40. According to Al-Misbah's interpretation, Surah Al-Anbiya verse 33 is meaningful that;

*"Allah made the night, day, sun and moon. Everything goes according to the place that has been outlined by Allah and circulates on its respective pivot point which will not deviate from the set line even once. Each celestial body has its own path and profile. All celestial bodies will never stop (rest), but are always walking in an orbital path. This phenomenon is clearly seen in the movement of the sun and moon. Likewise, the movement of the earth on its axis causes day and night to alternate as evidence that it is circulating as well."* (Muhammad Rusli 2013)

Interpretation of surah Yasin verse 40;

*"The sun will not shift from its orbit so that it will precede the position of the moon to enter its circulation. Likewise night, will not precede the time of day and obstruct his presence. In fact, day and night are always changing. The sun, moon*

*and other celestial bodies always travel in their orbits and will never deviate.”*  
(Ministry of Religion 2007).

These verses inform a recent scientific fact discovered by astronomers in the early 17th century AD. As one of the stars, (the sun) as well as other stars have their own orbits. The fact that the sun is visible from the earth is, first, its location as a star closest to the earth's position (Saputra 2006).

Second, the sun has various planets orbiting it in oval orbits. Simply put, all celestial bodies around the sun, if they have less gravitational force than the earth, then they will circle the sun as its axis according to their respective orbits and at their respective speeds without colliding with each other. Likewise with the sun as the axis of the solar system, in essence it also rotates on an axis that has a greater gravitational force called the nebula in the Milky Way galaxy. In modern research, it is believed that the many stars that appear small from the earth are also like the sun which has celestial bodies orbiting them (Khafidhoh 2013).

Thus, the Qur'ab has informed since long ago that scientific discoveries have not been discovered except at the beginning of this century, all circulate on their axistance and on their respective orbital paths so that day and night occur regularly, except when the earth rotates in opposite directions (east to west), unlike usual (west to east), where the moon surrounds the earth, as well as the earth around the sun, its circulation will pass through a cluster of stars which in turn gives rise to the manazil (position) of the moon. As a result of that, from the earth humans can see (in the first and second quarter), the moon looks like an old bunch (full moon) (Lufaei 2019).

In fact, there are still many verses that discuss the circulation of celestial bodies, but other verses (textually) do not use the word 'al-falak' or closer to it but other terms such as 'the exchange of day and night', 'which circulates and sets', 'subordinating the night and day', 'putting the night into the day', 'closing the night over the day', 'setting aside the morning and making the night', 'walking according to the appointed time', and so on. In essence, the term is also part of the falak verses, but requires takwil and further reasoning.



### *Al-Falaq as a Cleaver*

As previously mentioned, al-Falaq which means 'splitting' is found in Surah Al-Falaq verse 1 and Surat Al-An'am verse 95. The interpretation of Al-Falaq verse 1 according to Al-Misbah is;

*"Surah Al-Falaq is part of the Makkiyyah chapter, which consists of 5 chapters. This Surah instructs Rasulullah to return to Allah and ask for protection against the ugliness of every creature who intends to do wrong; from the bad intentions of anyone when it is approaching night (maghrib time), which makes the soul feel afraid and cannot prevent it, from all the bad intentions of people who try to let go of their fellow human relations, and from the ugliness of a malevolent being who wants the loss of other people's favors. Say, I take refuge in God (who controls) the time of division (dawn), with the alternation of night time." (As-Singkili et al. 2018)*

Interpretation of Surah Al-An'am verse 95;

*"Verily Allah divides (grows) the grains of plants and seeds from fruits ..."*  
(Ministry of Religion 2007)

This verse has discussed the evidence of the power of Allah SWT regarding the resurrection of mankind after the Day of Judgment with several variations. The resurrection process is like the splitting of a grain as it grows out sprouting. He (Allah) has split the shoots into many branches so as to produce new trees and trunks (Ushuluddin 2020).

He (Allah) brings out living things from inanimate objects (such as humans who were originally earth), also removes non-living things from living things (like milk that comes out of an animal's body). The Essence of the Almighty and the Supreme is God who is essential. You must not turn other than worshipping Him. The above paragraph describes one of the many powers of Allah SWT with the example of the creation of a plant seed or embryo even though it is in a narrow and pinched condition (Ushuluddin 2020).

When the embryo is alive (animate), the cells and substances within itself change in such a way from seeds to the form of shoots which also have roots that propagate to the ground. This enables the plant to obtain its own nourishment. Furthermore, chlorophyll is formed from carbohydrates, as well as obtaining glucose with the help of sunlight. When the plant enters a time where it will die, it first produces fruit as a potential generation. In this fruit there are seeds which,

if the initial body dies, new life will grow. That's how it always goes on (Muhammad Rusli 2013).

### *Al-Fulk as an Ark*

Al-Fulk, which means ark or sailing ship, has relevance to 'falak science' in connection with other verse texts, but some are not. The connection between ark and falak science is usually indicated by the identification of the words 'sailing' or 'sailing' the oceans. On this occasion the author takes the example of the Al-Jasiah verse 12 and Al-Baqarah verse 164.

Interpretation of Surah Al-Jatsiyah verse 164;

*"Allah has subdued (calmed) the oceans for you so that the ark can sail on it with His permission and so that you can seek His bounty and hopefully you will be grateful." (MORA 2007)*

The verse explains that only Allah is able (with his permission) to tame the ocean so that it is calm and can be traversed by ships. The calmness of the oceans is a form of natural balance due to the balanced movement of celestial bodies (between the earth and the moon, and between the earth and the sun). All of that was created by Allah Almighty so that his servants (humans) can seek sustenance in the oceans or through sea intermediaries such as travel, trade, and hunting fish. (Hakim 2017)

As a result of the balance and movement of celestial bodies, climate occurs. In certain phases the climate makes the oceans have winds that blow in certain directions at any given time. Through the regularity of the winds (West and East monsoons), sailors can sail the seas using only sails (without machines). (Wartini 2014)

Interpretation of Surah Al-Baqarah verse 164;

*"Indeed, at the creation of the heavens-earth, regularly changing night and day, ships sailing in the sea carry what is beneficial to humans, and whatever Allah sends down from the sky, namely water, then with that water He makes the earth live after it is dry then He sprinkles it on. the earth is various kinds of animals, and stirs the winds and the clouds that are subdued between heaven and earth; in fact there are signs of the oneness of Allah for those who think." (Ministry of Religion 2007)*

Allah has given a sign as proof of His existence and divinity for those who use reason in thinking. One proof of this is the sky that you can see, various

stars that move (circulate) regularly, do not precede and collide, some of which illuminate nature. Earth, which has land and oceans, alternates between day and night and the benefits that occur as a result of this change. The ships traveled across the great seas, carrying men and their possessions. Who makes it capable of sailing except Allah? He blew the wind, moved the clouds, made the rain, raised the animals, wet the earth and chopped the plants. He presents the winds from the center of different blows, netting the clouds that float between the heavens and the earth. Did such a balanced provision happen by chance or was it created by the one and only one? "(Khafidhoh 2013)

The verse above informs the latest scientific reality, that in fact nature is identical with celestial bodies. The verse calls on humans to observe and pay attention to the reality of this science of the universe, including to observe star clusters that are very far away from one another, observe the planets in the solar system, and contemplate the sunatullah that makes them so balanced. to understand how the earth rotates to produce the phenomenon of day and night. (Muhammad Rusli 2013)

The verse above has discussed about sea transportation facilities, then examines the scientific process of rain that occurs continuously and repeatedly, starting with sea water that evaporates into clouds, condenses, changes to cold weather and then produces rainfall that waters the earth as the source of life. The above verse also discussed about the wind and its movements. By understanding all that, humans should realize that Allah SWT is behind it all. "(Lufaefi 2019)

### **Latest Falak Discourse**

Talking about the latest findings related to the definition of celestial bodies as the movement of celestial bodies, the authors are interested in discussing how the study of falak science enters the area of debate on the Science of Kalam (the concept of natural qadim). As has been understood, the discourse regarding the qadim of nature still continued from classical times to modern times. There were those who think that nature is new, but there were also those who claimed that nature was also a qadim ethnicity. Based on scientific facts that exist in falak science, of course it has its own perspective in initiating this theory. In addition, the movement of celestial bodies (celestial) has a unique phenomenon when it is associated with Einstein's theory of relativity. Likewise

with the predictions of Western scientists that humans can open a portal of time (a gate to the future or the past) if he is able to create movement (rotation) that exceeds the speed of light.

*The Qadim of Nature*

The concept of the qadim of nature is a long debate that is never ending to be studied. Among classical Kalam thinkers, the concept that nature is qadim is believed by the Muktaẓilah school. This contradicts other Kalam traditions, namely Ahlisunnah Waljamaah. According to the Sunnah Experts, qadim means eternal. The monotheism of this group believes that there should be no other eternal ethnicity apart from Allah SWT. This has become a dimension of tawhid for the majority of Muslims until now.

The same thing happened to Islamic philosophers. Paripatetic philosophers such as Al-Farabi, Ibn Shina and friends considered that nature is qadim. Shortly after that, there was the figure of Al-Ghazali as the leader of Islam who opposed the thoughts of the previous Islamic Philosophy figure. According to Al-Ghazali, Islamic philosophers such as Al-Farabi and Ibn Shina have deviated from the dimensions of true Islamic aqidah (Hayani, Saputra, and Amin 2019). Many of their philosophies contradict the monotheism of a Muslim, such as the concept of qadim of nature, Allah SWT does not know small matters, as well as debates about the process of human awakening later; whether the spirit alone, or the spirit with the body.

Through the book *Tahafut Al-Falasifah* (philosophical fallacy), Al-Ghazali infalled the previous philosophers. The impact of the Al-Ghazali fatwa made the door to philosophy closed, people, especially Muslims, were afraid to study philosophy (Atabik 2014). This dragged on until there was a phenomenal Islamic philosopher in Europe (Spain) named Averroes (Ibn Rushd). Responding to the closing of the door to philosophy by Al-Ghazali, Ibn Rushd composed the book *Faslul Al-Maqal* which contains the permissibility and even obligation to study philosophy (M. B. Afif 2019). Furthermore, in response to the book *Tahafut Al-Falasifah* Al-Ghazali, Ibn Rushd composed the book *Tahafut Tahafut Al-Falasifah* (an error that confuses philosophy).

Since the scope of this paper only discusses the movement of celestial bodies (celestial bodies), the author only explains about the first debate (the qadim of nature). According to Ibn Rushd, Al-Ghazali's denial of Al-Farabi and Ibn Shina is a mistake. Ibn Rushd did not mislead Al-Ghazali, but he explained in

his book that Al-Ghazali misunderstood the concept of qadim. According to Ibn Rushd, the concept of nature's qadim does not mean that nature is eternal like Allah SWT. But the context of qadim in time orientation.

All Muslims have agreed that Allah SWT is qadim, qadim in the definition that Allah is eternal, and qadim in the definition that Allah did exist before time. Logically because Allah SWT created time. This can be proven from the histories contained in the Koran, how can Allah speed up or slow down time. Like the story of Ashabul Kafi who was trapped in a cave for hundreds of years, also like Lukman who was asleep for a long time. While both feel that they have only been sleeping for a while. That means, Allah SWT is the master of time.

Likewise related to the qadim of nature according to the philosophers. Nature is considered qadim not because nature is eternal, but because it existed before time (Barsihannor 2010). In the study of falak science, it is understood that due to the movement of celestial bodies (the universe), humans can determine or measure time. Before clocks were invented, the first time measurement tool was the "sundial" which was performed in Mesopotomia Egypt. Likewise, the use of day and night is used as an indication of determining time (Mustofa 2018). More than that, it turns out that the movement of celestial bodies is not only a medium (measuring instrument) for humans, but is the origin of time itself. This is the meaning of qadim as meant by Al-Farabi and Ibn Shina.

### *Einstein's relativity*

Talking about which one was created by Allah SWT, between 'time' or 'nature' does sound controversial for human understanding. However, when studied further, based on scientific theory, it is closer to the concept that nature existed before time. Furthermore, the time that exists in each creature also differs depending on the speed of movement of the celestial body on which it is tread. That means, if there are humans outside the earth, or if (current humans) are able to live on other planets, then they will experience different realities or the effects of time (Jumini 2015).

This is in accordance with the theory of "Eisntein's relativity" that space and time are closely related. If space changes (moves) as it stretches or bends, it will change time. As a result of stretching and bending space and time, it causes gravity in the universe (Kustanto and Oktova 2016). So it is not surprising that

the gravity of the celestial bodies is not the same as each other, because each has a different intensity of bending and stretching.

Einstein gave an example, if humans are able to make planes exceed the speed of light. Then time will slow down when a pilot is in it. Einstein illustrated that if there are twins who are the same age, one lives on earth and the other goes to space (on a plane that is faster than the speed of light). When they (the twins) meet again, those on earth are older than their twins who were previously on the plane (Jumini 2015). Twins who go to space experience time dilation (time slows down) according to Einstein's theory.

If it is related to the history of Islam, this theory has scientifically answered why Rasulullah Saw could go to the 7th heaven in one night. This is because the Prophet's vehicle at that time was a creature of Allah with a speed far above light. So there is a process of time dilation (the time experienced by the prophet slows down). Even though it sounds ridiculous, Einstein proved it scientifically. Try to pay attention, if there is a rocket or plane that carries the crew into space, even though it is not as fast as light (only approaching) it appears that there is a long contraction from the earth, while those who are on the plane do not see any contraction to the earth (Jumini 2015). This shows that at that time the aircraft experienced a time lag, although only slightly.

A closer example is found in the GPS (global positioning system). When the rider uses GPS, it will make signal contact with satellites in earth orbit. In order for the GPS to work accurately, it uses a special clock (atomic clock) because ordinary clocks are sure to experience a different accumulation of time (Barry and Humairo 2019). The atomic clock in the satellite position is set to run slower so that the result is the same as the clock on earth. If not, there is a time mismatch. The slowdown that occurs on the satellite can reach 7 microseconds per day. Even though it is small, the effect can be huge. If only the theory of relativity did not exist, when the car asks for a self-service GPS location which is only 5 KM away, the satellite will inform you that the distance is 50 KM.

Einstein's theory of relativity can also be seen in magnetic fields. When the wire coil is moved against a magnetic field it will generate electricity. Furthermore, when within a certain time the movement is stopped, the electricity is still there before at a certain time it will also stop. On this plain, physicists explain that there is a relativity of time between the electric condition and the wire coil condition (Setyawarno 2018). This is because the particles moving in the

magnetic field have a speed close to the speed of light. So that time on electricity slows down (time dilation).

## CONCLUSION

Textually, the verses in the Qur'an which mention the word 'falak' are divided into three categories; al-falak, al-falaq, and al-fulk. Al-Falak, which means the path of the earth, is found in two verses, namely in Surah Al-Anbiya: 33 and Yasin: 40. While al-falaq, which means splitting, is found in Surah Al-Falaq: 1 and Surah Al-An'am: 95. Al -Fulk which means the ark has more than 10 places, namely; Al-Baqarah verse 164; Hud verses 37, 38; Jasiyah verse 12; Al-Isra verse 66; Ibrahim verse 32; Yasin verse 41; Al-Mukninun verses 22, 27; Asy-Syuara verse 119, Al-Fatir verse 12, and An-Nahl verse 14.

The relevance of the word al-falaq as a divider with the study of falak science lies in the implied meaning of dividing the time between night and day (at dawn). Likewise the meaning of al-falaq which means splitting the ocean. Its significance with the essence of falak science is that it both points to the effects resulting from the movement of celestial bodies, namely day and night. In the Qur'an, we often find verses that have the meaning of "putting" night into "day", or otherwise, which have a close meaning with "splitting". The simple language of dividing night and day can also be understood as changing the conditions of the day (dawn or maghrib). The word al-fulk, which means ark also has a correlation with astronomy. In the Qur'an, the word al-fulk is often associated with the word "to split the ocean", "sail the sea", or "sail".

Regarding the controversy over the issue of the qadim of nature discussed by theologians and philosophers, the Science of Falak considers that nature is qadim in nature. Qadim which is meant in the study of astronomy is not qadim which means "eternal", but qadim in time orientation. with a definition like that means that nature was created after time, then qadim is a designation that nature existed before time. The reason is because at that time it was due to the movement of nature (celestial bodies). Scientifically this phenomenon has been proven by Albert Einstein in his theory of relativity. According to Einstein, the movement of space (universe) affects time. This can be seen in the application of satellite GPS, the elongation of rockets, and the application of magnetic fields.

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