

# INTEGRATION OF SCIENCE AND RELIGION IN METHODOLOGICAL REVIEW: ANALYSIS OF MIRACLE VERSES

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## *Abstract*

*This study aims to find out and analyze how the integration of Islam and science in the realm of muzizat verses. So far, many scientists have tried to harmonize Islam with Science, namely Nidhal Guessoum, Ian Barbour, and Maurice Bucaille. Despite all the controversy, the author sought to enrich the discourse in the field. The method in this study is literature research with a maudui interpretation approach. The maudui interpretation approach is a method of interpretation that seeks to find answers to the Qur'an by collecting verses from the Qur'an that have the same purpose. Furthermore, the data obtained is analyzed using content analysis. Some of the key points in this study are that science verses require interdisciplinary interpretation and approach. As the verse explains about Bahrain, it requires an approach and expertise from the field of marine science.*

**Key words:** *Science, Religion, Methodological, Miracle Verses.*

## **Abstrak**

Penelitian ini bertujuan untuk mengetahui dan menganalisis bagaimana integrasi islam dan sains dalam ranah ayat-ayat muzizat. Sejauh ini, telah banyak ilmuwan yang berusaha mengharmoniskan Islam dengan Sains, sebut saja Nidhal Guessoum, Ian Barbour, dan Maurice Bucaille. Terlepas dari segala kontroversinya, penulis berusaha memperkaya diskursus dalam bidang tersebut. Metode dalam kajian ini adalah riset pustaka dengan pendekatan tafsir maudui. Pendekatan tafsir maudui merupakan metode tafsir yang berusaha mencari jawaban al-Qur'an dengan cara mengumpulkan ayat-ayat al-Qur'an yang mempunyai tujuan yang sama. Selanjutnya, data yang diperoleh dianalisis menggunakan analisis isi. Beberapa poin penting dalam kajian ini adalah ayat-ayat sains memerlukan interpretasi dan pendekatan secara interdisipliner. Sebagaimana ayat yang menjelaskan tentang bahrain, membutuhkan pendekatan dan kepakaran dari bidang sains kelautan.

**Kata Kunci:** Ilmu Pengetahuan, Agama, Metodologis, Ayat-ayat.

## **PENDAHULUAN**

Islam pays attention to humans to study and contemplate various natural phenomena, such as the sky, earth, soul, and all creatures in this universe. Quraish Shihab<sup>1</sup> explained that the Qur'an lays the foundation of scientific thought through observation, collecting data, drawing conclusions, and testing the truth of the conclusions drawn. With the potential that humans try to *iqra* (read, understand, research, and appreciate) the phenomena of the Kauniah and the Qur'an.<sup>2</sup>

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<sup>1</sup> M. Quraish Shihab, *Mukjizat Al-Qur'an: Ditinjau Dari Aspek Kebahasaan, Isyarat Ilmiah, Dan Pemberitaan Gaib* (Bandung: Mizan Pustaka, 2007).

<sup>2</sup> Mirza Mahbub Wijaya, Mahfud Junaedi, and Sholihan, "Scientific Development Based on Unity of Sciences (Waḥdat Al-'Ulum) Paradigm," *International Journal Ihya' 'Ulum al-Din* 23, no. 1 (2021): 1.

Humans are endowed with all their potential in the form of reason. In other words, a Muslim is required to be able to use it and be smart in behavior. This is why Allah rebukes those who do not use reason. "Indeed, the worst creatures for Allah are those who are deaf, deaf and have no sense" (Surah Al-Anfal: 22). Islam is also a religion that commands humans always to pay attention to the universe and research it. Among these things are mentioned by Allah SWT in Surah Al-Baqarah: 164 and An-Nahl; 11-12.<sup>3</sup>

Allah revealed the first verse in surah al-'Alaq verses 1-5, and this is a command to humankind to master all fields of science, especially science and technology. Actually, there are many examples of great figures in classical times who were involved in the field of science, such as al-Kindi, Mrs. Hayyan, al-Khwarizmi, al-Farabi, Ibn Sina. Al-Biruni, al-Ghazali, Ibn Khaitam, and others were successful figures in the golden age of Islam. Therefore, Muslims should not be left behind in science and technology.

Today is an era full of science and technology. Muslims should not be left behind in the world of science and technology because this is a patent requirement related to contemporary sciences. The presence of science and technology should be a passenger science to increase the quality of faith in Allah SWT not only to know the beauty of nature but also to understand the theories.

Science is constantly updating based on discoveries. Criticisms and corrections are always used to improve what science has achieved. Science does not stop, and every result is temporary. Nevertheless, can that belief be supported by other evidence? can the evidence convince humans? Because as written by Abdul Halim Mahmud, the former Shaykh of Al-Azhar, orientalis always try to point out the weaknesses of the Qur'an, and there is no room to doubt its authenticity.<sup>4</sup>

The Qur'an is Islamic teaching, so Muslims must be able to put forward scientific concepts that become solutions to various problems of human life. Contextualization can make Islam become *salih likulli zaman wal makan*, not become stories and memories. The study of science was initially focused on science in terms of the natural sciences (natural sciences) with the scientific method to be more focused and firm.<sup>5</sup> Then the definition of science extends to the social sciences group, with their respective objects and methods. Poeradisastra explained that the science movement was initially focused on the study of religion, then it continued to grow wider. In the Umayyad era and the Abbasid era, development became systematic.<sup>6</sup>

Among scientists, questions arise that essentially need to organize science's function and central role. There is a demand that technology does not act neutrally but sided with eternal human values (technology is spiritual) and needs to be respectful and orderly in dealing with natural resources and not careless and reckless towards nature.<sup>7</sup> Thus, it is necessary to examine more deeply how the progress of science and technology in modern times awakens the spirit of exploring science. Therefore, the presenters formulate several formulations of problems related to science and technology.

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<sup>3</sup> Wartyo, "Studi Islam Pendekatan Sains: Relevansi Wahyu terhadap Ilmu Pengetahuan Modern," *International Journal Ihya' 'Ulum al-Din* 20, no. 2 (November 2, 2018): 130, <https://doi.org/10.21580/ihya.20.2.3018>.

<sup>4</sup> Syarif Hidayatullah, "Agama dan Sains: Sebuah Kajian Tentang Relasi dan Metodologi," *Jurnal Filsafat* 29, no. 1 (2019): 105.

<sup>5</sup> Mirza Mahbub Wijaya, *Filsafat Kesatuan Ilmu Pengetahuan: Unity of Sciences Sebagai Format Integrasi Keilmuan UIN Walisongo* (Semarang: Fatawa Publishing, 2019).

<sup>6</sup> Azis, "Al-Qur'an: Studi Pendekatan Scientific," *Jurnal Komunikasi Dan Pendidikan Islam* 7, no. 1 (2018): 40.

<sup>7</sup> Azis, 41.

This study is literature research with a qualitative descriptive analysis method. This study involves a *maudui* interpretation approach that involves a conceptualization process and results in the formation of classification schemes. This study also focuses on efforts to obtain and convey facts wholly and thoroughly. The primary data used in this research are taken from the results of a literature study in the form Al-Qur'an, books, journals, magazines, newspapers, websites, and notes related to the topic of discussion. The data is then reduced, accumulated, selected the main ones, focused on essential things related to research, and summarized sequentially and systematically. Furthermore, descriptive analysis is presented in the form of narrative text. The process of making conclusions in this study is based on the facts or evidence.

## PEMBAHASAN

### Concept of Islam

The word Islam comes from Arabic is the masdar form of the verb *اسلم* -- *اسلاما*. Etymologically it means "prosperous, not disabled, safe. Islam is a religion carried out by the Prophet Muhammad SAW. Islam means peace because the term Islam comes from the pronunciation of *salm* and *silm*, which means peace.<sup>8</sup> Understanding of Islam according to the term, submission and obedience of a servant to his Lord. Humans become servants by always carrying out His commands and avoiding His prohibitions to achieve peace in this world and the hereafter. Islam as a religion, it cannot be separated from the existence of its constituent elements, namely the pillars of Islam.<sup>9</sup>

Meanwhile, Harun Nasution, in his book: *Islam Ditinjau Dari Berbagai Aspeknya*, explained that, according to the terminology, Islam is a religion whose teachings were revealed by Allah SWT through the Prophet Muhammad SAW, who a messenger was. Islam brings teachings about not only *ubudiyyah* and *muamalah*, but various aspects of science. All of that is sourced from the Qur'an and Hadith.<sup>10</sup> Islam is also a divine religion that Allah sent down for the last time, therefore, automatically, Islam abolishes the previous celestial religions, and even rejects outright religions that have recently emerged claiming to be divine religions. As in QS Ali Imran 19, Allah explains it, as follows:

إِنَّ الدِّينَ عِنْدَ اللَّهِ الْإِسْلَامُ وَمَا اخْتَلَفَ الَّذِينَ أُوتُوا الْكِتَابَ إِلَّا مِنْ بَعْدِ مَا جَاءَهُمُ الْعِلْمُ بَغْيًا بَيْنَهُمْ وَمَنْ يَكْفُرْ بِآيَاتِ اللَّهِ فَإِنَّ اللَّهَ سَرِيعُ الْحِسَابِ

"Indeed, the religion in the sight of Allah is Islam. And those who were given the Scripture did not differ except after knowledge had come to them - out of jealous animosity between themselves. And whoever disbelieves in the verses of Allah, then indeed, Allah is swift in [taking] account." (English Shahih Translations)

According to Shaykh Nawawi in his book *Marahi Labiyd*, what is desired is that there is no religion that God is pleased with except Islam, while the meaning of Islam itself is to unite God SWT and carry out the sharia that His apostles have brought.<sup>11</sup>

### Modern Science

<sup>8</sup> Nur Hadi, "Islam, Iman Dan Ihsan Dalam Kitab Matan Arba'in An-Nawawi: Studi Materi Pembelajaran Pendidikan Islam Dalam Perspektif Hadis Nabi SAW," *Intelektual: Jurnal Pendidikan Dan Studi Keislaman* 9, no. 1 (2019): 4.

<sup>9</sup> Hadi, 4.

<sup>10</sup> Harun Nasution, *Islam Ditinjau Dari Berbagai Aspeknya*, vol. 1 (Jakarta: UI Press, 1979), 17.

<sup>11</sup> Nawawi Al-Bantani, *Marahi Labiyd*, vol. 1 (Beirut: Dar al-Fikr, 2008), 101.

Etymologically “science” comes from Latin *scion* or *scire*, meaning need to know.<sup>12</sup> However, in the end, the meaning of science is arranged systematically and rationally.<sup>13</sup> Science is defined as a branch of knowledge or study that systematically deals with an object of fact or reality, compiling and performing the exploitation of general laws “knowledge related to exact science”.<sup>14</sup> In Indonesian, the commonly used diction is “*Ilmu Pengetahuan*” which is often used despite some confusion. Because basically, the terms “*Ilmu*” and “*Pengetahuan*” are two different things. As explained by Jujun S. Suriasumantri that *Ilmu* is for science, and *Pengetahuan* is for knowledge.<sup>15</sup>

According to *Oxford Advanced Learner’s Dictionary*, science is “*organized knowledge, especially when obtained by observation and testing of facts, about physical world, natural laws and society, study leading to such knowledge*” or “*The study of the structure and behaviour of the physical and natural world and society, esp observation and experiment*”.<sup>16</sup> This is reinforced by the classification made by James Ladyman that Science is cumulative. In other words, scientists build on the achievements of their predecessors, and scientific progress is the steady development of our knowledge in the world. This feature of science is in stark contrast to other activities, such as art, literature and philosophy, which are progressive in a much looser and controversial sense.<sup>17</sup> So it can be concluded that knowledge has a broader meaning than science.

Generally, science is considered an attempt to find order in human observations of the natural surroundings. Many think science is a mechanical process of gathering facts and making theories. This is not true. Science is a creative activity that in many ways, resembles the creative activity of the human mind. However, observations require imagination because scientists can never fit everything into one description of what they observe. Thus, scientists must make judgments about what is relevant to their observations.<sup>18</sup> Everything can not be separated from the theories built by scientists and related to the experience of empirical facts so scientific research will be stronger.

Epistemology or the theory of knowledge, is a philosophical field that discusses various types of knowledge philosophically (critically and fundamentally). Science is a knowledge type with specific characteristics, methods, and systematics. Thus it is quite clear that knowledge is broader than science. Science is only one type of knowledge that has special characteristics.

Akhyar Yusuf Lubis has distinguished knowledge and science regarding goals and methods. Knowledge is more oriented to everyday information so that it is used for daily purposes. While science is the knowledge that is proclaimed to find the truth, expand understanding or knowledge, describe, explain, interpret, predict, retrodict, discover, apply, and control. From the method aspect, knowledge is information that can be obtained easily without specific methods, while science is knowledge generated using scientific methods, such as

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<sup>12</sup> Mirza Mahbub Wijaya, *Filsafat Kesatuan Ilmu Pengetahuan: Unity of Sciences Sebagai Format Integrasi Keilmuan UIN Walisongo* (Semarang: Fatawa Publishing, 2019), 22.

<sup>13</sup> Tipler Paul A, *Physics For Scientists and Engineers*, trans. Lea Prasetio and Rahmad W Adi (Jakarta: Erlangga, 1998), 1.

<sup>14</sup> Hornby, *Oxford Advanced Learner’s Dictionary* (Oxford: Oxford University Press, 1995), 1271.

<sup>15</sup> Jujun S. Suriasumantri, ed., *Ilmu Dalam Perspektif: Sebuah Kumpulan Karangan Tentang Hakikat Ilmu* (Jakarta: Gramedia, 1983), 6.

<sup>16</sup> Hornby, *Oxford Advanced Learner’s Dictionary* (Oxford: Oxford University Press, 1995), 651.

<sup>17</sup> James Ladyman, *Understanding Philosophy of Science* (London: Routledge, 2002), 96.

<sup>18</sup> Giancoli Douglas C, *Physics: Principles with Applications*, trans. Yuhilza Hanum (Jakarta: Erlangga, 2001), 2.

qualitative and quantitative methods.<sup>19</sup>

The grand theories of science can be compared, as creative work, with the great works of art and literature. However, how is science different from these other creative activities? One crucial difference is that science requires testing of its ideas to see if experiments can support these predictions. The compatibility of science and technology with the Qur'an and hadith has contributed to the progress of Islam itself. In this modern era, Islam strongly encourages humans to seek knowledge, discover amazing phenomena with sophisticated tools, so that they can reflect on Allah's most beautiful creations. Al-Qur'an is an aspects guide for humans. In the Qur'an, signs of science provoke people to think about the potential of this universe. As an example, in the Qur'an Surah al-Baqarah verse 164, Allah SWT says::

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ وَالْفُلْكِ الَّتِي تَجْرِي فِي الْبَحْرِ بِمَا يَنْفَعُ النَّاسَ وَمَا أَنْزَلَ اللَّهُ مِنَ السَّمَاءِ مِنْ مَاءٍ فَأَحْيَا بِهِ الْأَرْضَ بَعْدَ مَوْتِهَا وَبَثَّ فِيهَا مِنْ كُلِّ دَابَّةٍ وَتَصْرِيفِ الرِّيَّاحِ وَالسَّحَابِ الْمُسَخَّرِ بَيْنَ السَّمَاءِ وَالْأَرْضِ لَآيَاتٍ لِقَوْمٍ يَعْقِلُونَ

*"Indeed, in the creation of the heavens and earth, and the alternation of the night and the day, and the [great] ships which sail through the sea with that which benefits people, and what Allah has sent down from the heavens of rain, giving life thereby to the earth after its lifelessness and dispersing therein every [kind of] moving creature, and [His] directing of the winds and the clouds controlled between the heaven and the earth are signs for a people who use reason."* (English Shahih Translations)

This verse implies that Allah has ordered humankind to pay attention to many things behind the creation. Allah sends down water from the sky, the occurrence of the earth, and the distribution of all kinds of animals on earth.<sup>20</sup> When humans enter the age of science and technology progress, the Qur'an and hadith should be used as a guide to finding the secrets hidden in this universe. In this paper, the author would like to reveal that before modern scientists made discoveries using such sophisticated tools, the features of the Qur'an were revealed 14 centuries ago. The Qur'an not only contains *qauliyyah* verses, but the Qur'an also contains *kauniyyah* verses. The content needs to be reasoned with the ratio. This has been alluded to in the Qur'an Yunus verse: 57, which reads:

يَا أَيُّهَا النَّاسُ قَدْ جَاءَتْكُمْ مَوْعِظَةٌ مِنْ رَبِّكُمْ وَشِفَاءٌ لِمَا فِي الصُّدُورِ وَهُدًى وَرَحْمَةٌ لِّلْمُؤْمِنِينَ

*"O mankind, there has come to you instruction from your Lord and healing for what is in the breasts and guidance and mercy for the believers."* (English Shahih Translations)

From the verse above, Abu Ja'far Muhammad bin Jarir ath-Tabariy explained in his commentary "*Jâmi' al-bayân*" that the Qur'an has three functions. First, with the Qur'an, God heals the stupidity of ignorant people. Second, the Qur'an explains halal haram and guides obedience and disobedience to God. Third, God has mercy on those whom he wants.<sup>21</sup> Therefore, for the first function, someone will know all fields of science and will open up science and technology insight if he lives up to the Kauniyyah verses implied in the Qur'an, by witnessing

<sup>19</sup> Akhyar Yusuf Lubis, *Epistemologi Fundamental: Isu-Isu Teori Pengetahuan, Filsafat Ilmu Pengetahuan, Dan Metodologi* (Jakarta: Akademia, 2009), 82.

<sup>20</sup> M. Quraish Shihab, *Tafsir Al-Misbah: Pesan, Kesan Dan Keserasian Al-Qur'an*, vol. 1 (Jakarta: Lentera Hati, 2017), 448.

<sup>21</sup> Abu Ja'far Muhammad bin Jarir Ath-Tabary, *Jâmi' al-Bayân*, vol. 6 (Dar As-Sya'bi, n.d.), 124.

the Qur'an's miracles provides information on scientific phenomena. With the second function, a person will be more careful to choose which are lawful and which are unlawful. Moreover, the last function which every servant wants is to receive grace from Allah SWT.

### The Miracle of al-Qur'an in Science and Technology

*I'jaz* (miracle) etymologically comes from the word *al-I'jaz*, which means weak or unable. *I'jaz* is *mashdar* (abstract noun) and the word *a'jiza* which means different and superior. Miracles in the meaning of the terms of the scholars are extraordinary things that are usually accompanied by challenges and cannot be matched. Miracles are a sign that the person whom Allah SWT gave a miracle is a prophet. Miracles can be understood with the five senses of sight and using the mind due to the development of intelligence and the perfection of the understanding of the people of the Prophet Muhammad SAW. Every Prophet must have a miracle from Allah SWT to prove that he is truly a Prophet and that his message is accepted. The miracle was also a resistance against his people who disobeyed the Prophet of Allah SWT. As the Prophet SAW said;

حَدَّثَنَا عَبْدُ اللَّهِ بْنُ يُوسُفَ، حَدَّثَنَا اللَّيْثُ، حَدَّثَنَا سَعِيدُ الْمَقْبُرِيُّ، عَنْ أَبِيهِ، عَنْ أَبِي هُرَيْرَةَ، قَالَ: قَالَ النَّبِيُّ ص: " مَا مِنَ الْأَنْبِيَاءِ نَبِيٌّ إِلَّا أُعْطِيَ مَا مِثْلُهُ آمَنَ عَلَيْهِ الْبَشَرُ، وَإِنَّمَا كَانَ الَّذِي أُوتِيَتْ وَحِيًّا أَوْحَاهُ اللَّهُ إِلَيَّ فَأَرْجُو أَنْ أَكُونَ أَكْثَرَهُمْ تَابِعًا يَوْمَ الْقِيَامَةِ " (متفق عليه)  
*Abdullah bin Yusuf told us, Laist told us, Sai'd al-Maqburiy told us, on the authority of his father, on the authority of Abu Hurairah, he said: The Prophet, peace be upon him, said: "There is no Prophet unless he is given evidence (miracles) ) who is like a man of faith, that I am conveying the revelation that God revealed to me, I hope that there will be many people who follow until the Day of Judgment" (Narrated by Bukhari)*<sup>22</sup>

Several criteria must be met if an event is called a miracle: 1) This incident is a rare event that a human being cannot do, but only Allah SWT can. 2) The incident deviated from the laws of nature. 3) The sages had predicted the incident.<sup>23</sup> Sedangkan menurut Qurash Shihab suatu peristiwa yang bisa dinamakan dengan mukjizat ialah harus memenuhi syarat, yakni:

#### a) Extraordinary event

Extraordinary is beyond the reach of commonly known causes and effects. Thus, hypnotism, or magic, for example, although at first glance it looks magical or extraordinary because it can be learned, it is not included in the "extraordinary" sense in the above definition.

#### b) Happened or Described by The Prophet

Things can happen out of the ordinary to anyone. However, if it is not from someone who claims to be a Prophet, it is not called a miracle. It could be that something unusual appears in someone who will later become a Prophet. This is not called a miracle, but *irhâsh*. It may also happen to someone who obeys and is loved by God, but even this cannot be called a miracle. This kind of thing is called *karamâh* or sacredness, which is not even impossible for someone who disobeys Him. The latter is called *ihânah* (insult) or *istidrâj* (complaint for the more disobedient).

#### c) It contains challenges that doubt prophethood

Of course, this challenge must coincide with his acknowledgment as a prophet, not before and after. The challenge must also be something that is in line with the words of the Prophet.

<sup>22</sup> Abdullah bin Isma'il bin Ibraim Al-Bukhari, *Shahih Al-Bukhari* (Cairo: 'Ibadurrahman, 2008), 866.

<sup>23</sup> Yusuf al-Hajj Ahmad, *Kemukjizatan Al-Qur'an Dan Sunnah* (Yogyakarta: Sajadah Press, 2008), 1.

d) The challenge is unable or failed to be served

If the challenged succeeds in doing the same, the challenger's claim is not proven. It should be underlined here that the content of the challenge must be truly understood by those who are challenged. Even to further prove their failure, usually, the miraculous aspects of each Prophet are following the field of expertise of their followers.

The Qur'an is a noble Miracle, which provides guidance, the Qur'an challenges people to match each other, as Prophet Musa defeated a sorcerer with a stick, and Prophet Isa was a healer who could revive the dead. People will believe when they think that miracles can be received with the heart.<sup>24</sup> If they believe in it, they are among those who get guidance from Allah SWT, but if they deny it, they are among those who have gone astray. Science is knowledge about something based on its essence or a trait with which something is sought can be revealed as clearly as possible. Meanwhile, what is meant by science in the discussion here is an experimental science.

Basically, there have been many scientific discoveries made by researchers that have compatibility between the Qur'an and science and technology. This shows that the Qur'an is truly the word of God that Allah sent down to the Prophet Muhammad SAW as a guide for people. - people who think. As in QS. An-Nisaa '82 is explained as follows:

أَفَلَا يَتَذَكَّرُونَ الْفُرْعَانَ وَلَوْ كَانَ مِنْ عِنْدِ غَيْرِ اللَّهِ لَوَجَدُوا فِيهِ اخْتِلَافًا كَثِيرًا

*"Then do they not reflect upon the Qur'an? If it had been from [any] other than Allah, they would have found within it much contradiction." (English Sahih Translations)*

In understanding the scientific miracles of the Qur'an, Abdul Majid bin Aziz al-Zindani illustrates that the phenomena that can be said to be scientific miracles of the Qur'an are as follows :

- 1) There is a match between the content of the Qur'an and As-Sunnah with the discoveries of scientists that humans did not know at the time the Qur'an was revealed.
- 2) Correlation of the Qur'an and Sunnah to human thinking that is wrong in revealing the secrets of His creatures, because His knowledge covers everything.
- 3) When the authentic texts of the Qur'an and Sunnah were collected, it was found that some of the texts complemented the other parts so that their essence was revealed. These texts were revealed separately in time and their place in the Qur'an. Of course this is only from the side of Allah who knows the secrets both in heaven and on earth.
- 4) The formation of a very wise shari'a, whose wisdom was sometimes unknown to humans at the time of the revelation of the Qur'an and was only discovered by studies of scientists in various scientific disciplines.
- 5) There is no contradiction between the definite revelation texts explaining nature's secrets and the discovered scientific reality.<sup>25</sup>

The Qur'an is now increasingly being studied by scientists, especially developed non-Muslim communities, it is proven that the Qur'an provides much information about science and technology which is becoming more and more accurate through impressive studies and experiments. As an example of the meeting of two oceans that are fused but do not affect each other, namely one has a salty taste and the other has a bland taste, this is in line with the verse of

<sup>24</sup>Abdul Qadir Ahmad A'tha, *Adab an-Nabi* (Bairut: Dar al-Kutub, tth), h. 54

<sup>25</sup> Al-Zindani, *Mukjizat Al-Qur'an Dan Sunnah Tentang IPTEK*, 28.

the Qur'an (Qur'an 55:23), and also the results of shooting experiments on mountains. -the mountains in Nejed (Saudi Arabia) by Telstar (United States Satellite) <sup>26</sup>, it is known that the mountains that appear to our eyes seem fixed. In fact the mountains move as in Surah An-Naml 88:

وَتَرَى الْجِبَالَ تَحْسَبُهَا جَامِدَةً وَهِيَ تَمُرُّ مَرَّ السَّحَابِ صُنِعَ اللَّهُ الَّذِي لَدَيْهِ أَتَقَنَ كُلَّ شَيْءٍ إِنَّهُ خَبِيرٌ بِمَا تَفْعَلُونَ

"And you see the mountains, thinking them rigid, while they will pass as the passing of clouds. [It is] the work of Allah, who perfected all things. Indeed, He is Acquainted with that which you do." (English Shahih Translations)

The miracles of the Qur'an can be broadly categorized into two major groups. First, in terms of editorial, which includes aspects of the arrangement of verse by verse, *surah* by *surah*. Second, in terms of meaning. That harmony of semantics is contained in the Qur'an verses, such as about the occult, past, present, and future. Likewise, the connotation of the verses of the Qur'an implies the development of science and technology.<sup>27</sup> Keduanya itu, merupakan mukjizat al-Qur'an yang sampai sekarang belum atau tidak akan ada satu pun yang menandinginya.

There have been countless scientific articles, books, and conference papers that have studied the *i'jaz* approach. It aims to show that the Qur'an has predicted the invention of the telephone, telegram, radio, television, facsimile, e-mail, laser, black hole, etc. Conferences were held to strengthen this approach. Zahlul al-Najjar, for example, offered 10 principles of the *i'jaz* approach, namely:

First, understand the Qur'an's text properly following the Arabic language's meaning. Second, consider *al-'ulum al-Qur'an*. Third, collect various verses related to a general topic before moving on to a new interpretation. Fourth, avoid over-interpretation and not twisting the verses to fit scientific findings. In this case, the author agrees with the views of Zahlul al-Najjar. There will be a bias if the Qur'an is understood as the Encyclopedia of Science, as Maurice Bucaille thinks.<sup>28</sup> Bias can occur because the Qur'an does not fully explain natural phenomena.

Nevertheless, it explains the history, morals, fiqh, and even eschatological metaphysics. Five, stay away from occult issues. Sixth, focus on a particular theme when interpreting verses that relate to a particular topic. Seven, maintain intellectual determination and honesty when dealing with divine revelation. Eight, using well-established scientific facts, not uncertain theories or conjectures. Nine, distinguishes the interpretation of *al-'ilmi* and *i'jaz al-'ilmi*, both in the Qur'an and sunnah. There are several cases of Tafsir *al-'ilmi* whose results have not been confirmed by the human sciences, so it is legitimate to use scientific theories to explain verses or hadiths. Whereas in *i'jaz al-'ilmi*, an interpreter uses scientific facts that are really well established. Ten, acknowledging the authority of interpretation or the efforts of previous scholars in all related matters.<sup>29</sup>

### Rules in Science and Technology Approach

Mohammad Nor Ichwan, in his book entitled Tafsir' Ilmiy (Understanding the Qur'an Through a Modern Science Approach) explains that the rules that must be considered in the scientific interpretation of the Qur'an are as follows:

<sup>26</sup> Al-Zindani, 41.

<sup>27</sup> Nasruddin Baidan, *Wawasan Baru Ilmu Tafsir* (Yogyakarta: Pustaka Pelajar, 2011), 22.

<sup>28</sup> Ajar Permono, "Kritik Metodologi Penafsiran Bucaillisme atas Ayat-ayat Sains," *Jurnal Studi Ilmu-ilmu Al-Qur'an dan Hadis* 19, no. 1 (October 12, 2019): 3, <https://doi.org/10.14421/qh.2018.1901-01>.

<sup>29</sup> Zulpa Makiah, "Rekonsiliasi Islam dan Sains dalam Perspektif Nidhal Guessoum," *Khazanah: Jurnal Studi Islam dan Humaniora* 19, no. 1 (July 14, 2021): 73, <https://doi.org/10.18592/khazanah.v19i1.4150>.



### 1) Linguistic Methodology

This linguistic rule is an absolute requirement for those who want to understand the Qur'an. Therefore, the Qur'an was revealed using Arabic, so naturally a commentator must understand the language of the Qur'an. Both related to the science of *i'rab*, *nahwu*, *tashrif*, *etymology* and the three branches of *balaghah* science consisting of *bayani*, *ma'ani*, and *badi'* science.

In addition, commentators (*mufasssir*) need to pay attention and consider the meaning of a word. When someone hears and utters a word, the material form is pictured in our minds. But from another point of view, the matter form can change according to the development science.

### 2) Paying Attention to Verse Correlation (*munasabah al-verse*)

A commentator (*mufasssir*) who emphasizes scientific nuances, besides paying attention to linguistic rules, as already mentioned, is also required to pay attention to the correlation of verses (*munasabah al-ayat*), both before and after. The commentator who does not heed this aspect does not demand the possibility of getting lost in giving meaning to the Qur'an. Lost meaning occurs because the verses' compilation is not based on the chronological period. Its descent is based on the correlation of the meanings of the verses, so that the content of the previous verse is always related to the content of the later verse.

Agus Jamil and Mulyadhi Kertanegara propose a parallelistic approach. The method aims to see a positive correlation between verses in the Qur'an, and natural phenomena that can be proven. The parallelistic analysis is based on positive correlations on both sides of the ayat kauniyah and qouliyah. Cross explanations are accepted because the universe (including the oceans) and the Qur'an are both sign verses from Allah. The Qur'an is a *qawliyyah* verse that is spoken or written literally while the universe is a *kawniyyah* verse that is widely revealed in the universe from the microcosm of the nucleus and elementary particles to the macrocosm of galaxies and the entire universe.<sup>30</sup>

### 3) Based On Established Scientific Facts

Al-Qur'an as a book of revelation, its truth is recognized. Its authenticity and validity can be tested from various points of view, from historical, linguistic, unseen news, and even scientific aspects. This situation makes the Qur'an a holy book that has a high value and cannot be compared with other books. Especially with scientific books whose arguments can be easily broken by logic.

As a holy book with absolute truth, it cannot be equated with relative scientific theories. The hallmark of science is that it never knows the word "eternal". That is, what was considered wrong can be proven true in the future. And vice versa, what was considered correct in the past can be blamed for the future.

### 4) Thematic Approach (*Manhaj al-Maudhu'iy*)

This paradigm of scientific interpretation must include using the thematic interpretation method (*at-Tafsir al-Maudhu'iy*). Thus, a scholarly commentator must collect all the verses of the Qur'an that have the same theme of discussion.

The greatness of Allah SWT, which continues to appear, is a sign for people who think that all of this is the will of Allah SWT. Unique phenomena that sometimes confuse us with the naked eye about the power of God Almighty, but this has been described in the scriptures.

### **Example of science and technology as a scientific approach**

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<sup>30</sup> Agus S. Djamil and Mulyadhi Kertanegara, "The Philosophy of Oceanic Verses of The Qur'an and Its Relevance to Indonesian Context," *Analisa: Journal of Social Science and Religion* 2, no. 1 (2017): 106.

## 1) Qur'anic Verses

مَرَجَ الْبَحْرَيْنِ يَلْتَقِيَانِ بَيْنَهُمَا بَرْزَخٌ لَا يَبْغِيَانِ فَبِأَيِّ آءِالَاءِ رَبِّكُمَا تُكَذِّبَانِ  
تُكَذِّبَانِ

"He released the two seas, meeting [side by side]; Between them is a barrier [so] neither of them transgresses. So which of the favors of your Lord would you deny? From both of them emerge pearl and coral. So which of the favors of your Lord would you deny?" (Ar-Rahman 19)

وَهُوَ الَّذِي مَرَجَ الْبَحْرَيْنِ هَذَا عَذْبٌ فُرَاتٌ وَهَذَا مِلْحٌ أُجَاجٌ وَجَعَلَ بَيْنَهُمَا بَرْزَخًا وَجِجْرًا مَحْجُورًا

"And it is He who has released [simultaneously] the two seas, one fresh and sweet and one salty and bitter, and He placed between them a barrier and prohibiting partition." (Al-Furqan 53)

## 2) Linguistics Interpretation

- مرج maraja* its meaning as has been discussed in surah al-Furqân.
- يلتقيان yaltaqiyân* is taken from the origin of the pronunciation *لقي* which means meeting,<sup>31</sup> it means the two seas meet.
- برزخ* its meaning has been discussed in surah al-Furqân.
- لا lâ* is a *nafî* letter which means *no*.
- يبغيان* taken from origin *بغى* which means *exceed*<sup>32</sup> so it can't exceed the levels in the two oceans

## 3) Quranic Interpretation

The verse above has many differences in interpretation, starting in terms of language and complex interpretation of the meeting of two seas, one fresh and the other salty. Because Muslim scientists have been introduced to science and technology, the interpretation is nuanced in science and technology as done by Muhammad Fakhruddin al-Razi, Sayyid Qutb, al-Biqai, Abiy Hayyan al-Andalusiy, and Quraish Shihab. In general, they explain the meaning of *bahrain*, with two oceans flowing side by side, but the two cannot merge like a dividing wall.

Based on the verse above, the two oceans will not merge. It was investigated by an oceanographer in 1873, using the ship "Challenger" to find differences in marine characteristics in terms of salt content, temperature, types of fish or animals, and so on. The answer was only discovered in 1948, after a more thorough study of the oceans. Apparently, the basic differences mentioned make each type of water group together in a certain form apart from other types of water, no matter how far it flows.<sup>33</sup>

Muhammad Ibrahim as-Sumaid-professor of the Faculty of Science, Department of Marine Sciences, University of Qatar-in a study conducted in the Persian Gulf of Oman (1984-1988), through a research vessel, found detailed differences in the figures and figures on the two bay. His research found an area between the two bays called the mixed water area or the *barzakh* area (in terms of the Qur'an). The results of his research also found that there were two levels of water in the area. First, the surface level is sourced from the Gulf of Oman, and second, the lower level is sourced from the Persian Gulf.<sup>34</sup>

## 4) Interpretation based on science

<sup>31</sup> Ahmad Warson Munawir, *Al-Munawwir: Kamus Arab-Indonesia Terlengkap*, ed. KH. Ali Ma'shum and KH. Zainal Abidin Munawwir (Surabaya: Pustaka Progressif, 1997), 1283.

<sup>32</sup> Munawir, 98.

<sup>33</sup> Shihab, *Mukjizat Al-Qur'an: Ditinjau Dari Aspek Kebahasaan, Isyarat Ilmiah, Dan Pemberitaan Gaib*, 183.

<sup>34</sup> Shihab, 184.

As Nadiyah Tayyrah in her book *Science in the Qur'an* explains that oceanographers describe this phenomenon physically as follows: 1) It is the impact of the law of gravity. This is because the flow of sea water which is less than the discharge of river water entering the sea causes the flow of fresh river water to go to the sea due to the law of unavoidable gravity. Gravity is a natural barrier that prevents water currents from moving in the opposite direction to gravity. 2) a huge volume of water moves from the mountain, as a spring, with a fairly high slope, and causes water to flow rapidly through rivers to the sea. Thus, the river water remains fresh throughout its long journey to the river mouth. Even the salt water in the sea can't defy the law of gravity, which prevents it from overflowing. Therefore, the river water will remain fresh, seawater will remain salty, and between the two, a barrier is created by the law of gravity.<sup>35</sup>

Mulyadhi Kertanegara added that many other phenomena can be observed only after the advancement of modern technology. For example, the boundary between two seas has been indicated by verses in the Qur'an. These layers in seawater are characterized by lateral physical boundaries (temperature, pressure, light intensity, density, speed of sound) and chemical (salinity, mineral content), so they are biological-specific habitats. Certain types of fish or algae can only live at a certain depth or specific salinity (degree of saltiness). The eternal darkness and coldness of the deep ocean below 200 meters encourage biological creatures to be sensitive to light and develop lighting such as specific antennae or illuminating organs inside their bodies. These deep-sea physical phenomena, such as underwater volcanoes spewing flames and extremely high-temperature black smokers lining up in the middle of oceanic mountains, can be a kind of energy source from the ocean as well as large deposits of frozen gas hydrates that fill sediment pores under the deep sea floor are alternative energy sources.<sup>36</sup>

## PENUTUP

Science and technology that is in harmony with the Qur'an is proof of the miracles of the Qur'an, but if we look at the time of the Prophet Muhammad SAW, scientific miracles are not yet known, due to limited tools to reach science and technology. However, mankind had felt the miracles of the Qur'an by feeling the beauty of every word in the Qur'an. Although philosophically, the two are different, historically, consolidation efforts have been made in a counterproductive and mutualistic context.

There are so many scientific discoveries made by scientists that have compatibility between the Qur'an and science and technology. This shows that the Qur'an is truly the word of God that Allah sent down to Prophet Muhammad SAW as a guide for people who think. However, humans should explore the meanings of the Qur'an and be able to compromise other sciences so they can go hand in hand. Therefore, religion and science must ensure that they serve together to benefit human welfare and prosperity.

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<sup>35</sup> Nadiyah Tayyarah, *Buku Pintar Sains Dalam Al-Qur'an* (Jakarta: Zaman, 2014), 537.

<sup>36</sup> Djamil and Kertanegara, "The Philosophy of Oceanic Verses of The Qur'an and Its Relevance to Indonesian Context," 112.

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