



الفضلان: مجلة التربية الإسلامية والتعليم

**AL-FADLAN: Journal of Islamic Education and Teaching**

Journal website: <https://al-fadlan.my.id>

ISSN: 2987-5951 (Online),

Vol. 2 No. 2 (2024)

DOI: <https://doi.org/10.61166/fadlan.v2i2.76>

pp. 184-202

Research Article

## Scientific Data in the Holy Quran: A Study on Major Verses and Themes

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Received : April 19, 2024

Revised : May 04, 2024

Accepted : May 24, 2024

Available online : December 22, 2024

**How to Cite:** Luckman Muthuvallur. (2024). Scientific Data in the Holy Quran: A Study on Major Verses and Themes. *Al-Fadlan: Journal of Islamic Education and Teaching*, 2(2), 184–202. <https://doi.org/10.61166/fadlan.v2i2.76>

**Abstract.** Science is the result of relentless experiments of humankind through a gradual process. Science may abrogate its conclusions of today based on findings of new experiments. If science finds anything, it is the work of different ages with efforts of many people. Quran is the revelation of all wise Allah who created universe. It's not surprising that Quran contains knowledge about universe and its functions. Modern Islamic preachers adopted science as best way for the propagation of Islam and an easy tool for attracting the modern minds. They compared the Quran with modern science and produced many books to deliver the compatibility of the holy Quran with modern science. It is evident that scientific interpretation of the holy Quran helps many people to understand Quran and convert to Islam. Many scientists studied scientific data in Quran and embraced Islam. Regrettably, majority of them left Islam due to the errors occurred during the interpretation of the Quran using

scientific evidences. Even if that does not make any error to the holy Quran helped in understanding the need of carefulness in the interpretation of the Quran. Majority of criticisms against Quran coming out of erroneous interpretation without proper knowledge or qualification.

**Keywords :** Scientific Data, Quran, Quran Major Verses

## **INTRODUCTION**

The Quran is a revealed scripture guiding humanity towards righteousness until the Day of Judgment. The scientific miracles in the Quran are an indisputable subject among Muslim scholars. Despite the controversy plenty of books and pamphlets have been produced explaining scientific miracles in the Quran. Quran contains, according to some studies, more than seven hundred verses or one thousand verses that indicate the natural phenomena. Many Quranic verses explicitly discuss subjects being studied by science, such as human embryology, the state and creation of the earth, sky, and many others since the Quran and universe are from a single source. Allah encouraged people to contemplate his universe, creations, and wonderful signs in order to understand his creative power. Through meticulous understanding his creative power leads to the comprehensive understanding of his attributes. His creatures are considered as signs and proofs of perfection in his creations, and thus he deserves to be worshipped.

During the latter part of the 19th century, colonial powers started exerting control over the Muslim world, leading to the introduction of their ideologies and Western education in Muslim nations. This fostered an increasing admiration for Western values among Muslim scholars and intellectuals. As Western science thrived and advanced, its impact spread to Muslim thought, prompting a tendency to relate everything, particularly the Quran, to modern science. Muslim preachers used the scientific data in the Quran as a tool for preaching Islam in the modern world. In Christian theology, science was considered separate from religion or as a distinct belief system as they were always in conflict with science. On the contrary, in Islamic tradition, it wasn't separate from the belief, rather Muslim scholars and intellectuals were the apostles of every knowledge in history, especially in the Golden age of Islam when science flourished to its pinnacle.

In this paper, various interpretations of the scientific data mentioned in the Quran are discussed. It is important to clarify that these interpretations are the interpretations of scholars and not a claim that the Quran is a book of science or that it predates scientific discoveries by centuries. Rather than comparing the Quran with science, this paper aims to conduct an analytical study of natural science in the Quran. It also mentions some major criticism with its responses. The areas of focus include cosmology, human creation, geography, geology, physics, and zoology. Additionally, the paper addresses criticisms of these interpretations and provides

responses. The translation used for referencing the Quranic verses is Abdullah Yusuf Ali's 'The Holy Quran- Translation and Commentary,' which is globally recognized.

## 1. Creation of the Universe

### 1.1. Cosmology

Cosmology is one of the interesting branch of science which studies the universe as a whole. Though cosmology is not new for studies, modern science developed introduced many theories such as Relativity, Big Bang, Inflation, Dark Energy, imaginary time and many others. Nidhal Guessoum explains the cosmological principles that can be found in Holy Quran:<sup>1</sup>

- The universe was created by god, who has absolute and exclusive power of creation: his act of creation was one of bounty and mercy.
- The universe was created with a purpose.
- It is continuously sustained by god.
- The cosmos is characterised by wholeness, order and harmony between all its elements and events, Iqbal call this the Theory of Balance, which he ascribes to Jabir Ibn Hayyan.
- Cosmic time and chronologies in the Quran are qualitative, 'days' for example, are not to be given specific length.

Cosmological verses:

وَلَقَدْ جَعَلْنَا فِي السَّمَاءِ بُرُوجًا وَزَيَّنَّاهَا لِلنَّاظِرِينَ (15:16)

It is we who have set out The Zodiacal Signs in the heavens, and made them fair-seeming to (all) beholders

وَهُوَ الَّذِي جَعَلَ لَكُمُ النُّجُومَ لِتَهْتَدُوا بِهَا فِي ظُلُمَاتِ الْبَرِّ وَالْبَحْرِ ۗ قَدْ فَصَّلْنَا الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ (06:97)

It is He Who maketh the stars (as beacons) for you that ye may guide yourselves with their help through the dark spaces of land and sea: We detail Our Signs for people who know.

هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَرَهُ مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ ۗ مَا خَلَقَ اللَّهُ ذَلِكَ إِلَّا بِالْحَقِّ ۗ يُفَصِّلُ الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ (10:5)

It is He who made the sun to be a shining glory and the moon to be a light (Of beauty), and measured out Stages for her; that ye might Know the number of years and the count (of time). Nowise did God create this But in truth and righteousness. (Thus) doth He explain His Signs In detail, for those who understand.

<sup>1</sup> Nidhal Guessoum. Islam's quantum question; reconciling Muslim tradition and modern science. I.B Tauris 2011 p.308

إِنَّ فِي اخْتِلَافِ اللَّيْلِ وَالنَّهَارِ وَمَا خَلَقَ اللَّهُ فِي السَّمَاوَاتِ وَالْأَرْضِ لآيَاتٍ لِّقَوْمٍ يَتَّقُونَ  
(10:6)

Verily, in the alternation Of the Night and the Day, And in all that God Hath created, in the heavens and the earth, are Signs for those who fear Him.

أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ

“Do not the Unbelievers see that the heavens and the earth were joined together (as one Unit of Creation), before we clove them asunder?” (Al-Quran 21:30). Many modern Muslim scholars argued that Big Bang theory is indicated in the Quran by referring to the aforementioned verse.<sup>2</sup> It is clear that Quran doesn't talk Big Bang Theory because it was introduced only within decades by modern science and it may be changed or altered by new research. However, big bang way of creation can be the way that god used to create the universe, as he described in the earlier verse. According to some, Big bang theory considered as it is supporting the religious idea of existence of god behind the creation of the universe and it is not against the Islamic view of creation. Simultaneously, many scholars criticised the view of explaining big bang in the Quran because it was formed for the explanation of atheists to deny God's existence. Moreover this theory is no longer considered authentic according to modern science.<sup>3</sup>

## 1.2. Evolution theory

It is the study about the development of life Focused on the development of life within our planet, including the emergence of species, adaptation, and genetic changes. It was also introduced to answer the questions how the religion answered in the ancient and middle classical periods and to deny the existence of god and his creative power. Darwin is the proponent of the theory of the evolution which he introduced in his book “the origin of species”, published in 1859. Theory of evolution is remains as a subject of scholarly discussions and debates until today. In his book titled ‘Islam and Evolution: Al-Ghazali and The Modern Evolutionary Paradigm’ Dr. Shohaib Malik gives a detailed explanation of the scholarly discussions and possible interpretations of evolution theory in Islamic perspective.<sup>4</sup>

<sup>2</sup> A.B. al-Mehri. Scientific truths in the Quran. The Qur'an project Distribution centre. Luton, United Kingdom. ISBN 978-0-9548665-7-0 (P.07)

<sup>3</sup> Abu Iyaad. Big Bang Cosmology and the Quran- A response to Muslim apologetics employing scientific conjectures to explain the meaning of the Quran. September 2015. Salafi Publications. Birmingham, United Kingdom. <https://www.aqidah.com/creed/assets/docs/big-bang-cosmology-quran.pdf> Accessed 06/09/2024

<sup>4</sup> Shohaib A. Malik. Islam and Evolution: Al-Ghazali and the modern evolutionary paradigm. Routledge, Taylor & Francis Group. 2021. Abingdon, Oxon.

The following verses are said to be related to Evolution:

أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ

Do not the Unbelievers see that the heavens and the earth were joined together (as one Unit of Creation), before we clove them asunder? We made from water every living thing. Will they not then believe? (Al-Quran 21:30)

وَاللَّهُ خَلَقَ كُلَّ دَابَّةٍ مِنْ مَاءٍ فَمِنْهُمْ مَنْ يَمْشِي عَلَىٰ بَطْنِهِ وَمِنْهُمْ مَنْ يَمْشِي عَلَىٰ رِجْلَيْنِ وَمِنْهُمْ مَنْ يَمْشِي عَلَىٰ أَرْبَعٍ يَخْلُقُ اللَّهُ مَا يَشَاءُ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ

And God has created Every animal from water : Of them there are some That creep on their bellies; Some that walk on two legs ; And some that walk on four. God creates what He wills; for verily God has power over all things. (Al-Quran 24:45)

وَمِنْ آيَاتِهِ أَنْ تَرَى الْأَرْضَ خَاشِعَةً فَإِذَا أَنْزَلْنَا عَلَيْهَا الْمَاءَ اهْتَزَّتْ وَرَبَتْ ۗ إِنَّ الَّذِي أَحْيَاهَا لَمُحْيِي الْمَوْتَىٰ ۗ إِنَّهُ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ

And among His Signs In this: thou seest the earth barren and desolate; but when we send down Rain to it, it is stirred to life and yields increase. Truly, He Who gives life to the (dead) earth can surely give life to (men) who are dead. For He has power over all things. (Al-Quran 41:39)

إِنَّ اللَّهَ فَالِقُ الْحَبِّ وَالنَّوَىٰ ۗ يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَمُخْرِجُ الْمَيِّتِ مِنَ الْحَيِّ ۗ ذَٰلِكُمْ اللَّهُ ۗ فَآنَىٰ تُؤَفَّكُونَ

It is God who causeth the seed-grain and the date-stone to split and sprout. He causeth the living to issue from the dead and He is the one to cause the dead to issue from the living. That is God; then how are ye deluded away from the truth? (Al-Quran 6:95)

Though the Evolution was introduced to deny religious claims on the creation of human, it is not against the Islamic view because it is possible to say that Allah can use evolution as a way to the development of species in the earth while we accept that Darwin's theory is probabilistic, based on assumptions. Therefore, evolution is just one of the various methods that Allah could utilize for the development of species, as his will is fundamental. Nidhal Guessoum argued that the theories equivalent to the theory of evolution was explained by Muslim scholars such as Ikhwan Alsaafa, Al-Jaheth and Ibn Khaldun.<sup>5</sup>

<sup>5</sup> Nidhal Guessoum. Islam's quantum question-reconciling Muslim tradition and modern science. I.B. Tauris. 2011. P.308

## 2. Human creation

### 2.1. Embryology

Quranic description of the human embryology has been a topic of discussion for centuries. There are multiple statements in the Quran on the human reproduction and its development. The invention of microscope and the evolution of the modern science helped the embryologists to get explanation. Quran consists more than a dozen verses that referred to Human reproduction.

خَلَقَكُمْ مِنْ نَفْسٍ وَاحِدَةٍ ثُمَّ جَعَلَ مِنْهَا زَوْجَهَا وَأَنْزَلَ لَكُمْ مِنَ الْأَنْعَامِ ثَمَانِيَةَ أَزْوَاجٍ ۚ يَخْلُقُكُمْ فِي بُطُونِ أُمَّهَاتِكُمْ خَلْقًا مِّنْ بَعْدِ خَلْقٍ فِي ظُلُمَاتٍ ثَلَاثٍ ۗ ذَلِكُمْ اللَّهُ رَبُّكُمْ لَهُ الْمُلْكُ ۗ لَا إِلَهَ إِلَّا هُوَ ۗ فَآَنَىٰ تُصْرَفُونَ (39:6)

He created you (all) From a single Person : Then created of like nature, His mate ; and He Sent down for you eight head Of cattle in pairs : He makes you, In the wombs Of your mothers, In stages, one after another, In three veils of darkness. Such is God, your Lord and Cherisher: to Him belongs (All) dominion. There is No god but He: then how are ye turned away (From your true Center)?

اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ ۖ خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ

Proclaim! (Or Read!) in the name Of thy Lord and Cherisher, Who created— Created man out of A (mere) clot Of congealed blood: (96:1, 2)

ثُمَّ خَلَقْنَا النُّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظَامًا فَكَسَوْنَا الْعِظَامَ لَحْمًا ثُمَّ أَنْشَأْنَاهُ خَلْقًا آخَرَ فَتَبَارَكَ اللَّهُ أَحْسَنُ الْخَالِقِينَ

Then We made the sperm Into a clot of congealed blood ; Then of that clot We made A (foetus) lump ; then We Made out of that lump Bones and clothed the bones With flesh ; then We developed Out of it another creature. So blessed be God, The Best to create! (23:14).

وَلَقَدْ خَلَقْنَا الْإِنْسَانَ مِنْ سُلَالَةٍ مِّنْ طِينٍ، ثُمَّ جَعَلْنَاهُ نُطْفَةً فِي قَرَارٍ مَّكِينٍ، ثُمَّ خَلَقْنَا النُّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظَامًا فَكَسَوْنَا الْعِظَامَ لَحْمًا ثُمَّ أَنْشَأْنَاهُ خَلْقًا آخَرَ فَتَبَارَكَ اللَّهُ أَحْسَنُ الْخَالِقِينَ

“Man We did create From a quintessence (of clay); Then We placed him As (a drop of) sperm In a place of rest, Firmly fixed; Then We made the sperm Into a clot of congealed blood; Then of that clot We made A (foetus) lump; then We Made out of that lump Bones and clothed the bones With flesh; then We developed Out of it another creature. So blessed be God, The Best to create! (23: 12-14).

Contemporary Muslim scholar Hamza Andreas Tzortzis gives a detailed explanation of the embryological interpretation of the Holy Quran and responses to the criticism that arisen comparing with modern science in his work titled 'Embryology in the Quran- a scientific, linguistic analysis of Chapter 23 with responses to historical scientific and popular contentions.<sup>6</sup> Professor Emeritus Keith L. Moore has important work titled 'The developing Human' which is a major work in this field. He had immense knowledge in the field of anatomy and embryology. He converted to Islam based on his study on scientific study of the Quran. He says:<sup>7</sup> "For this reason, the descriptions of the human embryo in the Quran cannot be based on scientific knowledge in the seventh century. The only reasonable conclusion is: these descriptions were revealed to Muhammad from God."

### 3. Geography

Muslims dealt with the geography at the age of Prophet Muhammed (pbuh). Most importantly, it is connected with the daily routine of Muslims, for five time prayers. Moreover Allah explained story of many earlier prophets including their place of preaching, characteristic of the society and socio-political status. It includes the indications of the Holy Quran to Geology, Shape of earth, Mineralogy, Rainfall, Clouds and others.<sup>8</sup>

أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَسَلَكَهُ يَنَابِيعَ فِي الْأَرْضِ ثُمَّ يُخْرِجُ بِهِ زَرْعًا مُّخْتَلِفًا أَلْوَانُهُ  
ثُمَّ يَهْبِجُ فَتَرَاهُ مُّصْفَرًّا ثُمَّ يَجْعَلُهُ حُطَامًا إِنَّ فِي ذَلِكَ لَذِكْرًا لِأُولِي الْأَلْبَابِ

"Do you not see that Allah Sends down rain from the sky, and leads it through springs in the earth? Then He causes to grow, therewith, produce of various Colours." (Al-Quran 39:21)

وَمِنْ آيَاتِهِ يُرِيكُمُ الْبَرْقَ خَوْفًا وَطَمَعًا وَيُنزِلُ مِنَ السَّمَاءِ مَاءً فَيُحْيِي بِهِ الْأَرْضَ بَعْدَ مَوْتِهَا إِنَّ  
فِي ذَلِكَ لآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ

"He sends down rain from the sky and with it gives life to the earth after it is dead: Verily in that are Signs for those who are wise." (Al Quran 30:24)

وَأَنْزَلْنَا مِنَ السَّمَاءِ مَاءً بِقَدَرٍ فَأَسْكَنَّاهُ فِي الْأَرْضِ وَإِنَّا عَلَى ذَهَابٍ بِهِ لَقَادِرُونَ

<sup>6</sup> Hamza Andreas Tzortzis. Embryology in the Quran, a scientific – linguistic analysis of chapter 23 with responses to historical scientific and popular contentions. P. 11 [https://www.kalamullah.com/Books/Embryology\\_in\\_the\\_Quran\\_v1.1.pdf](https://www.kalamullah.com/Books/Embryology_in_the_Quran_v1.1.pdf)

<sup>7</sup> This is the Truth (video tape) <https://www.webpages.uidaho.edu/~msa/tour/more-information-islam.htm#info-b>

<sup>8</sup> Tabasam Jamal Shad. Geographical science and the Holy Quran: An experimental study of physical and Agricultural geography in the Holy Quran. Thesis submitted for the degree of Doctor of Philosophy Glasgow University Department of Arabic and Islamic Studies October, 1997. ProQuest.

“And we send down water from the sky according to (Due) measure, and we cause it to soak in the soil; and we certainly are able to drain it off (with ease).” (Al-Quran 23:18).

وَأَرْسَلْنَا الرِّيحَ لَوَاقِحَ فَأَنْزَلْنَا مِنَ السَّمَاءِ مَاءً فَأَسْقَيْنَاكُمُوهُ وَمَا أَنْتُمْ لَهُ بِخَازِنِينَ

Another feature of the geography is the winds impregnate the clouds which Allah describes “And we send the fecundating winds, then cause the rain to descend from the sky, therewith providing you with water (in abundance).” (Al-Quran 15:22). Dan Gibson in his book ‘Qur’anic Geography: A survey and Evaluation of the Geographical references in the Qur’an with suggested solutions for various problems and Issues’ provides a detailed study about the Geographical references and its historical importance in the Holy Quran.<sup>9</sup>

### 3.1. Mountain

The mountains performs a significant role in the geographical part of the earth or universe. The word Mountain explicitly mentioned in the Holy Quran 39 times and is clearly implied as the protector of earth 10 times.<sup>10</sup> Zoghlu EL.Naggar, an Egyptian geologist articulated the meanings of Quranic verses related to geological concepts of Mountains and its functions in his book titled ‘The geological concept of Mountains in the Quran’. Allah says:

وَجَعَلْنَا فِي الْأَرْضِ رَوَاسِي أَنْ تَمِيدَ بِهِمْ وَجَعَلْنَا فِيهَا فِجَاجًا سُبُلًا لَعَلَّهُمْ يَهْتَدُونَ

We place firmly embedded mountains pm the earth, so it would not move under them” (al Quran 21:31).

The above verse explains the functions of mountains and its role in protecting earth from earth quakes.

أَلَمْ نَجْعَلِ الْأَرْضَ مِهَادًا وَالْجِبَالَ أَوْتَادًا

And the mountains as pegs? And (have We not) created You in pairs, (Al-Quran 78:6-7)

وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَّوْزُونٍ

And the earth we have spread out (Like a carpet); set thereon Mountains firm and immovable; and produced therein all kinds of things in due balance. (Al-Quran 17:19)

<sup>9</sup> Dan Gibson. Qur’anic Geography: A survey and Evaluation of the Geographical references in the Qur’an with suggested solutions for various problems and Issues. Independent Scholars Press. Canada. 2011

<sup>10</sup> Z.R. EL. Naggar. The Geological concept of Mountains in the Quran. Al-falah foundation for translation, publication and distribution. P.12



وَهُوَ الَّذِي مَدَّ الْأَرْضَ وَجَعَلَ فِيهَا رَوَاسِيَ وَأَنْهَارًا وَمِنْ كُلِّ الثَّمَرَاتِ جَعَلَ فِيهَا زَوْجَيْنِ اثْنَيْنِ  
يُغْشِي اللَّيْلَ النَّهَارَ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَتَفَكَّرُونَ

And it is He Who spread out The earth, and set thereon Mountains standing firm, And (flowing) rivers : and fruit Of every kind He made In pairs, two and two : He draweth the Night as a veil O'er the Day. Behold, verily in these things there are Signs for those who consider!

Some critiques of the Quran argued that Quran attributed Mountains as the protector of earth from earth quake. According to them this is the false knowledge that were existing among Arabs prior to Prophet Muhammad (s).<sup>11</sup> The role of Mountains in stabilizing the earth is proved when science found that mountain's root helps in reducing the speed of lithosphere thus decreasing the impact. The process of isostasy helps to maintain the stability of the earth by maintaining the mountain position.<sup>12</sup>

### 3.2. The shape of the Earth

In the early ages, all believed that the earth is flat. According to science, in the sixteenth century, Sir Francis Drake found that the earth is spherical through his sailings. Some scholars refers the verse as an evidence of speaking Quran about the shape of the earth. Allah says in the Holy Quran;

أَلَمْ تَرَ أَنَّ اللَّهَ يُولِجُ اللَّيْلَ فِي النَّهَارِ وَيُولِجُ النَّهَارَ فِي اللَّيْلِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلٌّ يَجْرِي  
إِلَىٰ أَجَلٍ مُّسَمًّى وَأَنَّ اللَّهَ بِمَا تَعْمَلُونَ خَبِيرٌ

Seest thou not that God merges Night into Day And He merges Day into Night ; That He has subjected the sun And the moon (to His Law), Each running its course For a term appointed ; and That God is well acquainted With all that ye do ? (Al-Quran 31:29).

Here 'Merging' means that the night slowly and gradually changes to day and vice versa. This phenomenon can only take place if the earth is spherical. If the earth was flat, there would have been a sudden change from Night to Day and from day to night.

وَالْأَرْضَ بَعْدَ ذَلِكَ دَحَاهَا

And the earth, moreover, Hath He made egg shaped. (Al-Quran 79:30)

<sup>11</sup> Atheism vs Islam <https://atheism-vs-islam.com/index.php/hoaxes-of-the-quranic-miracles/66-muslim-claim-it-was-a-miracle-of-quran-to-tell-that-mountains-are-pegs>

<sup>12</sup> Mohamed Akhiruddin Ibrahim. Mountains as stabilizers for earth from the Quranic and modern science perspective. IJASOS-International E-Journal of Advances in Social Sciences. Vol. 5. Issue 15, December 2019

Some says that Allah speaks that sun is moving constantly and it rotates upon axes at irregular speeds. Referring to the verse:

وَهُوَ الَّذِي خَلَقَ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ كُلٌّ فِي فَلَكٍ يَسْبَحُونَ

It is He who created The Night and the Day, and the sun and the moon: All (the celestial bodies) Swim along, each in its Rounded course." (Al-Quran 21:33).

The Europeans came forward to explain the mechanisms of the solar system only after the publication of the Astronomia Nova by German Scientist Yohannus Keppler. They believed earlier that the earth stood still in the centre of the universe and every other body including the sun moved around it.

Allah says:

لَا الشَّمْسُ يَنْبَغِي لَهَا أَنْ تُدْرِكَ الْقَمَرَ وَلَا اللَّيْلُ سَابِقُ النَّهَارِ ۚ وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ

It is not permitted To the Sun to catch up The Moon, nor can The Night outstrip the Day: Each (just) swims along in (its own) orbit (According to Law)." (Al-Quran 36:40). The verse indicates that the existence of the individual orbits of the sun and the moon and their journey through space with their own motion. This was found by modern science and it explained the exact solar system which sun travels.

> Some critiques of the Holy Quran use tow verses to establish their claim that Quran says that the earth is flat. They take the similar verses as a way of establishing contradiction in the Holy Quran. The critiques of the Quran argue that the first verse explicitly indicates that the earth is flat which contradicts to the modern scientific finding. The view of flatness of earth was introduced by ancient romans, in contrary to the majority of Greek philosophers.<sup>13</sup> Famous exegete Ibn Kathir (r) explained that it means that it is spread out for human use including cultivation, travel and construction as well as other benefits.<sup>14</sup> According to Hamza Tzortzis both of these two verses have different level of meaning. From the first verse, he gets that the 7<sup>th</sup> century Bedouin understanding that earth is flat and it does not have many craters and there are flat plane in order to live, grow fruits and other things, is the perfect sense of the verses in a way that aligns with their level of understanding. The second become as night changing into the day. So god asks him to see and observe from their own perspective.<sup>15</sup>

The view that the first and second verses are the reflection of the creative power of the god, because the interpretation that 'in one hand he created the world in spherical surface, and in other hand it seems as a bed' is more logical. He created the universe by his own creative power, as a wisdom for humankind. The recognition

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<sup>13</sup> Hamza Andreas Tzortzis. Does the Quran say the earth is flat? Islamic scholarship and the multiplicity of reading approach. <https://sapienceinstitute.org/does-the-Quran-say-the-earth-is-flat/>

<sup>14</sup> Ibn Kathir. (2010). Tafsir Al Quran Al-Athim. Dammam: Dar Ibn Jawzi, vol.5, p. 293.

<sup>15</sup> Hamza Andreas Tzortzis. Does the Quran say the earth is flat? Islamic scholarship and the multiplicity of reading approach. <https://sapienceinstitute.org/does-the-Quran-say-the-earth-is-flat/>

of his creative power leads to the absolute truth which leads to the meaning that he only deserves the praise and he deserves to be worshipped.

### 3.3. The protected Roof

The earth's surrounding atmosphere carries out various functions to sustain life. Among these is the sky, which is considered one of the signs of God as described in the Holy Quran. The major functions of the Sky is to prevent falling of meteors into the earth, protection of the living beings. The word Sky is mentioned 48 times for different meanings.<sup>16</sup>

He says:

وَجَعَلْنَا السَّمَاءَ سَقْفًا مَحْفُوظًا وَهُمْ عَنْ آيَاتِهَا مُعْرِضُونَ

We made the sky a preserved and protected roof yet still they turn away from our signs (Al Quran 21:32)

Another verse:

وَالسَّمَاءِ ذَاتِ الرَّجْعِ

"By heaven with its cyclical systems" (Al Quran 86:11).

In the above verse Allah used the word 'cyclical indicates' to the meaning of sending back or returning.

هُوَ الَّذِي خَلَقَ لَكُمْ مَّا فِي الْأَرْضِ جَمِيعًا ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ فَسَوَّاهُنَّ سَبْعَ سَمَاوَاتٍ ۗ وَهُوَ بِكُلِّ شَيْءٍ عَلِيمٌ

It is He who hath created for you all things that are on earth; moreover His design comprehended the heavens for He gave order and perfection to the seven firmaments; and of all things he hath perfect knowledge. (Al Quran 2:29)

In this verse Allah says about the layers of the atmosphere, like troposphere, stratosphere, ozone, mesosphere, thermosphere, exosphere, ionosphere, magnetosphere.<sup>17</sup>

### 3.4. Oceanology

Quran used several words which are connected with Ocean such as Bahr, Bahri, Bahru, Bihar, Bahrayn, Bahram, Bahrayni. Theses verses are known as oceanic verses. There are 42 verses of the Quran that mention about ocean and 13 verses indirectly mention oceans in suffixes or synonyms.<sup>18</sup> Allah says:

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<sup>16</sup> Salahaldeen Mohammad AlBzour. A linguistic exploration of the Word 'sky' in the Holy Quran: an analytical study. International Journal of Linguistics. ISSN 1948-5425. Vol.10 No.01

<sup>17</sup> Fatima Karim. The Sky-The protected Roof. Medium. Apr.20, 2018 <https://marytn.medium.com/the-sky-the-protected-roof-ce7539944def> Accessed 06/09/2024

<sup>18</sup> Agus S Djamil. Oceanic verses of the Quran: their semantics, ontology and categorization. World-ISLAM2012

مَرَجَ الْبَحْرَيْنِ يَلْتَقِيَانِ ، بَيْنَهُمَا بَرْزَخٌ لَا يَبْغِيَانِ

“He has let free the two bodies of flowing water, Meeting together: Between them is a Barrier which they do not transgress.” (Al-Quran 55:19-20).

In the above verse Allah says that he created a barrier between sweet and salt waters from oceans. Richard Dawkins argues that Quran says that salt water and fresh water don't mix is a scientific error. In fact in his statement he omitted the portion 'in the sea and natural barrier'.<sup>19</sup>

Another verses indicates to the darkness in the depths of the ocean. Allah says:

أَوْ كَظُلُمَاتٍ فِي بَحْرٍ لُجِّيٍّ يَغْشَاهُ مَوْجٌ مِنْ فَوْقِهِ مَوْجٌ مِنْ فَوْقِهِ سَحَابٌ ظُلُمَاتٌ بَعْضُهَا فَوْقَ بَعْضٍ إِذَا أَخْرَجَ يَدَهُ لَمْ يَكِدْ يَرَاهَا وَمَنْ لَمْ يَجْعَلِ اللَّهُ لَهُ نُورًا فَمَا لَهُ مِنْ نُورٍ

Or (the Unbelievers' state) Is like the depths of darkness in a vast deep ocean, Overwhelmed with billow Topped by billow, Topped by (dark) clouds: Depths of darkness, one above another: if a man Stretches out his hand, He can hardly see it! For any to whom Allah Giveth not light, there is no light! (Al-Quran 24:40).

Prof. Durga Rao<sup>20</sup> asked about the above mentioned verse of the Quran, he said that the scientist only now been able to confirm the truth that mentioned in the Quran way before fourteen centuries and in that age a normal human being could not explain this phenomenon. Thus the information must have come from a supernatural source.

#### 4. Physics

Physics is the science that studies about the structure and character of natural objects and their interaction. Muslims were engaged in Physics in the Golden Age where they developed new theories and inventions. Quran speaks unequivocally describes the end of the world while scientists are reaching to that. Quran often speaks about the creation of earth, sun, moon, night, day, planets, light, fresh water and many other things that are connected with physics of the universe.

Quran discussed about optics and light, matter and its changes, measurement, waves, and dynamic fluids which are related to the physics. Allah describes the optics and light in the surah An-Nur:<sup>21</sup>

<sup>19</sup> Richard Dawkins <https://youtu.be/q2IEvykdCpQ?si=FczB7-B0blvydjDE>

<sup>20</sup> Professor, King Abdul Aziz University in Jeddah, expert in marine geology

<sup>21</sup> Dawam Multazamy Rohmatulloh. Physics of Quran: Islamizing the science and its contribution towards humanity. Religion Education, Volume 1 November 15, 2021. 75-85

اللَّهُ نُورُ السَّمَاوَاتِ وَالْأَرْضِ مِثْلُ نُورِهِ كَمِشْكَاةٍ فِيهَا مِصْبَاحٌ الْمِصْبَاحُ فِي زُجَاجَةٍ الزُّجَاجَةُ كَأَنَّهَا  
كَوْكَبٌ دُرِّيٌّ يُوقَدُ مِنْ شَجَرَةٍ مُبَارَكَةٍ زَيْتُونَةٍ لَا شَرْقِيَّةٍ وَلَا غَرْبِيَّةٍ يَكَادُ زَيْتُهَا يُضِيءُ وَلَوْ لَمْ تَمْسَسْهُ  
نَارٌ نُورٌ عَلَى نُورٍ يَهْدِي اللَّهُ لِنُورِهِ مَنْ يَشَاءُ وَيَضْرِبُ اللَّهُ الْأَمْثَالَ لِلنَّاسِ وَاللَّهُ بِكُلِّ شَيْءٍ عَلِيمٌ

Allah (giver) light to the heavens and the earth. The parable of Allah's light is like an impenetrable hole, in which is a large lamp. The lamp is in the glass and the glass is like a star (which shines) like pearls which are lit with oil from a blessed tree, an olive tree that grows neither in the east (something) nor in the west. (Him), whose oil (only) is almost illuminating even though the fire does not touch it. Light upon light (in layers), Allah guides to his light whom he wills and Allah sets forth parables for mankind and Allah is knower of all things. (Al Quran 24:35).

The above verse articulated that light objects can be seen because they are hit by light, then the light is reflected, so that we can see objects around us.<sup>22</sup>

### 3.3. Matter

Matter is anything that has mass and occupies space (has volume). It exists in three forms, liquid, solid and gas and it cannot be separated from the kinds of substances that they consists. Allah described this in the verse:

اللَّهُ الَّذِي يُرْسِلُ الرِّيَّاحَ فَتُثِيرُ سَحَابًا فَيَبْسُطُهُ فِي السَّمَاءِ كَيْفَ يَشَاءُ وَيَجْعَلُهُ كِسْفًا فَتَرَى  
الْوَدْقَ يَخْرُجُ مِنْ خِلَالِهِ ۗ فَإِذَا أَصَابَ بِهِ مَنْ يَشَاءُ مِنْ عِبَادِهِ إِذَا هُمْ يَسْتَبْشِرُونَ

It is God Who sends the Winds, and they raise The Clouds : then does He Spread them in the sky As He wills, and break them Into fragments, until thou seest Rain-drops issue from the midst Thereof : then when He has Made them reach such Of His servants as He wills, Behold, they do rejoice. (Al-Quran 30:48)

The above verse discusses about the matter and its alterations. Namely the first stage that it is Allah who sends the wind. Water particles form clouds by collecting water vapour. The second stage, then the wind stirs up the clouds and Allah spreads them in the sky as He wills, and becomes lumpy. Clouds are formed from water vapour that condenses around salt crystals or dust particles in the air. The third stage, then you see rain coming out of the cracks, then when it rains it falls. The water particles surrounding the salt crystals and the dust particles thicken and form raindrops. So the droplets become heavier than air, leave the clouds and begin to fall to the ground as rain.<sup>23</sup>

## 4. Zoology in the Quran

<sup>22</sup> Ibid.

<sup>23</sup> Dawam Multazamy Rohmatulloh, Physics of Quran: Islamizing the science and its contribution towards humanity, Religio education, v1, 2021

Zoology is branch of biology concerned with the classifications and properties and vital phenomena of animals.<sup>24</sup> The Holy Quran described the story of animals in the life of prophets such as Camel of Salih (A), birds of Ibrahim (A), Prophet Yusuf and the Wolf, Yunus and the Whale. Quran sheds lights to some of the animals, insects, birds and their functions. Six of chapters of the Holy Quran are named after the names of animals, the Cow, the Cattle, the Bee, the Ant, the Spider and the Elephant. Number of animals mentioned in the Holy Quran by name is thirty one and more than one hundred and forty Quranic verses speak about a number of animals on Earth.<sup>25</sup>

Allah says:

أَلَمْ يَرَوْا إِلَى الطَّيْرِ مُسَخَّرَاتٍ فِي جَوِّ السَّمَاءِ مَا يُمْسِكُهُنَّ إِلَّا اللَّهُ ۗ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يُؤْمِنُونَ

Do they not look at the birds, held poised In the midst of (the air and) the sky? Nothing Holds them up but (the power Of) Allah. Verily in this are Signs for those who believe. (Al-Quran 16:79).

أَوَلَمْ يَرَوْا إِلَى الطَّيْرِ فَوْقَهُمْ صَافَّاتٍ وَيَقْبِضْنَ ۗ مَا يُمْسِكُهُنَّ إِلَّا الرَّحْمَنُ ۗ إِنَّهُ بِكُلِّ شَيْءٍ بَصِيرٌ

Do they not observe the birds above them, spreading their wings and folding them in? None can uphold them Except (Allah) Most Gracious: Truly it is He that watches over all things. (Al-Quran 67:19).

Quran consists flying insects from Mosquito, Locust, Honey Bee, House fly and Moth. For instance:

إِنَّ اللَّهَ لَا يَسْتَحْيِي أَنْ يَضْرِبَ مَثَلًا مَّا بَعُوضَةً فَمَا فَوْقَهَا ۗ فَأَمَّا الَّذِينَ آمَنُوا فَيَعْلَمُونَ أَنَّهُ الْحَقُّ مِنْ رَبِّهِمْ ۗ وَأَمَّا الَّذِينَ كَفَرُوا فَيَقُولُونَ مَاذَا أَرَادَ اللَّهُ بِهَذَا مَثَلًا ۗ يُضِلُّ بِهِ كَثِيرًا ۗ وَمَا يُضِلُّ بِهِ إِلَّا الْفَاسِقِينَ

Allah disdains not to use the similitude of things lowest as well as highest. Those who believe know that it is truth from their Lord; but those who reject Faith say: "What means God by this similitude?" By it He causes many to stray and many He leads into the right path but He causes not to stray except those who forsake (the path).

Lice, Ants and spider are the insects specified in the Quran. For instance;

<sup>24</sup> Marriam-Webster

<sup>25</sup> Sayeda Zonaira Kazmi. The study of zoology in the context of the Holy Quran. International Journal of Islamic studies and Culture. Vol.4 Issue 2, 2024 <http://ijisc.com.pk/index.php/IJISC/issue/view/192>

حَتَّىٰ إِذَا أَتَوْا عَلَىٰ وَادِ النَّمْلِ قَالَتْ نَمْلَةٌ يَا أَيُّهَا النَّمْلُ ادْخُلُوا مَسَاكِنَكُمْ لَا يَحْطِمَنَّكُمْ سُلَيْمَانُ  
وَجُنُودُهُ وَهُمْ لَا يَشْعُرُونَ

At length, when they came to a (lowly) valley of ants, one of the ants said: "O ye ants, get into your habitations, lest Solomon and his hosts crush you (Under foot) without knowing it. (Al-Quran 27:18)

Quran also indicates to Mammals like camel. Allah says:

أَفَلَا يَنْظُرُونَ إِلَىٰ الْإِبِلِ كَيْفَ خُلِقَتْ

Do they not look At the Camels, How they are made? (Al-Quran 88:17).

In the above verse Allah reiterates humankind to think his creations and understand his creative and intellectual power. He created animals in a wonderful manner in a way human can realise his signs through that wonders.

#### 4.1. Bee in the Quran

It is important to discuss about bee in the Quran. Because there are plenty of studies about the wonders in Bee and Quranic statements. Allah says:

وَأَوْحَىٰ رَبُّكَ إِلَى النَّحْلِ أَنِ اتَّخِذِي مِنَ الْجِبَالِ بُيُوتًا وَمِنَ الشَّجَرِ وَمِمَّا يَعْرِشُونَ

And your Lord inspired to the bee, "Prepare for thyself dwellings in mountains and in trees, and in what (men) may build (for thee by way of hives) (Al Quran 16:68)

ثُمَّ كُلِي مِن كُلِّ الثَّمَرَاتِ فَاسْلُكِي سُبُلَ رَبِّكِ ذُلُلًا ۗ يَخْرُجُ مِنْ بُطُونِهَا شَرَابٌ مُّخْتَلِفٌ أَلْوَانُهُ فِيهِ شِفَاءٌ لِلنَّاسِ ۗ إِنَّ فِي ذَٰلِكَ لَآيَةً لِّقَوْمٍ يَتَفَكَّرُونَ

Then eat from all the fruits and follow the ways of your Lord laid down (for you)." There emerges from their bellies a drink, varying in colours, in which there is healing for people. Indeed in that is a sign for people who give thought. (Al Quran 16:69)

The following points should be noted. Firstly, in the earlier verse Allah used the word Al-Nahl which has no female gender, but when Allah described the command for making home, he used female gender. The modern science has proved that there is no role for male in the formation of the home and building, and it is the duty of females. Second point is that Allah used command 'Kuli' to the feminine because this also is the duty of female bees. Another point is that Allah used the word "ha" which is used to mention to the females in the sentence there comes forth from their bellies. It is also scientifically proven that honey is prepared in the bellies of female bees only.

In the 6th century, when Allah revealed these verses to the people of Makkah, they were astonished that Allah had revealed and discussed a simple animal that they had never even thought about. It was a miracle for their society at that time. They were unaware of the special characteristics of bees which was developed in later centuries. The people of that era didn't give much attention to the knowledge

that the worker bees were female and that the tasks of building the comb and producing honey were performed by female worker bees, and Bees are different types and all types performing different functions and producing different types of honeys. It has high solid and unique social system. But when science and technology developed, scientists studied and made research on this tiny insect and found wonderful truths about that. Von Frisch received the Nobel Prize in 1973 for his research on the behaviour and communication of the bees.<sup>26</sup>

#### 4.2. Spider in Quran

Allah used spider as a parable for the misguided people in the below verse. He says:

مَثَلُ الَّذِينَ اتَّخَذُوا مِنَ اللَّهِ أَوْلِيَاءَ كَمَثَلِ الْعَنْكَبُوتِ اتَّخَذَتْ بَيْتًا وَإِنَّ أَوْهَنَ الْبُيُوتِ لَبَيْتُ  
الْعَنْكَبُوتِ لَوْ كَانُوا يَعْلَمُونَ

The parable of those who Take protectors other than Allah Is that of the Spider, Who builds (to itself) A house; but truly the flimsiest of houses is the Spider's house – If they but knew. (Al-Quran 29:41)

Many Muslim scholar explained the three wonders of Quranic description about spider.

- The usage of the '*ankabut*' in singular form. This indicates to the idea of solitary life of spider except at times of mating and egg hatching. If this is compared to the ant and bees, Allah mentioned these animals only as plural which indicates their lives as groups.
- The words '*Itthakat baitan*' (builds a house) in female form indicates to the role of female spider in that. The female spider holds the glands for secretion of the silk material from which the spider's house is made. The male and female takes part in this job and repairing and expanding.
- The portion 'truly the flimsiest of houses is the spider's house' indicates to the physical weakness of the house and weakness is in the house, not in the threads.

## CONCLUSION

Science is the result of relentless experiments of humankind through a gradual process. Science may abrogate its conclusions of today based on findings of new experiments. If science finds anything, it is the work of different ages with efforts of many people. Quran is the revelation of all wise Allah who created universe. It's not surprising that Quran contains knowledge about universe and its functions. Modern Islamic preachers adopted science as best way for the propagation of Islam and an easy tool for attracting the modern minds. They compared the Quran with modern science and produced many books to deliver the compatibility of the holy Quran with modern science. It is evident that scientific interpretation of the holy

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<sup>26</sup> Karl von Frisch. <https://www.nobelprize.org/prizes/medicine/1973/press-release/>



Quran helps many people to understand Quran and convert to Islam. Many scientists studied scientific data in Quran and embraced Islam. Regrettably, majority of them left Islam due to the errors occurred during the interpretation of the Quran using scientific evidences. Even if that does not make any error to the holy Quran helped in understanding the need of carefulness in the interpretation of the Quran. Majority of criticisms against Quran coming out of erroneous interpretation without proper knowledge or qualification.

There is wonder in the usage of Quran when explains about natural things as we discussed in the animals and birds. His words, commends, and statements gives new understanding to the reader by the help of science. The meaning of the Quran is developing daily as in the case of Honey bee. The understanding of the people of previous centuries was different from the understanding of today's people. Next generation can grasp new meanings for the verses that we couldn't explore. When science finds out new horizons of the universe it helps to get explanations to the Quranic verses. There are many other areas of study and braches of knowledge in the Quran. The above described were selected on its accessibility and feasibility in understanding. When a believer witnesses the wonders of the universe he get strength in his belief and when he sees that in Quran he realises the knowledge and intellect of the power behind it.

Muslims were always cautious towards everything new by virtue of their commitment towards religious adherence. When modern scientists or intellectuals develop new theories scholars take a distention towards it fearing from its ailments in belief. They adopt those new things only after deep scrutiny. We can therefore see divergences of opinion among scholar on above discussed notions. Modern science was influenced by the materialistic and atheistic thoughts by the secularization. They all intentionally omits the existence of eternal power behind all these natural phenomena. This also made impact in the attitude of Muslims towards modern science.

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