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**Exploring Scientific Exegesis (Al-Tafsīr Al-‘Ilmi) of the Quran: Merits, Challenges, and Interpretive Boundaries**

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**Abstract**

This study review the science-based interpretation (Tafseer Ilmi) of the Quran which matches the text with the discoveries scientists have made. The idea that the Quran helps with guidance in every part of life, including science, has caused many scholars to debate this method. While a few argue for being careful and sticking to the old ways, some suggest taking a sensible approach that considers science. The paper studies the history of scientific tafseer, paying special attention to what early and modern scholars such as Imam Ghazali, Sheikh Muhammad Abduh and Sheikh Tantawi Jawhari have offered. It points out the main aspects that separate scientific exegesis from scientific miracles and explains how it helps, for example, by improving our understanding of the Quran, building trust in God, reducing conflicts between science and faith and encouraging experts from different fields to join their efforts. Even so, the study points out the problems with this method, mainly due to the unchanging nature of the Quran and the fact that science is constantly progressing. The study uses qualitative research and combines ancient and recent writings to determine the validity, boundaries and potential of scientific tafseer in Quranic interpretation.

**Keywords:** Scientific Exegesis, Quranic Interpretation, Science and Religion, Interdisciplinary.

**Introduction**

The Quran is a comprehensive source of guidance for people of all times. It provides spiritual guidance as well as information on a variety of subjects such as science. These days, many researchers are using science to better understand the Quran, a practice known as scientific tafseer (Tafseer Ilmi). Therefore, some people argue that science should not be involved in understanding the Quran and it should be interpreted mainly as Muslims have always done.

The other side believes that science can shed new light on Quranic verses and that this might result in a reinterpretation of certain verses.

Since opinions vary, it is important to study what is the proper way for science to interpret the Quran. It is important to explain the sayings of Allah in a precise manner, following the correct methods of interpretation. Remember that both scholars and interpreters may get it right or wrong, especially if they are trying to relate verses from the Quran to changing science ideas. The goal of this research is to investigate scientific tafseer further. It examines its process, the advantages it brings and the risks or issues it may include. It also points out the efforts of researchers who have played a role in this subject, both in earlier years and currently. This study relies on qualitative research. The Quran and books that explain it are the primary sources, while academic books, journals, articles and theses are used for additional material. The goal of this research is to provide answers to these questions:

1. What is scientific tafseer, and how has it changed over time?
2. What are the benefits and challenges of interpreting the Quran using science?

The article is organized in the following way: first, it looks at the background and history of scientific tafseer. Then it discusses the key scholars and their work in this area. After that, it examines the main benefits, challenges, and risks involved. Finally, it offers some reflections and concludes with suggestions for future research.

### **Historical Context**

Many scholars in the past and current times have defined the scientific exegesis, but the most comprehensive definition is the one given by Fahd Al-Rumi as he defined the scientific exegesis as attempts to reveal the connection between the cosmic verses of the Quran and the discoveries of the experimental science, to depict the miracle of the Quran, proving its sacred source and validity throughout any time or place.<sup>1</sup>

Al-Tafsīr Al-‘Ilmī is an attempt to demonstrate that the Quran is a complete divine message that touches on a range of topics related to human knowledge, including natural occurrences. The Quran urges people to use their intellects to study and uncover these realities, even though it does not offer comprehensive explanations of physical phenomena. This is seen by the way the Quran covers

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<sup>1</sup> Fahd al-Rūmī. (1986). *Ittijāhāt al-Tafsīr fi al-Qarn al-Rābī‘* ‘Asyar. Riyadh: Mu’assasah al-Risālah. Vol. 2, p 549.

subjects like astronomy, geology, botany, zoology, and embryology, emphasizing how comprehensive and all-encompassing it is and how nothing is left out.

Imam Ghazali (505/1111) is credited with conceptually developing the "scientific commentary" approach of tafseer in terms of historical process. In his work *Al-Iḥyā*, he discussed the differences between the knowledge of the ancient and modern sciences in light of Qur'anic exegesis. He stated, "These sciences are endless, and the Quran has a reference to them comprehensively." Fahreddin Rāzī (606/1210) accepted and put it into practice.<sup>2</sup> This view was also supported by Al-Suyūṭī in his books *Al-Itqān* and *Iqlīl Al-Ta'wīl*.<sup>3</sup>

A new school of tafseer has emerged as a result of the increased use of scientific commentary since the 18th century, which has also drawn a lot of criticism. Sheikh Muḥammad ʿAbduh was a key figure in the modern rational school of Qur'anic exegesis, influenced by his teacher, Jamāl

Al-Dīn Al-Afghīnī. He advocated for a rational and scientific interpretation of the Quran, blending Islamic teachings with Western civilization, and believed the Quran addressed scientific and historical issues unknown at the time of revelation.

Sheikh Ṭaṭṭawī Jawharī (1870-1940) was the first to interpret the entire Quran scientifically. He integrated Western scientific discoveries and theories into his exegesis and identified 750 verses related to physical cosmology in his 25-volume work *Al-Jawāhir*.<sup>4</sup>

In fact, reformers like Sheikh Ṭaṭṭawī Jawharī and Sheikh Muḥammad ʿAbduh strove to reestablish a connection between Muslims and the Quran. Furthermore, secular notions propagated by Western colonization implied that religion impeded progress, which led Muslim scholars to show that Islam and science could coexist. A component of this endeavor was promoting scientific instruction in religious studies. Furthermore, academics were prompted to reexamine earlier readings of the Quran in order to

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<sup>2</sup> Bozdoğan, Lutfi. "The Possibility of Scientific Commentary of Qur'an." *Journal of Quranic Studies and Modern Science* 1, no. 1 (n.d.): 1–8. [https://www.quranicstudiesjournal.com/FileUpload/as999520/File/a\\_tafsir\\_translation1.pdf](https://www.quranicstudiesjournal.com/FileUpload/as999520/File/a_tafsir_translation1.pdf).

<sup>3</sup> Asnawī, Aqdī Rofiq. "Scientific Approach in Quranic Exegesis: The Emergence and Issues." *Journal of Contemporary Islamic Studies*, January 1, 2021.

<sup>4</sup> Ṭaṭṭawī Jawharī. (1922). *Al-Jawāhir fī Tafsīr al-Qurʾān al-Karīm*. Cairo: al-Bāb al-Ḥalabī. Vol. 1. P 2.

bring them into line with contemporary understanding because these interpretations frequently misinterpreted cosmological verses.

### **The features of Scientific Exegesis**

By contrasting it with the scientific marvel, one can get the idea of the scientific exegesis from its features, which are as follows:

1. Al-Tafsīr Al-‘Ilmī, or scientific exegesis, is a topic for investigation and discussion. There is no question regarding the Qur'an's precedent in describing the scientific marvel (Al-I‘jāz Al-‘Ilmī) since it is a recognized and unquestionable issue.<sup>5</sup>
2. Scientific exegesis is a procedure that results in a scientific miracle. The scientific exegesis is more general than the scientific miracle because every scientific miracle is first and foremost a scientific exegesis, but not every scientific exegesis is a scientific miracle.<sup>6</sup>
3. Ijtihad is applicable to scientific exegesis concerning the sciences employed, their application, and the Quran's suggestion of these sciences; in the meantime, the scientific miracles need to be recognized.
4. Unlike scientific miracles, the scientific exegesis of the Quran is prone to error because it is carried out through the interpreter's ijtihad.

### **Benefits of Scientific Exegesis**

Key advantages of scientific tafseer include the following:

1. Improved Comprehension of the Quran: By connecting Quranic passages to current scientific discoveries, scientific tafseer serves to enhance comprehension of Quranic verses. This can aid readers in understanding the Quran's applicability to contemporary life and its insights into the natural world. For instance, when Sheikh Ṭanṭāwī Jaūharī published *Jawāhir Al-Qurān*, he did it with a scientific exegesis and a great deal of passion for the Muslim people, fighting to reawaken its scientific Renaissance. As he mentioned his goal, "And let this book be a rapid call towards studying the upper and lower sciences, and let some of this nation be better than

<sup>5</sup> Yūsuf al-Qaraḍāwī. (2000). *Kayf Nata‘āmal ma‘ al-Qur’ān al-Karīm*. Cairo: Dār Al-Syuruq. P380, 383

<sup>6</sup> Asnawī, Aqdī Rofiq. "Scientific Approach in Quranic Exegesis: The Emergence and Issues."

the west in conducting agriculture, medicine, minerals, arithmetic, and engineering," he claimed that there are at least 750 scientific verses in the Quran, which is why he wrote this scientific Quranic exegesis (Ṭantāwī Jaūharī n.d.).

2. Encouraging Faith with Knowledge and Reasoning: Scientific tafseer can bolster believers' faith by showcasing how scientific findings align with the teachings of the Quran. It demonstrates how the Quran agrees with verifiable facts, supporting the notion that heavenly revelation and scientific research can coexist together. Reading scientific tafseer inspires readers to think critically and to ask questions. It encourages people to investigate the connection between religion and science and promotes a culture of intellectual inquiry. Believers are urged by Allah to consider the natural world as symbols of His strength and intelligence. As an illustration, the Quran says: *"And He has subjected to you whatever is in the heavens and whatever is on the earth—all from Him. Indeed, in that are signs for people who give thought."* (Quran 45:13) This verse highlights the significance of considering nature as proof of Allah's omnipotence. A balance between faith and knowledge can be seen in the way that breakthroughs in physics, biology, astronomy, and other sciences validate parts of the natural world that the Quran has already hinted at.

Muslims attempted to prove that there is no contradiction between religion and reason; however, in previous exegeses, it was found that there are disagreements between the exegesis of the verses and the modern scientific discoveries with regards to cosmology.

Some Early interpreters explained cosmic verses based on spontaneous thoughts, i.e. what is common and acceptable between the interpreters (Al-Qarḍāwī, 2000).

For instance, the following verse:

And of all things, We created two mates, so that you may reflect and ponder

(Adz Zhariyaat:49)

One of the early interpreters said that this totality is for the majority. Thus it is not general or absolute, as depicted by the holy verse "of all things"; meanwhile, others said that this word refers to every animal gender: male or female, i.e. specified for the genders of the animals. Hence, they explained the verse based on their knowledge on the fact that dualism appears in humans and

animals; however, they did not know that other things such as plants (e.g. palm), have the same characteristics. Later on, modern science discovered that all the creatures are based on dualism, even the atom contains protons (positively charged) and electrons (negatively charged). Indeed, Allah says:

Exalted is He who created all pairs – from what the earth grows and from themselves and from that which they do not know (Yassin: 36)

### **Bridge between Science and Religion:**

By highlighting the harmony between science and Islam, scientific tafseer supports the goals of dawah. With the help of this strategy, dawah will be more successful in converting scientifically inclined people to Islam, dispelling myths and promoting a greater appreciation of the Quran's applicability to contemporary society. Dr. Zaghlūl Al-Najjār stated that the best method for Da'wah in this technologically advanced world is to encourage the ungrateful to come to Islam and to reinforce the faith of believers by connecting Islam and science through scientific exegesis and scientific miracles.<sup>7</sup>

3. Encouragement of Interdisciplinary Research: Scientific tafseer raises the intellectual profile of Islam by fostering cooperation between academics and scientists. By portraying Islam as a faith that values and incorporates knowledge from many fields, this advances the goal of dawah and engages a variety of people in meaningful discussion. As a result, many scientists who evaluate scientific data were trained in non-Sharia disciplines and are therefore unfit to interpret data from the natural or social sciences. Nevertheless, they left their original field of expertise and began working on scientific exegesis thus encouraging interdisciplinary research.

### **Limitations of Scientific Exegesis of the Quran**

In the realm of scientific exegesis, it is essential to keep in mind the limitations of human knowledge and the dynamic nature of science. The timelessness of the Quran should not be compromised by trying to fit its meanings into contemporary scientific understanding. <sup>8</sup>A proper scientific tafseer should respect the

<sup>7</sup> Zaghlūl al-Najjār. (2004). *Min Āyāt al-I'jāz al-'Ilmī: al-Samā' fī al-Qur'ān al-Karīm*. Beirut: Dār al-Ma'rifah. p 168

<sup>8</sup> "Ruling on Interpreting the Qur'aan According to Modern Theories - Islam Question & Answer." Accessed October 9, 2024. <https://islamqa.info/en/answers/22351/ruling-oninterpreting-the-quraan-according-to-modern-theories>.

Quran's language, classical interpretations, and the wisdom of early scholars while acknowledging the role of modern science without overstepping into speculative territory. The limitations of scientific tafseer can be understood in light of its theoretical and practical issues.

#### Issues in Scientific Exegesis of Quran

##### 1. Definitiveness of the Quranic Text vs. Probabilities of Experimental Science

A primary concern in scientific exegesis is ensuring alignment with fixed facts rather than changing theories. Scientific facts are stable, while theories can evolve, potentially leading to contradictions with the Quran. For example, Newton's gravity was once considered a fact until disproven by Einstein's theory. This shifting landscape can weaken faith rather than strengthen it. Thus, interpreters must differentiate between the eternal truths of the Quran and variable scientific knowledge. Thus, sometimes the uncertainty about the reality of the Quran can weaken faith rather than strengthen it.<sup>9</sup>

##### 2. Confusion Between Scientific Exegesis and Scientific Miracles

Some interpreters confuse scientific exegesis with scientific miracles. Scientific miracles refer to definitive truths in the Quran that align with empirical evidence. In contrast, scientific exegesis represents a human effort to interpret the Quran's meaning, where errors do not detract from the Quran's grandeur. Also, stating in the Quran that water is the origin of life, as Allah says:

We made from water every living thing. Will they not then believe? (Al Anbiya': 30)

Dr Zaghlūl Al-Najjār is one of the contemporary pioneers of the scientific miracles in the Quran. He put the guidelines in distinguishing between exegesis and scientific miracle, he says:

"A scientific miracle is when the Quran is shown to have predicted a fact about the cosmos or an explanation of one of its occurrences before modern understanding discovers it through years of experimentation. It must be emphasized that any mistakes made in the exegesis will be attributed to the interpreter himself and will not diminish the majesty of the Quran. In the meantime, the exegesis is an attempt by humans to better understand the significance and meaning of the Quranic verse. If the interpreter was successful in providing the correct explanation, he gets two

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<sup>9</sup> Ṭāha 'Abd al-Raḥmān. (2012). Su'āl al-'Ilm: Baḥṭh fī al-'Usūl al-'ilmiyyah fī al-Fikr wa al-'Ilm. Al-Ḍār al-Bayḍā': al-Markaz al-Thaqāfī al-'Arabī. P 236

rewards, and if he was unsuccessful, he still gets one reward. Al-Najjar (2004).

### 3. Neglect of Exegesis-related Sciences

Important fields, such as reasons for revelation and Arabic rhetoric, are often overlooked in scientific tafseer. Many interpreters lack sufficient knowledge in Islamic jurisprudence, relying heavily on their backgrounds in experimental sciences. This can lead to methodological errors in interpretation. Al-Zarkashī emphasized that one should not interpret the Quran without proper knowledge, citing the Quranic verse warning against pursuing what one lacks knowledge of. The interpreter needs to be knowledgeable about various sciences, such as the science of revelation's motivations, abrogation rules (Al-

Nāsikh wa al-Mansukh), general and specific rules (Al-‘Am wa al-Khās), the dimensions of the Prophet Muhammad's Sunnah, Arabic language and rhetorical techniques.<sup>10</sup>

### 4. Affectation in Understanding the Text

Affectation occurs when meanings are imposed on Quranic verses beyond their intended scope. Some interpreters manipulate the text to align with scientific concepts, risking distortion of the Quran's meanings when linguistic nuances are overlooked. We notice in some scientific exegeses that the authors are only interested in achieving the objectives or deriving the meanings that have already been discovered. As a result, they begin to look for and draw connections between science and the Quran to indicate that the verses of the Quran agree with whatever science is saying, without paying attention to the topic, context, or meaning of the individual verse.

### 5. Inconsistencies with the Sunnah

Some interpretations conflict with established Sunnah. For example, interpreting the

"Dābbah" in Al-Naml: 82 as a satellite contradicts prophetic descriptions which states: When three things appear faith will not benefit one who has not previously believed or has derived no good from his faith: the rising of the sun in its place of setting, the Dajjal, and the beast of the earth (Muslim, 2003). This inconsistency undermines the credibility of interpretations that stray from traditional understandings.

### 6. Inconsistencies with the Verses' Context

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<sup>10</sup> ‘Ādil bin ‘Alī al-Syaddī. (2010). *Al-Tafsīr al-‘Ilmī al-Tajrībī li al-Qur’ān al-Karīm*. Riyadh: Dār al-Waṭn li al-Nasyr. p 26, 69, 74, 301.



Interpreters may misapply verses to contemporary issues without considering their context. Such misapplications can distort the Quranic message and lead to misguided conclusions.

#### 7. Inconsistencies with Language Denotations

A solid grasp of Arabic language and grammar is essential for accurate exegesis. Misinterpretations can arise from neglecting linguistic precision, leading to inaccuracies in understanding Quranic verses.

#### Two Perspective of Scientific Exegesis

The debate of two schools of thought on the Quran's scientific interpretation (tafseer) can be summarized as follows:

1. First School of Thought: According to this school, it is crucial to understand the Quran in light of contemporary scientific advancements. They contend that the Quran is an all-encompassing text that includes knowledge pertaining to all subjects, including science. This group is in favor of using modern scientific knowledge to interpret passages from the Quran. Sheikh Tantawi Al Johri (d. 1940), a proponent of scientific tafseer and prolific writer on the subject, is cited as an example. His efforts were focused on demonstrating how the verses of the Quran and contemporary science match, and he authored multiple works on the scientific interpretation of the Quran. However, scholars like Imam Ghazali and Imam Suyuti have supported this interpretive approach. They held that since the Quran contains all information, including knowledge from the natural sciences, it is acceptable to interpret the Quran in the context of science. According to this perspective, the Quran should be interpreted as including all of the information about the universe and its natural laws.

2. Second School of Thought: This school of thought calls the scientific tafseer into question and describes it as a biased method. They contend that these interpretations may force forced explanations that harmonize words from the Quran with ideas from science that may prove to be outdated in the future. This school of thought cautions against forcing contemporary scientific ideas onto the Quran and promotes a more conventional method of Quranic exegesis. Imam Abu Ishaq Shatibi was one among those who completely rejected and did not endorse this theory. He says it is inappropriate to interpret the Quran by trying to make it fit with contemporary science. He thought that this method deviates from the intended meanings of the Quran.

#### Conclusion

The discussion about the scientific interpretation of the Quran, or tafseer, demonstrates the intricate relationship between the everlasting, unchanging Quran and the dynamic, ever-evolving field of science. The data and hypotheses generated by science are continuously subject to modification and updating, however the Quran is the unchanging word of Allah, devoid of any contradiction or alteration over time. This poses a serious problem that is interpreting the Quran, which is a timeless and indisputable truth, in light of evolving and flawed scientific knowledge runs the risk of weakening the Quran's credibility if done carelessly.

Scientific exegesis has gained momentum from the fifth century AH, and its current ascent has been inspired by problems provided by Western modernization as well as the necessity to respond to scientific and intellectual advancements. Scholars' opinions on this method of Quranic Tafseer vary; some embrace it unconditionally, while others reject it. It is generally agreed upon that scientific exegesis is acceptable as long as certain guidelines and restrictions are followed. A collaborative and impartial approach is necessary when understanding the Quran from a scientific perspective. Future endeavors ought to entail multidisciplinary cooperation between Shariah and experimental science academics. This will guarantee that the exegesis of science is based on accurate scientific data as well as theological scholarship. Furthermore, because advancement is only possible via the fusion of faith and science, the Muslim Ummah must promote a dual devotion to revelation and the experimental sciences.

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The author was solely responsible for all aspects of the research. This includes the conception and development of the research idea, literature review, data gathering and analysis, and interpretation of classical and contemporary viewpoints on scientific tafseer. The author also wrote, revised, and finalized the

manuscript. All scholarly interpretations and critiques presented are the result of independent research and critical analysis.

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