

# QUR'ANIC COSMOGONY: THE PERSPECTIVES OF CONTEMPORARY MUSLIM COMMENTATORS

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**Abstract:** The origin of the cosmos is one of the most intriguing queries facing mankind. The Qur'an presents substantial information pertaining to this matter. In this paper, a Qur'anic cosmogony, comprising physical as well as metaphysical aspects, is presented based on a number of prominent contemporary Qur'anic translations and commentaries. It is revealed that commentaries on Qur'anic cosmogonical verses vary significantly. The paper then presents the qualitative and quantitative features of Qur'anic cosmogony, and deduces some general features and principles pertaining to cosmogony. It also suggests an integrated multidimensional approach in order to articulate cosmological notions from the Qur'an.

**Keywords:** Qur'anic cosmogony, Qur'anic cosmogeny, *creatio ex nihilo*, *creatio ex materia*.

## Introduction

Scientific miracles in the Qur'an are one of the most popular topics of discussion among ordinary Muslims of the current century, as well as among a large number of Muslim thinkers and authors from a diverse range of intellectual backgrounds. Authors who attempt to discuss Qur'anic references to scientific knowledge either base their claims entirely on their own interpretations of relevant Qur'anic verses, or tend to rely on scientific exegesis (*tafsir 'ilmi*) of those verses. The origin of the universe has been a popular topic of discussion among these authors, especially after the popularisation of the Big Bang Theory. This paper seeks to formulate a Qur'anic cosmogonical account of the physical cosmos based on translations and commentaries of the Qur'an in the English language by a number of prominent contemporary Muslim translators and commentators. Based on these translations and commentaries, a cosmogonical theory is formulated—or,

in the case of multiple cosmogonical concepts, multiple theories are produced. Additionally, the existing diversity of translation and commentaries in the context of cosmogony is explored. If significant discrepancies are found, we seek to determine the underlying rationale behind them.

Once cosmogonically relevant verses are accumulated via a thematic search of the Qur'an they will, based on existing literature on Qur'anic cosmological notions and concepts of creation, be linguistically analysed. Such analysis includes a survey of translated meanings in the selected works. In addition to such meanings, the contextual meaning is also considered. The context or theme of a particular verse is considered as an important factor in determining cosmogonical concepts.

The contemporary Qur'anic translations and commentaries used here are listed in the reference section. Throughout the paper, all quoted Qur'anic verses are based on the translation of Saheeh International, unless stated otherwise. It is paramount to mention that despite the universal acceptance, validity and legitimacy of classical Muslim exegetists and commentators of the Qur'an, for a number of reasons this article specifically aims at modern commentators. Firstly, as cosmogony refers to the aftermath of the origination of the universe, it is significant that the way the physical universe is perceived, studied and observed in the modern era differs drastically from how it was perceived during the classical Muslim scholastic era. Secondly, Hasan and Tuah<sup>1</sup> have already examined the major differences between classical and modern commentators of the Qur'an with regard to cosmogony. Nonetheless, a number of references to the commentaries of classical Muslim scholars are made throughout the article to identify some similarities and differences. For instance, the views of al-Suyuti and Ibn 'Abbas have been mentioned regarding the alleged prevention of the vegetation process on this planet.

This article does not intend to discuss or draw any form of comparison between existing scientific models of cosmogony and Qur'anic cosmogony. There are ample works that deal with the scientific references available in the Qur'an, among which the most prominent is Bucaille's *The Bible, the Qur'an and Science: The Holy Scriptures Examined in the Light of Modern Knowledge* (2013). Bucaille examines the Qur'anic notion of the cosmos,<sup>2</sup> whereas this article merely aims at producing a coherent cosmogony based on Qur'anic verses, regardless of any scientific findings about the origin and early state of the universe.

## Cosmogony and Cosmogeny: Scientific vs. Theological

The two branches of cosmology, cosmogeny and cosmogony, are definable with reference to two substantially different fields, namely empirical science and theology. Despite the fact that the aims of cosmogeny and cosmogony, of science and theology, are ultimately identical, major differences hinge upon epistemological sources and methodologies.

From a scientific perspective the term 'cosmogony', although not widely used, basically connotes the discourse pertaining to the origin of the universe.<sup>3</sup> By contrast, cosmogeny, derived from the Greek *kosmogonia*, is the study of the source and evolution of the cosmic objects and structures of the universe, including stars, galaxies, planets etc.,<sup>4</sup> as part of a theory of the origin and progression of the universe.<sup>5</sup> However, in some cases, cosmogony can be restricted or limited merely to a discussion of the origin of the solar system.<sup>6,7</sup> The primary means of study in this discipline relate to the interaction of natural units (particles, matter or forces)<sup>8</sup> within the bounds of theoretical physics. Cosmogony encompasses the study of forces (or causes) which produce the objects in the cosmos. It attempts to peer back into history, at the progression of the universe, while ultimately trying to foresee its fate. It attempts to find the answers to the 'whence and whither' of the universe.<sup>9</sup>

In a theological context, cosmogony attempts to deal with the origin of the universe from a theological perspective. Religious scriptures, mythology, tradition or theological discourse are generally the primary sources of knowledge when formulating a cosmogony in any given religious cosmological discussion. However, scientific cosmological findings are also oftentimes taken into consideration when formulating a theological cosmology. The inclusion of the former is a recent phenomenon, however, meaning the role of scientific knowledge in theological cosmogony is still disputed. Generally speaking, religious cosmogony is either based on creationism or non-creationism. The former is the most prevalent in the majority of the world's major religions, including the three monotheistic Abrahamic religions, while the latter can be found in Buddhism and Jainism. For instance, in Buddhist cosmology the concept of re-birth and a cyclic existence passing through innumerable occurrences<sup>10</sup> is central, as opposed to the one grand cosmic existence attributed to a creator God. On the other hand, from polytheistic to monotheistic religions, from ancient civilisational traditions to temporally or spatially scattered tribal cosmological mythologies, cosmogony is attributed to either a creator deity, a group of hierarchical deities, or an omnipotent God – which is the case in Islam. By contrast, cosmogony generally involves the process of creation or formation encompassing corporeal aspects.

## Qur'anic Cosmogony

Despite the fact that Qur'anic cosmogony deserves extensive attention and discussion, considering the main objective of this paper, which is limited to cosmogony, we do not intend to plunge into a detailed discussion with regards to the ultimate origin of the physical cosmos. In Islamic discourse, the ultimate origin of everything is Allah, with the Qur'an confirming this principle in numerous verses (such as 6:1; 6:101; 25:59). The fundamental message is that Allah created the heavens and the earth and what is between – clearly referring to the physical cosmos in its entirety. However, such a principle does not present sufficient information for a proper cosmogony, since for the latter it is essential to reveal how the universe was created, not merely what or who created it.

Regarding how Allah created the cosmos, verses 2:117, 6:73 and 36:81-2 provide significant cosmogonical information. Verse 2:117 states: "Originator of the heavens and the earth. When He decrees a matter, He only says to it, "Be," and it is." The second selected verse, 6:73, similarly states: "And it is He who created the heavens and earth in truth. And the day He says, "Be," and it is, His word is the truth." The third selection, verses 36:81-2, states: "Is not He who created the heavens and the earth able to create the likes of them? Yes, [it is so]; and He is the Knowing Creator. His command is only when He intends a thing that He says to it, "Be," and it is." The context of the discussion in these three quotations is clearly the universe as denoted by the common phrase "the heavens and the earth", which constitutes the dualistic Qur'anic topography of the physical universe. In a number of other verses, Allah's creative will and command are mentioned using the word *kun* (be), such as in 3:47, 3:59, 16:40, 19:35, 36:40, and 40:68. However, unlike the aforementioned three verses, none of these refer to the cosmos. Verses 2:117, 6:73 and 36:81-2 evidently indicate how Allah's Divine will and command originated the universe. Such Divine command is beyond the frame of space and time; hence it is transcendent of any contingent reality and, in fact, belongs to the Ultimate Reality. And the Ultimate Reality in Islam is Allah alone.<sup>11</sup> Furthermore, clearly it is not an identifiable object or entity, which *creatio ex materia* generally presents. It is the Divine will and command, which cannot be categorised as 'something' in the material realm. Therefore, based on these three verses, it could be concluded that Qur'anic cosmogony advocates *creatio ex nihilo*.

### Qur'anic Cosmogony

It is now necessary to investigate the cosmogony that the Qur'an contains—in other words, the image it presents of the earliest state of the universe as originated via Allah's command, *kun*. In order to formulate a Qur'anic cosmogony, the first step must be to identify all the relevant verses containing significant cosmogonical information. The verses must deal with the universe, or a major constituent part of it, such as the heavens. Two such verses, which indicate the earliest state of the universe, are 21:30 and 41:11. The former states "The heavens and the earth were a joined entity, and We separated them", while the latter states "Then He directed Himself to the heaven while it was smoke and said to it and to the earth 'Come [into being], willingly or by compulsion'. They said, 'We have come willingly'." It is logical to place the former verse first in the following discussion as the unified state was likely followed by the separated or individual state.

As far as verse 21:30 is concerned, the key term for identifying the condition of the universe is *ratq*. Another significant term for comprehending the Qur'anic notion of the formation of the universe is *fatq*. The potential meanings acquired from the selected translations of these words are as below:

<b>Authors</b>	<b>Meaning of <i>ratq</i> with respect to the heavens and the earth</b>	<b>Meaning of <i>fatq</i> with respect to the heavens and the earth</b>
Sceyyed Hossein Nasr	sewn together	rent them asunder
Ali Unal	one piece	parted them as separate entities
Muhammad Asad	one single entity	parted asunder
Yusuf Ali	joined together as one unit of creation	clove them asunder
Abul A'la Mawdudi	one mass	parted them
Al-Hilali & Muhsin Khan	joined together as one united piece	parted them
Marmaduke Pickthall	one piece	parted them
Rashad Khalifa	one solid mass	exploded into existence
Muhammad Sarwar	one piece	tore them apart from one another
Saheeh International	a joined entity	separated them
Maulvi Muhammad Ali	closed up	opened them
Muhammad Ashiq Elahi	closed	opened them
Mufti Muhammad Shafi'	closed	opened them

Table 1: The Diversity of Meanings of Cosmogonically Significant Terms

It is evident that contemporary translators and commenters present two potential meanings of this verse: 1) the two major constituting elements of the universe – the heavens and the earth – were one united entity; 2) the heavens and the earth were closed. In order to acquire a detailed account of each meaning, the commentaries are presented below:

Author	Commentary
Seyyed Hossein Nasr	The author, although not providing his own commentary, conveys the interpretations of several prominent classical exegetists, ranging from the early state of the creation of the heavens and the earth to a spiritual allegory. One interpretation states that the heavens and the earth were adjacent and then Allah made multiple heavens and earths, or separated them. The other opinion relates the verse to the separation of the heavens and the earth by rain and vegetation respectively. Some exegetists also interpreted the verse in terms of a spiritual metaphor, referring to the heavens as spirit and the earth as the faculties of the soul.
Ali Unal	The author highlights a number of interpretations. One does not take into account modern scientific findings, relating the verse to the rainless era of the sky and the barren earth. The other interpretation relates the verse to a number of cosmological as well as astronomical aspects, such as the early state of the universe or the solar system.
Muhammad Asad	The author claims that the verse references the unitary origin of the universe, which science has recently discovered.
Syed Abul A'la Maududi	The author claims that the universe was a single mass which was later split into many parts, including the earth and other celestial objects.
Abdullah Yusuf Ali	The author interprets the joined state of the universe as an indication of its unity, referring to newly-discovered scientific facts.

Maulvi Muhammad Ali	The author interprets the closing up of the heavens and the earth as a reference to the break in Divine revelation from Allah prior to the advent of the Prophet Muhammad.
Muhammad Ashiq Elahi Muhajir Madani	The author perceives the verse as a reference to the era when there was no rainfall and vegetation on earth.
Maulana Mufti Muhammad Shafi'	The author believes that the closing of the heavens and the earth refers to the shutting off of the rain from the heavens and the prevention of the growth of vegetation on the earth

Table 2: Commentaries on verse 21:30

Based on the commentaries presented in Table-2, it is evident that among the two meanings acquired previously from Table-1, the first clearly means the initial unified condition of the universe revealed by modern science. This is a major cosmogonical notion presented in the Qur'an. On the other hand, the second seems to have two drastically different meanings. Firstly, according to Maulana Mufti Muhammad Shafi' and Muhammad Ashiq Elahi Muhajir Madani, the verse refers to the closure of the rain from the heavens and the prevention of the vegetative process on earth. Such a view is common amongst numerous traditional and classical commentators, as well as exegetists such al-Suyuti,<sup>12</sup> Ibn 'Abbas<sup>13</sup> and many others. Secondly, according to Maulvi Muhammad Ali, the heavens and the earth were closed after the initial revelation was sent down from Allah.

Considering the objective of this paper, only the first meaning and interpretation can be adopted, since the key aspect of the verse refers to the adjacency of the heavens and the earth, which ultimately corresponds to the unified state of the universe in its early stages, followed by its separation. As mentioned earlier, verse 41:11 indicates (as will be discussed) two separate entities, the heavens and the earth; therefore, the unified stated was the earliest state of the universe in its corporeal existence.

As for the other significant verse on cosmogony, 41:11, in order to investigate this thoroughly it is paramount to include the following verse (41:12), as doing so further signifies a number of relevant matters. Based on the selected works, there are a number of features presented in these two verses, which can be summarised as follows: 1) the condition of the heaven and the earth; 2) the multiplicity of the heavens; 3) the duration and sequence of creation of the heavens; 4) the determination of the commands to the heavens; and 5)

adorning the lowest heaven. Evidently, apart from the second feature, which is a complex notion that does not involve cosmogony, all the other features are either explicitly or implicitly relevant to the notion of cosmogony. However, it is the first feature that can be identified as the most relevant, as it shows that the heavens were *dukhan* (smoke, gas, a cloud of gas, vapour, or steam). There are two occurrences of this term in the entire Qur'an: in 41:11 and 44:10.<sup>14</sup> As far as the first occurrence is concerned, the context in which the term occurs is creation of the heavens and the earth (i.e. the universe) and the laws which they obey. However, the other occurrence in verse 44:10 has either an eschatology context<sup>15</sup> or, as some commentators suggest, relates to a drought during the Prophet's lifetime, and not cosmogony at all. Hence, verse 44:10 is not relevant to the current discussion.

It is now necessary to investigate what commentators think of the aforementioned features.

Author	Commentary
Seyyed Hossein Nasr	Nasr does not provide any commentary on the state of the heavens, but rather emphasises the notion of the submissiveness of everything in the universe to Allah. With regard to the sequence of the creative process, Nasr bases his commentary on al-Tabarasi, a fourteenth-century CE Muslim exegetist. He viewed the heavens as having been created after the earth. He includes that Allah revealed to each heaven its command, or its affair, which is understood to mean that He created for each all that would pertain to it (such as angels, stars, the sun, and the moon).
Ali Unal	Unal refers to another prominent Turkish scholar's interpretation, namely that of Haluk Nur Baki (d.1997). He related the submission of the heavens and the earth to the phenomenon of molecules forming in the earth's atmosphere, as explained by geophysics.
Muhammad Asad	Asad claims that <i>thumma</i> is a mere equivalent of 'and' and hence does not imply a sequence. As for the state of the heavens, he thought it was in a gaseous form, likely hydrogen, from which other cosmic materials evolved. The notion of the seven heavens is interpreted as a reference to the multiplicity of the cosmic structure.



Maulana Mufti Muhammad Shafi'	Shafi' gives a comprehensive account of the duration of the creation of the heavens and the earth according to traditional sources, including a number of hadith, all of which identify the days as per the human conception of such.
Abdullah Yusuf Ali	Ali states that prior to the formation of the seven heavens, the heavens were in a gaseous state, either as smoke, vapour or steam. He then highlights that the creation of the heavens in two days does not necessarily mean two days of our calculation.
Maulvi Muhammad Ali	The author interprets 'days' as an undefined period or stage. Muhammad Ali does not provide any discussion on any other cosmogonical aspects.
Muhammad Ashiq Elahi Muhajir Madani	The author interprets days as per the human conception. He states that the sky was smoke in its primordial stage.
Syed Abul A'la Maududi	Maududi provides a detailed discussion, highlighting three important cosmogonical aspects. Firstly, he clarifies that by turning to the heavens it is meant that Allah turned to the act of creating the heavens. Secondly, he identifies the primordial state of the heavens as smoke, which he compares to dust-like matter prior to the formation of the cosmos (that is, the initial condition of a nebula). Thirdly, Maududi insists that claiming a sequence of creation based merely on the term <i>thumma</i> is inaccurate. The author also states that it is not the purpose of the Qur'an to present a scientific lesson in the context of creation, but rather to outline tawhidic teachings.

Table 3: Commentaries on verses 41:11-12

It is evident that, if the commentaries which rely on classical sources or views are taken into consideration, a rationally sound cosmogony cannot be accumulated. On the other hand, the commentaries which recognise scientific knowledge concerning the early state and formation of the universe actually present a systematic Qur'anic cosmogony. Regarding the early condition of the universe, based on the commentaries of Unal, Asad, Yusuf Ali, Elahi Muhajir Madani and Maududi, the heavens were in a gaseous form. However, the condition of the earth is not elucidated. As for the duration and sequence of the

creation or formation of the heavens and the earth, according to Asad, Yusuf Ali and Maududi, there is none.

The figure below summarises the cosmogenical and cosmogonical findings so far:

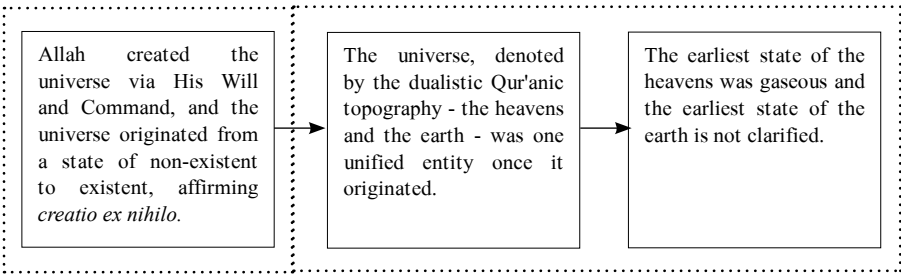


Figure 1: Qur'anic Cosmogeny and Cosmogony

## Major Findings

The findings of this paper can be divided into two main categories: the analysis of a newly-articulated cosmogeny and cosmogony as per the Qur'an, and the existing diversity of commentaries on cosmologically significant verses. As for the first category, Qur'anic cosmogeny certainly requires further scrutiny as it is highly likely to contain additional theological dimensions considering the fact that the Qur'an recurrently talks about Allah's creative knowledge, skill and command, as well as a range of names and attributes pertaining to His creativity. However, as the main objective of this paper revolves around Qur'anic cosmogony, it is not intended to pay further attention to this.

As far as the articulated cosmogony is concerned, it appears to be limited to corporeal dimensions. Such a cosmogony is not an accurate representation of a religious scriptural cosmogony, such as represented in the Qur'an. Considering the two verses analysed in this paper, they evidently indicate both physical features as well as metaphysical ones. The former is traceable from the discussion and figures presented in the previous section; however, the latter requires a theological platform. Once both of these dimensions are amalgamated, an accurate Qur'anic cosmogony can be formulated. This facet has one important general cosmological implication: the intermingling of the physical and metaphysical realms. In fact, one of the major objectives of the Qur'an is to reveal the metaphysical truth and foundations of the physical universe. For instance, verse 41:11 contains a significant cosmogonical piece of information regarding the physical universe and, at the same time, has

a profound theological or metaphysical cosmogonical feature. The former concerns the gaseous nature of the early universe, while the latter reveals Allah’s metaphysical involvement in the formation of the universe. In the case of verse 21:30, the part which states “We separated them” also implies Allah’s metaphysical involvement in the formation of the universe. Such involvement is untraceable via a quantitative study, being imperceptible in the corporeal setting; hence, it is characterised as metaphysical. It is this metaphysical feature that makes a religious cosmology, such as a Qur’anic cosmology, distinguishable from modern empirical cosmologies. Therefore, any characteristic of the physical universe presented in the Qur’an is expected to involve metaphysical features. Consequently, articulating a cosmogony that exclusively takes into account the corporeal dimension does not reflect a complete and accurate Qur’anic message.

Allah’s metaphysical involvement in the cosmogonical process can be specifically identified by further analysing the contents of the two verses discussed here. The fact that Allah communicated with two entities, namely the heavens and the earth, implies the physical existence of the heavens and the earth as separate forms. However, as identified in the cosmogony presented in the previous section, the physical condition of the earth is not indicated. However, from a theological perspective, this symbolic conversation can be perceived as the determination of the governing laws of the universe by the Creator—a number of the commentators mentioned in the previous section interpret this as a sign of the submissiveness of the heavens and the earth to the Creator.

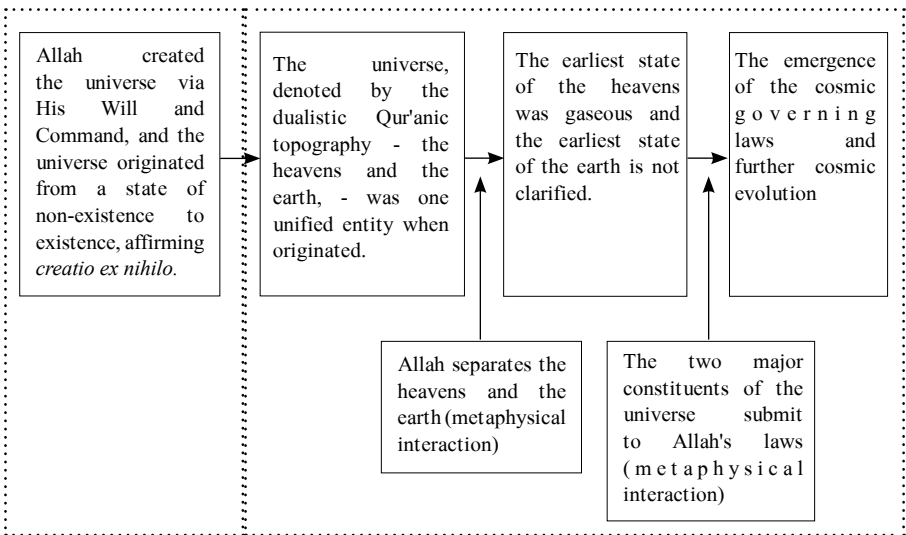


Figure 2: Qur'anic Cosmogony and Cosmogony (Metaphysical and Physical)

It can be said that the Qur'an does not aim to present a quantitative cosmogony; instead it aims to merely refer to quantitative features. Likewise, it should not be claimed that the Qur'an solely presents a qualitative cosmogony; the Qur'anic cosmogony is primarily qualitative in nature, with references to quantitative features that are not necessarily precise.

As for the conspicuous diversity among commentators, a number of conclusions can be drawn from this. Firstly, commentators like Seyyed Hossein Nasr and Maulana Mufti Muhammad Shafi', who heavily rely on traditional sources and classical exegeses or commentaries, cannot contribute to the process of articulating a modern, consistent, comprehensive physical cosmic cosmogony based on Qur'anic verses. Secondly, each commentator emphasises different aspects of each verse, which makes it challenging to identify the cosmogonical concepts of each commentator. This diversity exists because commentators lack a common thematic and contextual approach. The context of all the selected verses is evidently cosmic affairs, as verified by the clear usage of the Qur'anic phrase "the heavens and the earth", denoting the universe as a whole.

If cosmological information is being searched for in the Qur'an, a cosmological thematic approach ought to be adopted. Otherwise, drastically different interpretations are likely to emerge, and it may not be possible to retrieve comprehensive cosmological information. The combination of a linguistic analytical approach, contextual as well as thematic interpretation, scientific exegesis, and a multi-dimensional approach comprising the physical as well as the metaphysical, is utterly essential in order to formulate a Qur'anic cosmology of the physical universe. Absence of such a well-integrated approach, or the implementation of a one dimensional approach, either physical or metaphysical, cannot produce an accurate and comprehensive Qur'anic cosmological notion. The lack of such an approach is the primary reason for the diversity of commentaries on the selected verses.

Another significant finding is that if contemporary scientific evidence is not taken into consideration when interpreting those verses containing significant cosmological information, the Qur'an might either appear not to have presented significant information about the physical cosmos or be entirely misinterpreted. Emphasising only the qualitative aspects of these verses severely limits an understanding of the knowledge contained in them. The Qur'an, despite being a religious scripture, and despite not being meant to provide a quantitative account of the cosmos, does refer to quantitative aspects. There is, however, a significant difference between presenting a quantitative aspect and referring to one. In order to identify such references to the quantitative features of the cosmos, the aforementioned approach is utterly essential. Upon retrieving

both quantitative references and qualitative aspects, a well-balanced Qur'anic cosmological notion can be articulated.

The later stages of the physical universe, which can be categorised as cosmic evolution, are retrievable from numerous Qur'anic verses presenting the idea of Allah fashioning, constructing and determining the measurements of the structure, functionality, and constituent elements of the heavens and the earth. Likewise, the ultimate fate of the universe (cosmothanatology) is also indicated throughout the Qur'an. Hence, a complete Qur'anic cosmology of the physical universe – from cosmogeny and cosmogony via evolution to cosmothanatology – can be formulated.

## Conclusion

The wisdom and knowledge inherent in the Qur'an is infinite. Consequently, even after one and half millennia, the Qur'an continues to offer new insights into existing and newly-emerging areas of knowledge. The dynamic nature of mankind's accumulated knowledge of the Qur'an can be attributed to a non-Qur'anic factor: the gradual civilisational progress influencing mankind's epistemology. It has been the main objective of this paper to formulate a Qur'anic cosmogony based on a number of contemporary Muslim commentators of the Qur'an in order to facilitate the application of recently-acquired knowledge. As noted, the trend of heavily relying on classical commentaries, combined with not having a particularly well-integrated or multi-dimensional approach, has resulted in significant discrepancies between commentaries. Therefore, this paper has offered a new, more effective approach for extracting thematic data from the Qur'an.

This paper has also attempted to prove that the integration of the Qur'an's qualitative knowledge with its quantitative allusions ultimately results in an integration of the physical and metaphysical realms. Denouncing any one of these generates either misrepresentation or an inadequate presentation of the knowledge obtainable from the Qur'an. The Qur'anic cosmogony presented in this paper reveals that text to be well-balanced and comprehensive, alluding to both quantitative features that can be further explored by scientific endeavours, and qualitative features that ultimately bring the Creator into the theatre. It is expected that the findings presented here can provide new insights into any further endeavours pertaining to a contemporary approach to Qur'anic cosmological studies.

## Policy Recommendations

- In order to formulate Qur'anic cosmological notions, there is a need for a new, integrated approach, like that proposed in this article. This will be an essential tool for producing well-balanced interpretations, incorporating both metaphysical and physical information.
- Since the Qur'anic representation of cosmology has two integral aspects (qualitative and quantitative), emphasising one and ignoring the other distorts the authenticity and ultimate purpose of revelation. Therefore, it is advised that, despite the dominance of contemporary scientific cosmology, which is purely and exclusively quantitative in nature, Qur'anic cosmological endeavour to maintain a balance.
- Attempts to establish scientific facts using the Qur'an ought to take into consideration the qualitative nature of the text. This entails that quantitative aspects are merely referred to in order to fashion an overall image of reality.

## Notes

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