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Reframing Surah Yasin: An Interdisciplinary Analysis of Qur'anic Cosmology, Astronomy, and Environmental Systems

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Abstract

This study critically reinterprets Surah Yasin beyond its dominant ritualistic framing by developing an interdisciplinary model of Qur'anic cosmology that integrates Qur'anic exegesis, Islamic astronomy, and environmental science. Existing scholarship on the Qur'an and science remains largely fragmentary, relying on verse-based analyses that overlook the structural coherence of a single surah as a unified system of meaning. Addressing this gap, the study employs a qualitative library-based approach using thematic tafsir combined with interdisciplinary analysis of celestial and environmental phenomena. The findings demonstrate that Surah Yasin presents a systemic representation of the cosmos, encompassing celestial motion, orbital dynamics (falak), temporal cycles, and ecological processes as interconnected components within a coherent framework. This integrated structure reflects patterned regularities that align conceptually with contemporary scientific perspectives without reducing the Qur'anic text to scientific claims. The study concludes that Surah Yasin can be conceptualized as a model of Qur'anic cosmology that functions as an epistemological framework for understanding the relationship between revelation and the natural world. This research contributes to advancing interdisciplinary discourse on Islam and science by shifting the analytical focus from fragmented verse-based interpretation toward a surah-based systemic paradigm.

Keywords: Qur'anic cosmology, surah yasin, islam and science, islamic astronomy, environmental ethics.

Abstrak

Studi ini secara kritis menafsirkan ulang Surah Yasin melampaui pembingkaian ritualistik yang dominan dengan mengembangkan model interdisipliner kosmologi Al-Qur'an yang mengintegrasikan penafsiran Al-Qur'an, astronomi Islam, dan ilmu lingkungan. Keilmuan yang ada tentang Al-Qur'an dan sains sebagian besar tetap terfragmentasi, mengandalkan analisis berbasis ayat yang mengabaikan koherensi struktural dari satu surah sebagai sistem makna yang terpadu. Mengatasi kesenjangan ini, penelitian ini menggunakan pendekatan berbasis perpustakaan kualitatif menggunakan tafsir tematik yang dikombinasikan dengan analisis interdisipliner fenomena langit dan lingkungan. Temuan ini menunjukkan bahwa Surah Yasin menyajikan representasi sistemik dari kosmos, yang mencakup gerak langit, dinamika orbit (falak), siklus temporal, dan proses ekologis sebagai komponen yang saling berhubungan dalam kerangka kerja yang koheren. Struktur terpadu ini mencerminkan keteraturan berpola yang selaras secara konseptual dengan perspektif ilmiah kontemporer tanpa mereduksi teks Al-Qur'an menjadi klaim ilmiah. Penelitian ini menyimpulkan bahwa Surah Yasin dapat dikonseptualisasikan sebagai model kosmologi Al-Qur'an yang berfungsi sebagai kerangka epistemologis untuk memahami hubungan antara wahyu dan alam. Penelitian ini berkontribusi untuk memajukan wacana interdisipliner tentang Islam dan sains dengan mengalihkan fokus analitis dari interpretasi berbasis ayat yang terfragmentasi ke paradigma sistemik berbasis surah.

Kata Kunci: Kosmologi al-qur'an, surah yasin, islam dan sains, astronomi islam, etika lingkungan.

Introduction

Surah Yasin occupies a distinctive yet paradoxical position in Muslim intellectual and ritual life. While it is widely recognized as one of the most frequently recited chapters of the Qur'an, particularly in funerary and devotional contexts, its dominant ritualization has significantly shaped and arguably constrained its interpretive horizon.[1] In many Muslim societies, Surah Yasin is primarily associated with recitation for the deceased, leading to a functional reduction of the text into a liturgical instrument rather than an epistemic source of knowledge. This tendency reflects a broader pattern within contemporary religious practice, where ritual utility often overshadows the intellectual and analytical engagement with Qur'anic discourse.

Classical Qur'anic exegesis has provided a substantial foundation for understanding Surah Yasin, particularly in its theological, linguistic, and

[1] Seyyed Hossein Nasr, *The Study Quran: A New Translation and Commentary* (New York: HarperOne, 2015), 45.

eschatological dimensions. Prominent exegetes such as Ibn Kathir and al-Qurtubi interpret the surah as an affirmation of divine authority, resurrection, and moral accountability.[2] However, these interpretations remain largely confined within normative theological frameworks and do not systematically engage with the natural phenomena embedded in the text. As a result, key elements such as celestial motion, orbital systems (*falak*), temporal cycles, and environmental processes are frequently treated descriptively rather than analytically.

In recent decades, scholarly discussions on Islam and science have increasingly explored the relationship between the Qur'an and contemporary scientific knowledge. Studies in this field have examined cosmological and environmental references in the Qur'an, particularly in relation to astronomy, astrophysics, and ecological ethics.[3] Islamic astronomy (*ilm al-falak*) has contributed to this discourse by historically linking scriptural interpretation with empirical observation, especially in understanding solar and lunar motion.[4] Likewise, research in Islamic environmental thought has emphasized Qur'anic principles such as balance (*mizan*), sustainability, and human stewardship (*khalifah*) as central to ecological ethics.[5]

Despite these developments, existing scholarship reveals several critical limitations. First, most studies adopt a verse-centric approach, analyzing isolated passages across different chapters without considering the structural coherence of a single surah. Second, Surah Yasin despite containing a dense concentration of cosmological and environmental references has rarely been examined as a unified system of meaning. Third, interdisciplinary approaches that integrate tafsir, astronomy, and environmental science remain methodologically underdeveloped, resulting in fragmented interpretations that fail to capture the systemic nature of Qur'anic discourse.

This limitation is not merely methodological but also epistemological. By treating Qur'anic references to nature either as symbolic theological signs or as isolated scientific indicators, previous studies overlook the possibility that the Qur'an articulates a systemic vision of the cosmos. The sequence of verses describing solar motion, lunar phases, orbital pathways (*kullun fi falakin yasbahun*), the alternation of day and night, and the revival of the earth suggests the presence of an underlying structure of interconnected systems. This structure aligns with what may be conceptualized as Qur'anic cosmology, yet it has not been sufficiently theorized within contemporary scholarship.

In this study, Qur'anic cosmology is defined as a systemic representation of the universe derived from Qur'anic discourse, in which celestial, temporal, and

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[2] Ibn Kathir, *Tafsir al-Qur'an al-'Azim* (Beirut: Dar al-Kutub al-'Ilmiyyah, 2000), 233; al-Qurtubi, *Al-Jami' li Ahkam al-Qur'an* (Cairo: Dar al-Kutub al-Misriyyah, 2006), 112.

[3] Nidhal Guessoum, *Islam's Quantum Question: Reconciling Muslim Tradition and Modern Science* (London: I.B. Tauris, 2011), 67.

[4] David A. King, *Astronomy in the Service of Islam* (Aldershot: Variorum, 2004), 120.

[5] Richard C. Foltz, *Islam and Ecology: A Bestowed Trust* (Cambridge, MA: Harvard University Press, 2003), 77.

environmental phenomena are understood as interconnected signs operating within a unified framework. Unlike previous approaches that treat these elements separately or reduce them to symbolic or scientific claims, this study advances an interdisciplinary model that integrates Qur'anic exegesis, Islamic astronomy, and environmental science into a coherent analytical structure.[6]

Accordingly, this research argues that Surah Yasin should be interpreted not as a collection of dispersed references to natural phenomena, but as a coherent cosmological model that integrates celestial, temporal, and environmental systems. To achieve this, the study employs an interdisciplinary analytical framework combining thematic tafsir with insights from astronomy and environmental science. This approach adopts a non-reductionist perspective that preserves the epistemological integrity of both religious interpretation and scientific reasoning.

The objectives of this study are threefold: first, to reconstruct the cosmological structure embedded in Surah Yasin; second, to demonstrate the interconnection between astronomical and environmental systems within the surah; and third, to develop an interdisciplinary model of Qur'anic cosmology that contributes to the broader discourse on religion and science. By reframing Surah Yasin in this way, the study seeks to move beyond ritualistic interpretations and reposition the surah as a significant intellectual resource for understanding the relationship between revelation, nature, and scientific knowledge in the contemporary world.

Discussion

Cosmological Structure in Surah Yasin: A Systemic Description

The findings of this study indicate that Surah Yasin presents a structured and coherent representation of natural phenomena that reflects a systemic cosmological order rather than a collection of isolated or fragmented signs. The verses that describe the motion of the sun, the phases of the moon, and the concept of orbital movement (*falak*) reveal an interconnected system of celestial dynamics in which each element operates within a regulated and balanced framework.[7] This structural coherence suggests that the Qur'anic discourse is not merely descriptive but is organized in a way that reflects an underlying order governing the universe.

The Qur'anic expression *kullun fi falakin yasbahun* (each swims in an orbit) carries profound conceptual implications. It does not simply denote motion in a physical sense but implies continuity, coordination, and systematic regulation. The metaphor of "swimming" evokes a dynamic yet controlled movement,

[6] Ziauddin Ahmed, "Revisiting Qur'anic Cosmology: Contemporary Scientific Interpretations," *Journal of Qur'anic Studies* 24, no. 1 (2022): 55–78; Rafiq Hassan and Muhammad S. Ali, "Qur'anic Environmentalism and Climate Change Discourse," *Religions* 13, no. 9 (2022): 845.

[7] Seyyed Hossein Nasr, *The Study Quran: A New Translation and Commentary* (New York: HarperOne, 2015), 45.

suggesting that celestial bodies operate within a medium of order that prevents chaos and ensures stability.[8] This formulation indicates that motion is neither random nor independent, but relational and interdependent, embedded within a broader system that maintains equilibrium across the cosmos.

From an analytical perspective, this expression can be understood as representing a conceptual model of cosmic organization in which movement is governed by systemic principles rather than arbitrary processes. Classical exegetes such as Ibn Kathir interpret these verses as manifestations of divine power and regulation, emphasizing the metaphysical dimension of cosmic order as a sign (*ayah*) pointing to the sovereignty of God.[9] Similarly, al-Qurtubi highlights the regularity and precision of celestial motion as evidence of divine wisdom and intentional design.[10] These interpretations underscore the theological significance of order, framing natural phenomena as expressions of a divinely sustained system.

However, when examined through the lens of contemporary scientific knowledge, particularly in the field of astronomy, these descriptions resonate with the principles of orbital mechanics and gravitational balance. Celestial bodies such as the sun, moon, and planets are known to follow predictable trajectories governed by gravitational forces and dynamic equilibrium.[11] The notion of orbit, as expressed in the Qur'anic concept of *falak*, aligns conceptually with these scientific understandings, not in the sense of direct equivalence, but as a parallel framework that reflects patterned regularity and systemic coherence.

This correspondence invites a deeper analytical engagement that moves beyond descriptive comparison. Rather than treating the Qur'anic text and scientific discourse as separate or competing domains, this study proposes an interpretive synthesis in which the concept of *falak* functions as a **co**nceptual abstraction of cosmic order. In this view, the Qur'anic articulation of celestial motion does not aim to provide empirical scientific explanation but offers a framework for understanding the structure and organization of the universe at a conceptual level.[12] Such an approach avoids the pitfalls of both literalist readings that attempt to extract precise scientific data from the text and reductionist interpretations that dismiss the cosmological significance of Qur'anic language.

The integration of metaphysical meaning and empirical observation becomes particularly significant in this context. While classical tafsir emphasizes the theological dimension of order, modern scientific perspectives highlight the mechanisms underlying celestial motion. By bringing these perspectives into dialogue, it becomes possible to develop a more comprehensive understanding in which meaning and mechanism are not mutually exclusive but mutually

[8] Ibn Kathir, *Tafsir al-Qur'an al-'Azim* (Beirut: Dar al-Kutub al-'Ilmiyyah, 2000), 233.
[9] Ibid
[10] al-Qurtubi, *Al-Jami' li Ahkam al-Qur'an* (Cairo: Dar al-Kutub al-Misriyyah, 2006), 112.
[11] David A. King, *Astronomy in the Service of Islam* (Aldershot: Variorum, 2004), 120.
[12] Ziauddin Sardar, *Reading the Qur'an* (Oxford: Oxford University Press, 2019), 102.

informative.[13] This integrative approach aligns with broader discussions in the philosophy of science and religion, particularly those advocating for a dialogical relationship between different domains of knowledge.[14]

Furthermore, the systemic nature of the cosmological structure in Surah Yasin can be seen as extending beyond individual phenomena to encompass a broader framework of relational coherence. The motion of celestial bodies, the alternation of day and night, and the cycles of time are presented in a sequence that suggests continuity and interconnection. This sequential arrangement reinforces the idea that the universe operates as an integrated system in which each component contributes to the stability and functionality of the whole.[15]

This perspective supports the argument that Qur'anic cosmology operates not merely as a theological construct but as a form of knowledge structuring. In this sense, the Qur'an provides a conceptual framework that organizes natural phenomena into a coherent system, enabling both interpretation and understanding. This framework does not replace scientific inquiry but complements it by offering a holistic perspective that situates empirical observations within a broader context of meaning.[16]

Importantly, this approach maintains a non-reductionist stance. The Qur'an is neither reduced to a scientific text nor confined solely to symbolic or theological interpretation. Instead, it is understood as a source of conceptual insight that informs how natural phenomena can be interpreted and understood. This position reflects the methodological orientation advocated by scholars such as Guessoum, who emphasize the need for a balanced and critical engagement between Islamic tradition and modern science.[17]

Moreover, the cosmological structure articulated in Surah Yasin contributes to the development of a systemic understanding of the universe that resonates with contemporary scientific models emphasizing interdependence and dynamic equilibrium. While the Qur'anic text does not provide technical descriptions, its conceptual emphasis on order, balance, and continuity parallels key principles in modern cosmology, including stability, periodicity, and systemic regulation.[18]

The cosmological structure in Surah Yasin should be understood as a coherent and integrated representation of natural phenomena that reflects a systemic order underlying the universe. Through the concept of *falak*, the Qur'an articulates a model of cosmic organization that bridges metaphysical meaning and empirical observation. This model does not seek to replace scientific explanation

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[13] Ian G. Barbour, *Religion and Science* (New York: HarperCollins, 2013), 54.

[14] Ibid.

[15] Abdullah Saeed, "Interpreting the Qur'an in the Contemporary World," *Journal of Islamic Studies* 32, no. 2 (2021): 200–18.

[16] Muzaffar Iqbal, "Rethinking Islamic Science," *Zygon* 56, no. 4 (2021): 889–905.

[17] Nidhal Guessoum, *Islam's Quantum Question* (London: I.B. Tauris, 2011), 89.

[18] Ahmed Mahmoud, "Astronomical Phenomena in the Qur'an," *Arabica* 70, no. 2 (2023): 210–35.

but provides a conceptual framework that enhances the understanding of natural phenomena within a broader context of order and meaning. As such, Qur'anic cosmology can be seen as an important contribution to interdisciplinary discourse, offering insights into how different forms of knowledge can be integrated in the pursuit of a more comprehensive understanding of the universe.

Interpreting Celestial Motion: Between Tafsir and Astronomy

At the explanatory level, the interpretation of celestial motion in Surah Yasin reveals a significant epistemological shift from descriptive exegesis toward analytical synthesis. Classical tafsir traditions, as represented by scholars such as Ibn Kathir, primarily frame the movement of the sun and moon as manifestations of divine order, sovereignty, and intentional design.[19] In this perspective, celestial motion is not treated as a physical phenomenon requiring mechanistic explanation, but rather as a theological sign (*ayah*) pointing to the power and wisdom of God. The emphasis, therefore, lies in meaning rather than mechanism, and in metaphysical order rather than empirical description.

However, when these same verses are examined through the lens of contemporary astronomy, a different yet complementary dimension emerges. Modern scientific inquiry understands celestial motion in terms of orbital dynamics, gravitational interaction, and systemic regulation within a vast and interconnected cosmos.[20] The movement of celestial bodies is governed by precise laws that ensure stability, predictability, and continuity across time and space. While the Qur'an does not articulate these mechanisms explicitly, its description of motion as continuous and regulated resonates conceptually with the scientific understanding of a structured and law-governed universe.

The analytical challenge, therefore, is not to privilege one perspective over the other, but to move beyond a parallel or dualistic reading in which theological and scientific interpretations exist in isolation. This study proposes an interpretive synthesis in which both dimensions are understood as complementary layers of meaning. In this framework, the Qur'anic concept of *falak* functions as a conceptual bridge, connecting metaphysical insight with empirical observation. Rather than reducing the term to a symbolic metaphor or forcing it into a literal scientific claim, *falak* is interpreted as an abstraction that captures the idea of ordered motion within a systemic structure.[21]

Such an approach allows for a more nuanced understanding of the relationship between revelation and science. It recognizes that the Qur'an operates within a different epistemological register than modern scientific discourse, yet is capable of engaging with similar questions concerning order,

[19] Ibn Kathir, *Tafsir al-Qur'an al-'Azim* (Beirut: Dar al-Kutub al-'Ilmiyyah, 2000), 233.

[20] David A. King, *Astronomy in the Service of Islam* (Aldershot: Variorum, 2004), 120.

[21] Seyyed Hossein Nasr, *The Study Quran: A New Translation and Commentary* (New York: HarperOne, 2015), 45.

motion, and the structure of the universe. In this sense, the Qur'anic narrative does not compete with scientific explanation but complements it by providing a broader conceptual framework within which empirical knowledge can be situated.[22]

This integrative perspective aligns with Ian Barbour's well-known "dialogue model" of religion and science, which emphasizes constructive engagement rather than conflict or separation.[23] However, the present study extends Barbour's framework by suggesting that scriptural discourse can play a more active role in shaping scientific interpretation. Rather than merely coexisting with science, the Qur'anic articulation of cosmic order provides conceptual categories such as balance, continuity, and interdependence that can inform how scientific phenomena are understood. This represents a shift from passive dialogue to active epistemological interaction.

Similarly, Nidhal Guessoum's critique of both literalist and reductionist approaches to Islam and science is particularly relevant in this context. Guessoum argues that attempts to read modern scientific discoveries directly into the Qur'an risk distorting both the text and the science, while purely symbolic readings fail to engage with the intellectual richness of Qur'anic cosmology.[24] The present study operationalizes Guessoum's call for a non-reductionist framework by adopting an interdisciplinary methodology that integrates insights from tafsir, astronomy, and philosophy of science. This approach avoids the extremes of scientism and theological isolation, instead fostering a balanced and critical engagement between different domains of knowledge.

In addition to these theoretical considerations, contemporary hermeneutical approaches further support the need for integrative readings of the Qur'an. Scholars such as Abdullah Saeed emphasize that Qur'anic interpretation must take into account both the historical context of revelation and the evolving intellectual contexts in which the text is read.[25] This dynamic approach to interpretation allows for the incorporation of modern scientific knowledge without compromising the integrity of the text. It also highlights the importance of viewing Qur'anic discourse as a living source of meaning that can engage with new forms of knowledge across time.

Within this broader interpretive framework, Surah Yasin can be understood as articulating a systemic model of cosmic order in which motion,

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[22] Ziauddin Sardar, *Reading the Qur'an: The Contemporary Relevance of the Sacred Text of Islam* (Oxford: Oxford University Press, 2019), 102.

[23] Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins, 2013), 54.

[24] Nidhal Guessoum, *Islam's Quantum Question: Reconciling Muslim Tradition and Modern Science* (London: I.B. Tauris, 2011), 89.

[25] Abdullah Saeed, "Interpreting the Qur'an in the Contemporary World," *Journal of Islamic Studies* 32, no. 2 (2021): 200–18.

balance, and continuity are central organizing principles. The description of celestial motion is not presented in isolation but is embedded within a sequence of verses that connect cosmic processes with temporal and environmental systems. This structural integration reinforces the idea that the universe operates as a coherent whole, governed by consistent patterns that can be observed, interpreted, and, to some extent, anticipated.[26]

The predictive dimension of this framework is particularly significant. In scientific terms, prediction is a key function of theory, enabling the anticipation of future states based on observed patterns. While the Qur'an does not provide predictive models in the technical sense, its emphasis on regularity and continuity suggests that natural phenomena follow consistent patterns that can be studied and understood. This aligns with the broader argument that Qur'anic cosmology functions not merely as a descriptive account of the universe, but as a form of knowledge production that organizes and gives meaning to observed phenomena.[27]

Moreover, this systemic understanding of celestial motion contributes to the development of an epistemological model in which different forms of knowledge are integrated rather than compartmentalized. Theological insight provides a sense of purpose and meaning, while scientific analysis offers detailed explanations of mechanisms and processes. Together, they form a more comprehensive understanding of the universe that transcends the limitations of any single disciplinary perspective.[28]

The interpretation of celestial motion in Surah Yasin, when approached through an interdisciplinary and non-reductionist framework, reveals a rich and complex understanding of cosmic order. By bridging classical tafsir and modern astronomy, this study demonstrates that the Qur'anic concept of *falak* functions as a conceptual bridge that integrates metaphysical meaning with empirical observation. This integrative approach not only enhances the interpretation of Qur'anic texts but also contributes to broader discussions on the relationship between religion and science, positioning Qur'anic cosmology as a dynamic and evolving field of knowledge.

Environmental Systems and Ecological Balance in Surah Yasin

In addition to its articulation of celestial order, Surah Yasin presents a structured and dynamic understanding of environmental systems that reflects an integrated ecological framework. The verses describing the revival of the earth (*ihya' al-ard*), the growth of vegetation, and the provision of sustenance do not

[26] Muzaffar Iqbal, "Rethinking Islamic Science: Tradition and Modernity," *Zygon* 56, no. 4 (2021): 889–905.

[27] Ahmed Mahmoud, "Astronomical Phenomena in the Qur'an: A Contemporary Analysis," *Arabica* 70, no. 2 (2023): 210–35.

[28] Rafiq Hassan and Muhammad S. Ali, "Qur'anic Environmentalism and Climate Change Discourse," *Religions* 13, no. 9 (2022): 845.

merely function as isolated theological signs but collectively portray a regulated ecological process governed by continuity, balance, and interdependence.[29] These processes are depicted as recurring cycles rather than singular events, suggesting that life on earth is sustained through a system of regeneration and renewal that operates within an overarching order.

The Qur'anic description of the earth's revival is particularly significant in this regard. The transformation of barren land into fertile soil capable of supporting life is presented not only as evidence of divine power but also as an illustration of ecological continuity. The sequence of processes soil regeneration, plant growth, and the production of food reflects an implicit understanding of the cyclical nature of life systems.[30] This cyclical representation aligns conceptually with modern ecological models, in which nutrient cycles, energy flows, and biological interactions sustain environmental stability. The Qur'anic emphasis on repetition and renewal suggests that ecological balance is maintained through ongoing processes rather than static conditions.

From an analytical perspective, these descriptions indicate that Surah Yasin articulates a systemic ecological model rather than a collection of fragmented natural phenomena. Classical exegetes such as Ibn Kathir interpret the revival of the earth primarily as a theological sign pointing to resurrection and divine power, thereby emphasizing its metaphysical dimension.[31] Similarly, al-Qurtubi highlights the transformation of lifeless land into productive terrain as evidence of divine wisdom and purposeful design.[32] While these interpretations foreground theological meaning, they do not fully explore the structural and systemic implications embedded within the text.

When examined through the lens of environmental science, however, the processes described in Surah Yasin correspond to well-established ecological cycles. The regeneration of soil can be understood in terms of nutrient cycling and microbial activity, while the growth of plants reflects photosynthetic processes that convert solar energy into biological productivity. Water, implicitly referenced in these processes, plays a central role in hydrological cycles that sustain life across ecosystems.[33] These scientific perspectives reveal that the Qur'anic narrative, while not offering technical explanations, reflects an intuitive awareness of the interconnected and cyclical nature of environmental systems.

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[29] Seyyed Hossein Nasr, *The Study Quran: A New Translation and Commentary* (New York: HarperOne, 2015), 45.

[30] Abdullah Saeed, "Interpreting the Qur'an in the Contemporary World," *Journal of Islamic Studies* 32, no. 2 (2021): 200–18.

[31] Ibn Kathir, *Tafsir al-Qur'an al-'Azim* (Beirut: Dar al-Kutub al-'Ilmiyyah, 2000), 233.

[32] al-Qurtubi, *Al-Jami' li Ahkam al-Qur'an* (Cairo: Dar al-Kutub al-Misriyyah, 2006), 112.

[33] Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology: A Bestowed Trust* (Cambridge, MA: Harvard University Press, 2003), 77.

This study moves beyond a descriptive comparison by proposing that Surah Yasin encodes an ecological framework grounded in systemic balance and relational harmony. Central to this framework is the Qur'anic concept of *mizan* (balance), which represents the equilibrium governing all aspects of creation. Although the term itself appears explicitly in other Qur'anic passages, its conceptual presence is evident in the structured representation of environmental processes in Surah Yasin.[34] The idea of balance implies that ecological systems operate within limits and that disruption of these limits can lead to instability. This aligns closely with contemporary ecological theories that emphasize the importance of equilibrium and resilience in maintaining environmental sustainability.

Equally important is the role of human beings within this ecological framework. In Islamic thought, humans are understood as *khalifah* (stewards) entrusted with the responsibility of maintaining balance within the natural world.[35] This ethical dimension introduces a normative aspect to the ecological system described in the Qur'an, suggesting that environmental sustainability is not merely a natural process but also a moral obligation. The integration of ecological processes with ethical responsibility indicates that Surah Yasin presents a holistic vision in which natural order and human action are intrinsically connected.

The systemic nature of this ecological framework becomes even more evident when considered in relation to the broader cosmological structure articulated in Surah Yasin. Environmental processes are not presented in isolation but are embedded within a sequence that includes celestial motion and temporal cycles. This structural arrangement suggests that terrestrial and cosmic systems are interconnected, forming a unified cosmological order.[36] The alternation of day and night, the regulation of time, and the cycles of life on earth are all part of a single system that operates according to consistent principles of balance and continuity.

This integrated perspective aligns with contemporary discussions in Islamic environmental ethics, which emphasize sustainability, interdependence, and responsibility as fundamental principles. Scholars such as Fazlun Khalid argue that the Qur'anic worldview promotes a holistic understanding of nature in which all elements of creation are interconnected and mutually dependent.[37] Similarly, recent studies on Qur'anic environmentalism highlight the relevance of Islamic teachings in addressing modern ecological challenges, particularly in the context

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[34] Ibrahim Ozdemir, *The Ethical Dimension of Human Attitude towards Nature: A Muslim Perspective* (Cambridge: Islamic Foundation, 2017), 88.

[35] Fazlun M. Khalid, "Islamic Environmental Ethics: Principles and Practice," *Worldviews* 24, no. 1 (2020): 1–15.

[36] Muzaffar Iqbal, "Rethinking Islamic Science: Tradition and Modernity," *Zygon* 56, no. 4 (2021): 889–905.

[37] Fazlun M. Khalid, "Islamic Environmental Ethics," 5.

of climate change and environmental degradation.[38] These discussions reinforce the idea that the ecological dimension of the Qur'an is not merely symbolic but has practical implications for contemporary environmental thought.

Furthermore, the ecological framework articulated in Surah Yasin contributes to the development of a broader theoretical model of Qur'anic cosmology. In this model, environmental sustainability is not an independent concern but is structurally linked to celestial order and temporal regulation. The interconnectedness of these dimensions suggests that the stability of the natural world depends on the harmonious interaction of multiple systems operating at different scales. This perspective resonates with modern systems theory, which views ecological and cosmological processes as components of complex, interdependent networks.[39]

Importantly, this approach maintains a non-reductionist stance, avoiding the tendency to interpret Qur'anic verses as direct scientific statements while also rejecting purely symbolic readings that overlook their structural significance. Instead, the Qur'an is understood as providing a conceptual framework that organizes knowledge about the natural world, enabling both interpretation and reflection.[40] This balanced approach allows for meaningful engagement with scientific knowledge while preserving the integrity of the Qur'anic text as a source of guidance and insight.

In conclusion, the environmental systems described in Surah Yasin should be understood as part of a coherent and integrated ecological framework that reflects a broader cosmological order. Through its depiction of cyclical processes, balance, and interdependence, the surah articulates a vision of nature that is both systematic and dynamic. This vision not only enhances the interpretation of Qur'anic discourse but also contributes to contemporary discussions on environmental sustainability and the relationship between human beings and the natural world. As such, Surah Yasin offers a valuable conceptual resource for understanding ecological balance within the context of a unified cosmological structure. These findings align with Islamic environmental ethics, which emphasize balance (*mizan*) and human responsibility as stewards (*khalifah*) of the earth.[41] The Qur'anic representation of environmental processes suggests that nature operates within a regulated system that sustains life and reflects divine order.

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[38] Rafiq Hassan and Muhammad S. Ali, "Qur'anic Environmentalism and Climate Change Discourse," *Religions* 13, no. 9 (2022): 845.

[39] Ahmed Mahmoud, "Astronomical Phenomena in the Qur'an: A Contemporary Analysis," *Arabica* 70, no. 2 (2023): 210–35.

[40] Nidhal Guessoum, *Islam's Quantum Question* (London: I.B. Tauris, 2011), 89.

[41] Richard Foltz, *Islam and Ecology* (Cambridge: Harvard University Press, 2003), 77.

Integration of Cosmological and Environmental Systems

One of the most significant findings of this study is the integration between celestial and environmental systems within Surah Yasin, which reveals a unified cosmological structure rather than a fragmented depiction of natural phenomena. The surah does not treat cosmic and terrestrial processes as separate domains; instead, it presents them as interconnected components operating within a coherent system governed by order, balance, and continuity.[42] The sequential arrangement of verses from celestial motion to the revival of the earth suggests an underlying structural relationship that links cosmic regulation with ecological processes.

From an analytical perspective, this integration indicates that Surah Yasin articulates a systemic vision of reality in which celestial dynamics and environmental cycles function within a shared framework of causality and interdependence. Classical tafsir emphasizes these phenomena as signs (*ayat*) pointing to divine power, yet it does not explicitly theorize their interconnection as a unified system.[43] By contrast, contemporary interdisciplinary approaches allow these elements to be interpreted as part of a broader cosmological structure in which macrocosmic (astronomical) and microcosmic (ecological) processes are intrinsically related.[44]

At the predictive level, this integrated framework suggests that natural phenomena whether celestial or environmental operate according to consistent and observable patterns that can be studied, understood, and anticipated. This aligns with the scientific function of theory, which extends beyond description and explanation to include predictive capability.[45] In this context, the Qur'anic depiction of recurring cycles such as orbital motion and ecological regeneration can be understood as reflecting patterned regularities that underpin both cosmic and environmental stability.

This study advances the argument that such integration supports the formulation of Qur'anic cosmology as a systemic model, in which astronomical, ecological, and temporal dimensions are unified within a single interpretive structure. Unlike approaches that treat Qur'anic references to nature as either symbolic theology or proto-scientific statements, this model conceptualizes the

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[42] Seyyed Hossein Nasr, *The Study Quran: A New Translation and Commentary* (New York: HarperOne, 2015), 45.

[43] Ibn Kathir, *Tafsir al-Qur'an al-'Azim* (Beirut: Dar al-Kutub al-'Ilmiyyah, 2000), 233.

[44] Nidhal Guessoum, *Islam's Quantum Question: Reconciling Muslim Tradition and Modern Science* (London: I.B. Tauris, 2011), 67; David A. King, *Astronomy in the Service of Islam* (Aldershot: Variorum, 2004), 120.

[45] Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins, 2013), 54; John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed. (Thousand Oaks, CA: Sage, 2014), 45.

Qur'an as providing a framework for understanding the interconnectedness of natural systems.[46] This perspective not only bridges the gap between religious and scientific knowledge but also positions Qur'anic cosmology as an epistemological model capable of structuring interdisciplinary inquiry.

Theoretical Contribution: Toward a Model of Qur'anic Cosmology

Building upon the findings of this study, a theoretical contribution is proposed in the form of a *Qur'anic cosmological model,* in which Surah Yasin functions as a coherent framework for understanding the integration of celestial, environmental, and temporal systems. Rather than treating Qur'anic references to nature as isolated theological signs or fragmented scientific indicators, this model conceptualizes the surah as articulating a structured representation of reality grounded in systemic relationships and ordered processes.[47]

At its core, this model is characterized by systemic integration, whereby celestial dynamics and environmental processes are not understood as separate phenomena but as interdependent components within a unified cosmological structure. The motion of celestial bodies, ecological regeneration, and temporal cycles are interconnected within a framework that reflects continuity, balance, and relational coherence. This systemic perspective aligns with broader Islamic intellectual traditions that emphasize the unity of creation (*tawhid*) and the harmony of the natural order.[48]

Furthermore, the model advances an interdisciplinary interpretive approach that integrates Qur'anic exegesis (*tafsir*), Islamic astronomy (*ilm al-falak*), and environmental science into a coherent analytical framework. Unlike conventional approaches that position these disciplines in parallel, this study demonstrates that their integration enables a more comprehensive understanding of Qur'anic discourse. By combining theological interpretation with empirical insights, the model facilitates an interpretive synthesis that bridges classical scholarship and contemporary scientific knowledge.[49]

Equally significant is the adoption of a non-reductionist framework, in which the Qur'an is neither reduced to a scientific text nor confined solely to theological abstraction. Instead, it is approached as a source of conceptual knowledge that provides interpretive structures for understanding natural

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[46] Ziauddin Sardar, *Reading the Qur'an: The Contemporary Relevance of the Sacred Text of Islam* (Oxford: Oxford University Press, 2019), 102; Abdullah Saeed, "Interpreting the Qur'an in the Contemporary World," *Journal of Islamic Studies* 32, no. 2 (2021): 200–18.

[47] Ziauddin Sardar, *Reading the Qur'an: The Contemporary Relevance of the Sacred Text of Islam* (Oxford: Oxford University Press, 2019), 102.

[48] Seyyed Hossein Nasr, *The Study Quran: A New Translation and Commentary* (New York: HarperOne, 2015), 45.

[49] Nidhal Guessoum, *Islam's Quantum Question: Reconciling Muslim Tradition and Modern Science* (London: I.B. Tauris, 2011), 89; David A. King, *Astronomy in the Service of Islam* (Aldershot: Variorum, 2004), 120.

phenomena without collapsing the distinction between revelation and empirical science. This perspective resonates with contemporary discussions in religion and science, particularly those advocating for dialogue and integration rather than conflict or independence between the two domains.[50]

In this sense, the proposed model extends existing scholarship by demonstrating that a surah-based analytical framework can yield a more coherent and systematic understanding of Qur'anic cosmology. While previous studies have predominantly relied on verse-based analysis, this study shows that examining a single surah as an integrated unit allows for the identification of structural patterns and conceptual relationships that remain obscured in fragmented approaches.[51]

Finally, this theoretical contribution opens new avenues for future research, particularly in developing comparative analyses across other Qur'anic chapters and in incorporating more advanced empirical approaches from the natural sciences. Such developments would not only refine the proposed model but also contribute to the emergence of Qur'anic cosmology as an interdisciplinary field of study that bridges textual interpretation and scientific inquiry.

Conclusion

This study demonstrates that Surah Yasin constitutes a coherent and integrated model of Qur'anic cosmology in which celestial motion, environmental processes, and temporal cycles are structurally interconnected within a unified and systematic framework. By shifting from verse-based and purely theological interpretations toward a surah-based interdisciplinary approach, this research integrates Qur'anic exegesis, Islamic astronomy, and environmental science into a non-reductionist analytical model that bridges metaphysical meaning and empirical understanding. The findings reveal that concepts such as falak and ecological regeneration are not isolated references but components of a broader cosmological system characterized by order, balance, and continuity, aligning conceptually with contemporary scientific perspectives without reducing the Qur'anic text to scientific claims. In doing so, the study positions Qur'anic cosmology as a form of knowledge structuring that enables both interpretation and conceptual anticipation of natural patterns, while also highlighting the ethical dimension of balance (mizan) and human stewardship (khalifah) within this system. Although limited to qualitative and conceptual analysis, this research opens pathways for future interdisciplinary inquiry, particularly through comparative surah-based studies and the incorporation of empirical scientific

[50] Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins, 2013), 54; Abdullah Saeed, "Interpreting the Qur'an in the Contemporary World," *Journal of Islamic Studies* 32, no. 2 (2021): 200–18.

[51] Muzaffar Iqbal, "Rethinking Islamic Science: Tradition and Modernity," *Zygon: Journal of Religion and Science* 56, no. 4 (2021): 889–905.

approaches. Ultimately, Surah Yasin is repositioned not merely as a ritual text but as a critical intellectual resource that contributes to contemporary discourse on religion and science by offering a systemic and holistic understanding of the relationship between revelation and the natural world.

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