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The Qur'an and Science an Interdisciplinary Exploration of Divine Verses and Modern Discoveries

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ABSTRACT

Attempts to relate Qur'anic verses to scientific findings often equate thematic affinity with empirical substantiation, making it necessary to examine the foundations and limits of these relationships. This study analyzes the forms of relationship between Qur'anic accounts of natural phenomena and scientific knowledge and identifies their interpretive limits. It adopts a qualitative literature-based design with comparative and interpretive analysis. Sources include Qur'anic verses, relevant hadith, classical and contemporary exegesis, and scientific literature in cosmology, atmospheric science, oceanography, hydrology, geology, and biology. The analysis compares textual meaning, empirical support, the form of association, and the scope of conclusions. The findings identify three categories of relationship: thematic correspondence, interpretive analogy, and theological statements. Thematic correspondence emerges in discussions of celestial motion, water and life, hydrological processes, marine resources, and human development. Associations with more specific concepts, such as cosmic expansion, boundaries between water masses, and mountain structures, require additional interpretive arguments. The literature reviewed provides no basis for treating similarities in wording as direct evidence of scientific prediction or for using biological explanations to test resurrection. The study concludes that dialogue between the Qur'an and science must preserve interpretive context, scientific conceptual accuracy, and distinctions between evidential foundations. This framework provides a basis for developing an integration of knowledge that is critical and open to correction, with conclusions limited to the sources reviewed.

Kata Kunci :
Qur'an and science; comparative and interpretive analysis; thematic correspondence; integration of knowledge; interpretation.

ABSTRAK

Upaya untuk menghubungkan ayat-ayat Al-Qur'an dengan temuan ilmiah sering kali menyamakan kesamaan tematik dengan pembuktian empiris, sehingga perlu untuk memeriksa dasar dan batasan hubungan tersebut. Studi ini menganalisis bentuk-bentuk hubungan antara uraian Al-Qur'an tentang fenomena alam dan pengetahuan ilmiah serta mengidentifikasi batasan interpretatifnya. Studi ini mengadopsi desain kualitatif berbasis literatur dengan analisis komparatif dan interpretatif. Sumber-sumber yang digunakan meliputi ayat-ayat Al-Qur'an, hadits yang relevan, tafsir klasik dan kontemporer, serta literatur ilmiah dalam bidang kosmologi, ilmu atmosfer, oseanografi, hidrologi, geologi, dan biologi. Analisis membandingkan makna tekstual, dukungan empiris, bentuk asosiasi, dan cakupan kesimpulan. Temuan mengidentifikasi tiga kategori hubungan: kesesuaian tematik, analogi interpretatif, dan pernyataan teologis. Kesesuaian tematik muncul dalam pembahasan tentang

gerak benda langit, air dan kehidupan, proses hidrologi, sumber daya laut, dan pembangunan manusia. Asosiasi dengan konsep yang lebih spesifik, seperti ekspansi kosmik, batas antara massa air, dan struktur pegunungan, memerlukan argumen interpretatif tambahan. Tinjauan literatur tidak memberikan dasar untuk memperlakukan kesamaan dalam susunan kata sebagai bukti langsung prediksi ilmiah atau untuk menggunakan penjelasan biologis untuk menguji kebangkitan. Studi ini menyimpulkan bahwa dialog antara Al-Qur'an dan sains harus menjaga konteks interpretasi, ketepatan konseptual ilmiah, dan perbedaan antara landasan bukti. Kerangka kerja ini memberikan dasar untuk mengembangkan integrasi pengetahuan yang kritis dan terbuka terhadap koreksi, dengan kesimpulan yang terbatas pada sumber-sumber yang ditinjau.

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INTRODUCTION

The relationship between religious texts and science is an intellectual issue involving differences in sources of knowledge, methods of inquiry, and explanatory aims. Science seeks to understand natural phenomena through observation, measurement, model development, and empirical testing, whereas religious inquiry examines revelation, meaning, values, and humanity's relationship with God and nature. These differences allow for relationships ranging from conflict and separation to dialogue and integration. Understanding this diversity is important so that religion and science are not simplistically treated as fields that invariably conflict or provide identical explanations (Barbour, 1997).

In the Islamic tradition, discussions of nature are connected to understandings of creation, order, and human responsibility. The development of science in Islamic civilization should be understood within its intellectual and spiritual context (Nasr, 1976). Nature can be both an object of inquiry and a source of religious reflection. This relationship does not mean, however, that every scientific concept must be found directly in the Qur'anic text. The study of nature and the interpretation of revelation involve different materials and procedures, although they can converge on questions of order, life, and humanity's place in the world.

The Qur'an contains verses referring to the heavens, the earth, water, seas, mountains, and human development. These references permit readings that connect human experiences of nature with theological meaning. Within a thematic approach, verses about nature should be understood alongside broader themes of God, humanity, and life, rather than solely as isolated technical statements (Rahman, 1980). Studies of the Qur'an and science therefore need to consider the function of verses within the text's overall message, as well as their possible relevance to scientific knowledge.

Modern science has expanded the material available for this dialogue. Findings in cosmology, oceanography, geology, atmospheric science, and biology allow contemporary readers to raise new questions about verses concerning natureApproaches emphasizing the correspondence between scriptural accounts and modern scientific knowledge have attracted attention in discussions of the relationship between religion and science (Bucaille, 1976). Within this approach, some Qur'anic accounts are read as paralleling scientific discoveries. Yet these proposed parallels require further examination: do they concern a verse's linguistic meaning, a

particular interpretation, or the selection of scientific information used to explain the text? This question matters because similar wording does not, by itself, establish conceptual identity.

Debates over Islamic science also show that the relationship between revelation and knowledge of nature cannot be reduced to matching verses with scientific findings. Sardar (1989) critically discusses diverse perspectives on Islamic science, including verses considered scientific and the relationship between science and Islamic values. Guessoum (2011) likewise situates questions concerning the Qur'an, cosmology, and claims of scientific miraculousness within discussions of Muslim tradition and modern science. These debates indicate the need for scholarship that respects religious meaning while attending to standards of scientific explanation.

A fundamental issue in this study is the tendency to read historical texts through contemporary categories of knowledge. Terms with broad semantic ranges may be narrowed into technical terms after a discovery becomes known. Interpretation consequently risks overlooking historical context, linguistic structure, and alternative meanings. Hermeneutics offers a basis for considering relationships among text, context, and interpretation, so that meaning is not determined solely by contemporary readers' needs (Ricoeur, 1976). In studies of the Qur'an and science, attention to Arabic, relationships among verses, and classical and contemporary exegesis is necessary before proposing a connection to a scientific concept.

A further issue concerns the status of the scientific knowledge used. Observational findings, explanatory models, and hypotheses do not carry the same evidential weight. Nor should they be treated as entirely fixed knowledge immune to revision. An interpretation dependent on a particular scientific model may encounter difficulties when that model changes. Dialogue between theology and science therefore requires clarity about the types of claims advanced and their epistemic foundations (McGrath, 2004). Interdisciplinary inquiry needs to distinguish scientific explanations of natural processes from theological interpretations of the meaning and purpose of creation.

Within this framework, the term "correspondence" requires careful qualification. It may mean that an interpretation does not conflict with scientific knowledge, or it may refer to descriptive resemblance or conceptual analogy. These meanings differ from a claim that a verse specifically predicted a discovery. Claims of prediction require stronger arguments concerning specificity of meaning, interpretive foundations, and the possibility of reading the text in that way before the discovery became known. This article regards these distinctions as a methodological requirement to avoid portraying the relationship between text and science more strongly than the available evidence permits.

Accordingly, the need for inquiry extends beyond collecting verses and scientific findings to explaining how they are connected. Examples from different scientific fields can enrich the discussion, but are insufficient unless their interpretive foundations and the status of their scientific evidence are clarified. The gap addressed by this article is the need for a reading framework that distinguishes textual meaning, developments in exegesis, scientific explanation, and theological

interpretation. Such a framework enables discussion of meaningful parallels while acknowledging uncertainty and interpretive limits.

This article examines relationships between Qur'anic verses and contemporary scientific knowledge in cosmology, atmospheric science, oceanography, geology, and biology. It identifies relevant verses, examines their linguistic and interpretive foundations, and compares these accounts with scientific literature. Its central questions concern how connections are constructed, which forms of correspondence can be substantiated, and where their explanatory limits lie. Through textual analysis and an interdisciplinary literature review, the article seeks to contribute to dialogue between the Qur'an and science that is open, critical, and attentive to hermeneutic and scientific rigor.

Further examination of debates on Islamic science and readings of the verses draws on Sardar's discussion and Guessoum's framework. The thematic reading of the Qur'an is also informed by Rahman's work.

LITERATURE REVIEW

Epistemological and Interpretive Framework

Studying the relationship between the Qur'an and science requires distinguishing textual meaning, empirical knowledge, and the ways they are compared. The Qur'an directs human attention toward nature within a framework of divinity, life, and moral responsibility. Science develops explanations of natural phenomena through observation, measurement, modeling, and testing open to correction. These different aims must be considered to prevent the attribution of technical concepts not stated in the text. Sardar's (1989) discussion, for example, provides a basis for critically examining the relationship between the Islamic intellectual tradition and modern scientific practice.

This review identifies three forms of relationship between text and science. The first is thematic correspondence: convergence on general themes such as water, life, celestial motion, or human development. The second is interpretive analogy: the use of scientific concepts to help readers understand a particular image without treating the two as literally identical. The third comprises theological statements, such as resurrection, discussed within a framework of faith rather than treated as experimental conclusions. These forms do not carry the same evidential weight.

Evaluating a relationship requires considering the verse's context, the semantic range of Arabic terms, and interpretations preceding modern theories. Selecting a translation consistent with a theory does not establish that the theory is explicitly contained in the verse. Likewise, linguistic similarity is insufficient to establish scientific prediction. Rigorous analysis must consider alternative interpretations and evidence that can constrain claims, rather than only supportive examples. Within this framework, the following discussion examines both opportunities for dialogue and their limits.

Cosmology Cosmic Expansion and The Origins of The Cosmos

Qur'an 51:47, Surah Adh-Dhariyat, is frequently discussed in relation to cosmic expansion, particularly through the term mūsi'ūn. Its interpretive tradition, however, does not offer a single technical meaning. In Al-Tabari's exegesis, the term is explained in relation to the extent of God's capacity to create, while another transmitted interpretation refers to expanding the heavens. This diversity indicates that a modern cosmological reading is an interpretive possibility that should be situated among other readings (Al-Tabari, n.d.).

The empirical basis of cosmic expansion comes from astronomical observation rather than scriptural interpretation. Hubble (1929) reported a relationship between the distances of extragalactic nebulae and their radial velocities. Modern cosmology interprets this relationship through a model of expanding space on large scales. The Hubble constant describes the present relationship between recession rate and distance; its unit, km/s/Mpc, does not imply that the entire universe has a single uniform expansion velocity.

Numerical accuracy also matters. Riess et al. (2019) obtained approximately 74.03 ± 1.42 km/s/Mpc through local distance measurements, whereas Planck Collaboration (2020) obtained approximately 67.4 ± 0.5 km/s/Mpc from cosmic microwave background data within the base ΛCDM model. Given their different approaches and assumptions, neither value can be treated as universally agreed. Expansion on cosmological scales also does not mean that every gravitationally bound system, such as the solar system, grows in the same way.

Qur'an 21:30, Surah Al-Anbiya, which describes the heavens and earth as previously ratq and subsequently fatq, can be discussed in terms of creation and separation. The verse does not, however, specify cosmological parameters, inflationary mechanisms, or singularity conditions. The Big Bang model explains the evolution of the universe from an early hot, dense state; associating it with the verse is a contemporary interpretation. This thematic parallel allows reflection on cosmic origins but does not establish that the text predicted every detail of modern cosmology.

Celestial Motion Gravity and The Expression Without Pillars

Qur'an 21:33, Surah Al-Anbiya, refers to the motion of the sun and moon in a falak. Celestial motion is relevant to dialogue with astronomy. The term yasbaḥūn need not, however, be interpreted as a statement about a particular physical medium or spacetime curvature. Celestial mechanics explains trajectories through initial conditions, gravitational interactions, and perturbations from other bodies; the elliptical model is an important approximation for a two-body system rather than a complete description of all cosmic motion (Murray & Dermott, 1999).

Regular orbital motion does not imply absolute stability. Interactions within many-body systems can alter orbital parameters, requiring stability to be examined in relation to timescale and system configuration. Statements about orderly motion should therefore not be extended into claims that all orbits are always stable or that resonance invariably preserves stability. Interpretation may emphasize the order of creation, while explanations of its mechanisms remain matters for astronomical research.

Qur'an 13:2, Surah Ar-Ra'd, describing the heavens without visible pillars, can serve as an analogy for order that does not require mechanical supports. Neither gravity nor dark matter, however, is technically specified in the verse. In ΛCDM, dark matter is a component used to explain several cosmological observations (Planck Collaboration, 2020). Equating it with the verse's "pillars" exceeds the available textual evidence.

The same principle applies to associations between verses about the earth, water, and rain and the concept of gravity. Physical relationships among gravity, the atmosphere, and surface conditions can be explained scientifically, but these verses do not provide a law of forces between masses or an atmospheric pressure equation. Claims that a verse explains Newton's law or general relativity require more specific textual arguments than shared themes of creation and order.

The Atmosphere and Earth's Protective Functions

Qur'an 21:32, Surah Al-Anbiya, describes the sky as a protected roof. A thematic reading can associate this expression with conditions that permit life on Earth. Atmospheric science explains how gas composition, energy balance, and physical atmospheric processes affect surface conditions and weather (Wallace & Hobbs, 2006). Stratospheric ozone absorbs certain ultraviolet radiation; this function differs from protective mechanisms involving magnetic fields (Solomon, 1999).

The atmosphere and magnetosphere must be distinguished. The atmosphere is a gaseous envelope, whereas the magnetosphere is a region influenced by Earth's magnetic field that interacts with charged particles from the sun. NASA describes them as distinct forms of protection (NASA, n.d.-c). The magnetosphere should therefore not be called an atmospheric layer. The expression "protected roof" can support reflection on Earth's habitability but does not establish that the verse details the ozone layer, magnetic field configuration, or all protective processes.

Sunlight and Moonlight

Qur'an 10:5, Surah Yunus, distinguishes the sun as ḍiyāʾ and the moon as nūr. The term sirāj for the sun occurs in other verses, including Qur'an 71:16, Surah Nuh, and should not be incorrectly attributed to Qur'an 10:5. These lexical differences can be discussed in relation to the visible characteristics of the two celestial bodies, while recognizing that the verse does not explain energy production mechanisms.

Astronomically, the sun's energy originates in fusion reactions in its core, while moonlight visible from Earth is primarily sunlight reflected by the lunar surface (NASA, n.d.-a, n.d.-b). The appropriate term here is reflection rather than refraction. This fact permits comparison with the verse's descriptive distinction. It does not, however, establish that ḍiyāʾ and nūr have technical definitions identical to fusion and reflection, respectively.

Boundaries Between Water Masses and Mixing Processes

Qur'an 25:53, Surah Al-Furqan, and Qur'an 55:19–20, Surah Ar-Rahman, describe meeting waters and a barzakh. In oceanography, temperature and salinity differences affect water density

and can produce stratification and boundaries between water masses. A halocline is a zone of sharp change in salinity with depth. In estuaries, the interaction between river water and seawater depends on river discharge, tides, and mixing (NOAA, n.d.-a).

Stratification does not mean that the two water masses cannot mix. Even strongly stratified estuaries experience exchange and mixing, while other estuaries may be more uniformly mixed. Barzakh should therefore not be treated as evidence of a physical wall impermeable to water. A more defensible relationship is an analogy with a dynamic boundary that maintains differences in properties over particular spatial and temporal scales. This analogy must be identified as interpretation rather than an explicit technical explanation within the verse.

Deep-Sea Darkness and Internal Waves

Qur'an 24:40, Surah An-Nur, uses imagery of deep-sea darkness, waves, and clouds in a parable. This rhetorical context must be preserved when the verse is compared with marine science. Physically, light intensity diminishes as light passes through water. NOAA explains that the euphotic zone generally occupies approximately the upper 200 meters, while very weak light may remain detectable down to about 1,000 meters under particular conditions (NOAA, 2026). These figures are general descriptions rather than identical boundaries for all waters.

Internal waves are real phenomena in stratified waters and are examined in studies of ocean dynamics (Garrett & Munk, 1979). The expression "waves above waves," however, does not explicitly specify density boundaries, frequencies, or internal-wave mechanisms. Associating the two can be considered an interpretive analogy. The existence of a scientific phenomenon does not establish that it is the verse's only referent.

Marine Resources and Ecological Responsibility

Qur'an 16:14, Surah An-Nahl, presents the sea as a source of food and ornaments and a means of navigation. Its relationship to contemporary knowledge is strongest at the level of human use of, and dependence on, aquatic ecosystems. FAO (2024) discusses aquatic foods in relation to food security, nutrition, livelihoods, and sustainability. This extends reflection from resource availability to questions of management and equitable distribution of benefits.

Quantitative data require careful categorization: marine fisheries differ from total aquatic food production, and contributions to animal protein differ from contributions to total protein. This review therefore excludes percentages with unclear years, populations, or denominators. Dialogue between the verses and science can address responsible use, with management grounded in ecological research and community needs.

Rain Groundwater and The Hydrological Cycle

Verses about winds and clouds in Qur'an 30:48, Surah Ar-Rum, water storage in the earth in Qur'an 23:18, Surah Al-Mu'minun, and water and plants in Qur'an 39:21, Surah Az-Zumar, provide material for reflection on connections among water, soil, and life. A verse about rainfall does not automatically explain evaporation, however, and an account of water in the earth is not

identical to a complete aquifer model. Each process associated with a verse must be evaluated against what the text actually states.

In hydrology, the water cycle encompasses movement among the atmosphere, surface, soil, and subsurface through evaporation, transpiration, condensation, precipitation, infiltration, and flow. These processes form a network that need not follow a single simple sequence for every water molecule (USGS, n.d.-c). Correspondence can therefore be discussed in terms of rainfall, water storage, and vegetation growth. Concluding that the Qur'an details the entirety of modern hydrological theory requires stronger evidence than assembling several verses about water.

Water and Life Processes

Qur'an 21:30, Surah Al-Anbiya, emphasizes the relationship between water and life. Biology explains water's role as an environment for biochemical reactions and in the organization and dynamics of cellular systems (Ball, 2008). This correspondence is relevant to organisms' dependence on water. The term "universal solvent" should nevertheless be avoided because water does not dissolve every substance.

Water's role in known life must also be distinguished from explanations of the origins of the first life. Prebiotic chemistry investigates how chemical systems could develop into biological systems, but the initial pathways and environments remain research questions (Orgel, 1998). Organisms' need for water therefore does not establish a particular abiogenesis scenario. The verse can strengthen reflection on water's importance without serving as evidence that the text scientifically determined the location, timing, and mechanisms of early life.

Fingertips and Forensic Identification

Qur'an 75:3–4, Surah Al-Qiyamah, concerns God's ability to reconstruct humans, including their fingertips. Its primary context is resurrection. Connecting it to fingerprints is an interpretive extension because the verse does not explain ridge patterns or identification procedures. In forensics, fingerprint comparison assesses correspondence between ridge details in traces and reference impressions.

The usefulness of identification does not mean that examinations are always error-free. A NIST report emphasizes human factors and the importance of a systems approach to improving latent print examination (Expert Working Group on Human Factors in Latent Print Analysis, 2012). The claim that identical fingerprints have a probability of one in 64 billion is not used because it does not adequately represent all examination conditions. Rigorous discussion must distinguish biological pattern variation, trace quality, and the accuracy of examiners' conclusions. In dialogue with the verse, bodily detail can become an object of reflection without turning the verse into a statement about forensic error rates.

Mountains Isostasy and Earth's Shape

Qur'an 78:6–7, Surah An-Naba, describes mountains as awtād. The metaphor of pegs is often associated with mountains' subsurface structures. Geophysically, isostasy concerns the buoyant equilibrium of the crust above the mantle (USGS, n.d.-a). This concept helps explain support for

topography but does not require all mountain ranges to have uniform structures or identical root depths.

Isostasy cannot be equated with earthquake prevention. USGS explains earthquakes through energy release resulting from fault movement and processes related to tectonic stress (USGS, n.d.-b). The peg metaphor therefore cannot justify a claim that mountains eliminate tectonic instability. Analogies concerning mountain structure and function need limits to avoid conflicting with Earth's continuing dynamics.

Qur'an 39:5, Surah Az-Zumar, concerning the alternation or wrapping of night and day, can be discussed alongside experiences of temporal order. Its language does not, however, specify Earth's geometric parameters. Using it as independent evidence of planetary shape requires caution: the theme of alternating night and day is not equivalent to measuring Earth's shape. In education, the verse can initiate reflection, while geodetic conclusions must rest on observation and measurement.

Human Embryonic Development

Qur'an 23:12–14, Surah Al-Mu'minun, uses the terms nuṭfah, 'alaqah, and muḍghah in its account of human creation. These terms have linguistic and interpretive dimensions that are not identical to modern embryological categories. Equating nuṭfah with the zygote or 'alaqah with a specific implantation stage is an interpretation requiring argument. Directly assigning developmental ages in weeks is also problematic unless the dating basis is explained, including the difference between age since fertilization and clinical gestational age.

Embryology shows that tissues develop through interconnected differentiation processes. During somite development, the sclerotome contributes to axial skeletal structures, while the myotome contributes to muscle (Gilbert, 2000). This cannot accurately be summarized as completion of all bones before formation of all muscles. The verse's verbal sequence should therefore not be directly converted into a universal timetable for all bodily tissues.

A stronger relationship lies in the theme of progressive human development. Comparison can show how embryological knowledge enriches readers' understanding of developmental complexity. Concluding that each term encodes a specific clinical stage, or that its sequence has been unproblematically verified, exceeds the available support.

The Coccyx and Resurrection Limits of Empirical Claims

Discussion of '*ajb al-dhanab* draws primarily on hadith. Sahih Muslim 2955b mentions this body part in connection with human reconstruction (Muslim ibn al-Hajjaj, n.d.). This hadith source must be distinguished from Qur'an 75:3–4, Surah Al-Qiyamah, concerning the gathering of bones and fingertips. This distinction preserves accurate attribution and each text's context.

Research on genetic material preservation does not establish that the coccyx is biologically indestructible. Allentoft et al. (2012) examined DNA decay in bone, demonstrating that genetic persistence must be understood through preservation conditions and degradation processes.

Their findings provide no basis for treating the coccyx as the sole repository of human identity or as tissue capable of regenerating the entire body after death.

The terms “cellular memory” and “epigenetic information” are likewise insufficient to bridge molecular explanations and resurrection. Claims about special minerals, an everlasting coccyx, or superior DNA protection require relevant direct research. This review treats resurrection as a theological belief. The distinction preserves religious meaning while preventing biological evidence from being used beyond the scope of its conclusions.

Gametic Contributions and Sex Determination

Qur’an 53:45–46, Surah An-Najm, connects the creation of male and female pairs with nuṭfah. In human genetics, the common sex chromosome configurations are XX in females and XY in males (NHGRI, 2026). Males with XY chromosomes are heterogametic because they can produce X-bearing or Y-bearing sperm, whereas females with XX chromosomes are homogametic. Applying the term homogametic to XY is therefore incorrect.

In the common inheritance pattern, the ovum carries X, while the sperm’s X or Y contribution relates to the sex chromosome configuration following fertilization. This must be presented as a general pattern rather than a rule without variation. Chromosomal configuration should not be reduced to the sole explanation of all sexual characteristic development. The verse can be discussed alongside gametic contributions to reproduction, but does not explicitly mention X and Y chromosomes. Biological correspondence therefore cannot directly be treated as a technical statement of molecular genetics in the text.

Literature Synthesis and Directions for Inquiry

This review indicates that relationships between the Qur’an and science are most defensible when verse context, empirical evidence, and interpretive level are stated separately. Themes of water, life, marine resources, and celestial motion offer substantial opportunities for dialogue. Associations with dark matter, internal waves, highly specific embryological stages, or coccygeal durability require stricter interpretive limits.

This study contributes by organizing arguments across disciplines rather than experimentally testing religious texts. Further research can compare classical and contemporary exegesis, examine Arabic usage in context, and assess whether proposed relationships remain meaningful when scientific models change. Table 1 summarizes the relationships available for discussion and the limits of their conclusions.

Table 1. Synthesis of Relationships between Religious Texts and Science and Their Interpretive Limits

Theme	Reference	Scientific knowledge	Limits of conclusions
Cosmic expansion	51:47	Distance–recession relationship and cosmological models.	Interpretive correspondence; does not specify H_0.
Cosmic origins	21:30	Evolution of the universe from a hot, dense state.	Creation theme; does not detail singularity or inflation.

Celestial motion	21:33	Orbital dynamics and gravitational interactions.	Motion theme; not a formulation of mechanics.
Without visible pillars	13:2	Explanations of gravity and cosmic structure.	Analogy; dark matter is not explicitly mentioned.
Earth's protection	21:32	The atmosphere and magnetic field have distinct functions.	Protection theme; not details of atmospheric layers.
Sun and moon	10:5; 71:16	Solar energy and lunar reflection of sunlight.	Descriptive distinction; does not detail nuclear fusion.
Water mass boundaries	25:53; 55:19–20	Stratification with exchange and mixing.	Dynamic boundary analogy; not an impermeable wall.
Deep sea	24:40	Light attenuation and internal waves.	Parable context; specific referent is uncertain.
Marine resources	16:14	Aquatic foods and livelihoods.	Thematic correspondence; data coverage must be clear.
Water cycle	30:48; 23:18; 39:21	Water movement between the atmosphere and Earth.	Rainfall and groundwater themes; not a complete hydrological model.
Water and life	21:30	Water is important in cellular processes.	Does not establish a single abiogenesis scenario.
Fingertips	75:3–4	Fingerprint examination is used in forensics.	Resurrection context; does not establish identification accuracy.
Mountains	78:6–7; 21:31	Isostasy and tectonic dynamics.	Structural analogy; does not establish earthquake prevention.
Night and day	39:5	Alternation of night and day can be studied empirically.	Does not specify Earth's geometric parameters.
Embryonic development	23:12–14	Tissue differentiation is interconnected.	Development theme; does not assign ages to each term.
Coccyx	Muslim 2955b	DNA in bone can degrade.	Resurrection is a theological claim; not an experimental finding.
Sex chromosomes	53:45–46	Common XX/XY patterns and gametic contributions.	Reproduction theme; X and Y are not explicitly mentioned.

METHODS

Design and Participants

Textual analysis examines Arabic terms, verse context, relationships among verses, and classical and contemporary interpretations to understand the Qur'an's message comprehensively (Rahman, 1980). Scientific literature is used to evaluate explanations of natural phenomena without treating linguistic similarities as direct proof of scientific theories in the Qur'an. Sources include Qur'anic verses, hadith relevant to 'ajb al-dhanab, exegetical literature, scientific journal articles, academic books, and institutional reports. Hadith are examined separately from Qur'anic references to maintain clarity regarding their respective sources.

The review covers cosmology, celestial motion, atmospheric science, oceanography, hydrology, biology, forensic identification, geology, embryology, and genetics. Literature is purposively selected based on relevance, credibility, conceptual accuracy, and traceability. Primary research supports empirical claims, while review articles and academic books provide broader context. Both supporting and limiting evidence are considered, including differences in findings and measurement uncertainties. As a narrative literature review, the study does not claim to cover all available publications.

Analysis involves identifying relevant texts and scientific claims, examining textual context and interpretations, evaluating scientific evidence, comparing their levels of specificity, and synthesizing defensible relationships. Each textual–scientific pairing is assessed in terms of textual meaning, empirical evidence, the nature of the relationship, and the limits of interpretation. Relationships are classified as thematic correspondence, interpretive analogy, or theological statements. Analytical rigor is maintained by cross-checking texts, interpretations, and scientific sources. The study produces no new empirical data; its conclusions represent an interpretive synthesis rather than proof that scientific theories are explicitly stated in the Qur'an (Sardar, 1989).

RESULTS

Classification of Relationships Between Religious Texts and Scientific Knowledge

Synthesis of the verses, interpretations, and scientific literature yields three categories of relationship: thematic correspondence, interpretive analogy, and theological statements. This classification rests on comparisons of textual meaning, empirical explanation, and the specificity of the proposed association.

Thematic correspondence occurs when the text and scientific literature discuss related phenomena, including celestial motion, water's role in life, rainfall, marine resources, and human development. It indicates a shared subject without requiring identical explanations of mechanisms.

Interpretive analogy occurs when a textual expression is compared with a scientific concept to assist understanding. Examples include associations of barzakh with boundaries between water masses, awtād with mountain structures, and heavens without visible pillars with cosmic order. These relationships require additional interpretation and are not technically stated in the text.

Theological statements occur primarily in discussions of resurrection, fingertip reconstruction, and 'ajb al-dhanab. Empirical literature can explain bodily structures and biological processes but does not test resurrection. These categories indicate that text–science relationships cannot be presented as a single type of correspondence with uniform evidential weight.

Celestial Motion and Cosmic Expansion

Comparison of Qur'an 21:33, Surah Al-Anbiya, with astronomical literature shows convergence on celestial motion. The verse describes the movement of the sun and moon, while celestial mechanics explains trajectories through gravitational interactions, initial conditions, and the influence of other bodies (Murray & Dermott, 1999). Correspondence concerns motion as a phenomenon; its mechanistic explanation comes from scientific literature.

Associating Qur'an 51:47, Surah Adh-Dhariyat, with cosmic expansion involves greater interpretive dependence. Examination of Al-Tabari's exegesis reveals explanations of mūsi'ūn in relation to the extent of creative capacity and transmitted interpretations concerning expansion of

the heavens (Al-Tabari, n.d.). Its meaning is consequently not confined to one cosmological reading.

Astronomical literature establishes the empirical basis for cosmic expansion through the relationship between distance and radial velocity (Hubble, 1929). Differences between the Hubble constant estimates of Riess et al. (2019) and Planck Collaboration (2020), however, indicate the need to consider measurement methods and model assumptions. This synthesis finds no basis for attributing a specific expansion value to the verse.

In Qur'an 21:30, Surah Al-Anbiya, expressions of joining and separation can be compared with the theme of cosmic origins. The text does not, however, specify inflationary mechanisms, cosmological parameters, or singularity conditions. Its relationship to the Big Bang model is therefore classified as an interpretive association concerning creation.

Water Life and the Hydrogical Cycle

Comparison of Qur'an 21:30, Surah Al-Anbiya, with biological literature shows correspondence concerning water's importance for life. The literature explains water's role in biochemical reactions and cellular organization (Ball, 2008). The similarity concerns life's dependence on water.

This correspondence does not establish a single explanation of how the first life emerged. Prebiotic chemistry considers various possible processes and early-life environments (Orgel, 1998). Water's role in organisms must therefore be distinguished from claims about the timing, location, and mechanisms of abiogenesis.

Comparisons involving verses on clouds, rainfall, water storage, and vegetation also show thematic relationships with hydrology. Qur'an 30:48, Surah Ar-Rum, Qur'an 23:18, Surah Al-Mu'minun, and Qur'an 39:21, Surah Az-Zumar, address phenomena that can be discussed alongside water movement between the atmosphere and Earth. Hydrological literature explains more detailed processes, including evaporation, transpiration, condensation, precipitation, infiltration, and surface and subsurface flow (USGS, n.d.-c). The comparison demonstrates thematic affinity without establishing that every water-cycle mechanism is stated in the verses.

Marine Resources

Qur'an 16:14, Surah An-Nahl, and aquatic food literature converge on the use of waters for human life. The verse mentions food, ornaments, and navigation, while FAO (2024) discusses aquatic foods in relation to nutrition, food security, livelihoods, and sustainability.

For this pairing, the textual and scientific relationship does not require matching terms with highly specific mechanisms. Correspondence lies in the sea's benefits, while the literature extends discussion through production data, management, and ecosystem conditions. Quantitative food contributions are excluded from the synthesis when their coverage, year, and calculation basis are unclear.

Earth's Protection and Sunlight and Moonlight

Associating Qur'an 21:32, Surah Al-Anbiya, with Earth's protection yields an analogy between a protected roof and functions of the physical environment that support life. The literature distinguishes the atmosphere as a gaseous envelope from the magnetosphere as a region influenced by Earth's magnetic field. Ozone's functions and magnetic interactions with charged particles also involve different mechanisms (Solomon, 1999; NASA, n.d.-c).

The comparison indicates that the protective analogy is defensible at a general level. The verse does not, however, detail atmospheric layers or magnetospheric configuration.

In Qur'an 10:5, Surah Yunus, distinguishing the sun as ḍiyāʾ and the moon as nūr shows descriptive affinity with their respective lighting characteristics. The literature explains solar energy through fusion and visible moonlight through reflected sunlight (NASA, n.d.-a, n.d.-b). This relationship does not establish that the two terms technically define fusion and reflection.

Water Mass Boundaries and Marine Darkness

Comparing barzakh in Qur'an 25:53, Surah Al-Furqan, and Qur'an 55:19–20, Surah Ar-Rahman, with oceanographic literature yields an analogy with water mass boundaries. The literature shows that differences in water properties can produce stratification while exchange and mixing continue (NOAA, n.d.-a). The association therefore does not support an impermeable physical barrier that entirely prevents mixing.

In Qur'an 24:40, Surah An-Nur, marine darkness resembles the attenuation of light with depth. The literature also explains internal waves in stratified waters (Garrett & Munk, 1979; NOAA, 2026). The verse is a parable, however, and its expression of layered waves does not identify internal waves as its sole referent. Correspondence concerning darkness is thus more direct than matching the wave imagery with a particular oceanographic mechanism.

Mountains and Earth's order

Associating awtād in Qur'an 78:6–7, Surah An-Naba, with mountain subsurface structures yields an analogy of form. Isostasy explains the buoyant equilibrium of the crust but does not establish that all mountains share identical structures or root depths (USGS, n.d.-a).

Earthquake literature limits extension of this analogy into claims that mountains prevent tectonic instability. Earthquakes are explained through energy release and fault movement (USGS, n.d.-b). The comparison therefore retains a possible structural analogy but does not support earthquake-prevention claims.

Associating Qur'an 39:5, Surah Az-Zumar, with Earth's shape also requires limits. The expression concerning the alternation or wrapping of night and day conveys temporal order but does not specify planetary geometric parameters. This synthesis treats the relationship as an interpretive reading rather than evidence from measurements of Earth's shape.

Stages of Embryonic Development

Comparison of Qur'an 23:12–14, Surah Al-Mu'minun, with embryology shows correspondence concerning progressive human development. Matching nuṭfah, 'alaqah, and muḍghah with

specific clinical stages nevertheless requires additional argument. The text does not provide developmental ages in weeks.

Somite development literature describes interconnected differentiation of skeletal and muscular tissues (Gilbert, 2000). This does not support the simplification that all bones finish forming before all muscles begin developing. Correspondence concerning progressive development remains defensible, while detailed matching of sequence and timing has stricter limits.

Gametic Contributions and Sex Chromosomes

Qur'an 53:45–46, Surah An-Najm, has thematic affinity with gametic contributions to reproduction. Genetic literature explains the common XX and XY sex chromosome configurations (NHGRI, 2026). Within this pattern, individuals with XY chromosomes are heterogametic, while those with XX chromosomes are homogametic.

The synthesis shows correspondence concerning reproduction but finds no explicit reference to X and Y chromosomes in the verses. Nor does this common pattern explain every variation in sexual characteristic development.

Flingertips and Forensic Identification

Associating Qur'an 75:3–4, Surah Al-Qiyamah, with fingerprints extends the discussion from resurrection to biological identification. The text concerns the ability to reconstruct humans, whereas fingerprint examination compares ridge details to assess correspondence between impressions.

Forensic literature shows that fingerprint utility does not imply absolute examination accuracy. Trace quality, procedures, and human factors influence examiners' conclusions (Expert Working Group on Human Factors in Latent Print Analysis, 2012). The verse–fingerprint relationship is therefore classified as an interpretive extension and is not used to establish identification accuracy.

Theological Statements and The Limits of Empirical Evidence

Discussion of '*ajb al-dhanab* reveals different sources for the hadith concerning this body part and the verses about gathering bones and fingertips. Sahih Muslim 2955b is a separate reference for 'ajb al-dhanab, whereas Qur'an 75:3–4, Surah Al-Qiyamah, has a different formulation (Muslim ibn al-Hajjaj, n.d.).

Research on bone DNA degradation does not establish that the coccyx is indestructible or can reconstruct an entire body after death (Allentoft et al., 2012). The sources discussed also provide no basis for claiming that the coccyx is the sole repository of human biological identity.

The synthesis treats resurrection as a theological statement and genetic degradation as an empirical question. Both can be discussed in one article, but they do not share testing procedures or the same scope of conclusions.

Synthesis of Comparative Findings

Cross-disciplinary comparison shows that proposed relationships become increasingly dependent on interpretation as the scientific concepts become more specific. General themes such as water, life, motion, and marine use have more direct affinity. By contrast, associations with dark matter, internal-wave mechanisms, specific embryonic ages, or coccygeal durability require support that cannot be replaced by similarities in wording.

Using the four analytical questions—textual meaning, scientific evidence, form of relationship, and limits of conclusions—the findings are summarized in Table 2.

Table 2. Comparative and Interpretive Synthesis of Religious Texts and Scientific Literature

Theme and reference	Textual meaning examined	Scientific explanation for comparison	Form of relationship	Limits of conclusions
Celestial motion; 21:33	Motion of the sun and moon	Orbital dynamics	Thematic correspondence	Does not specify laws of mechanics or absolute stability.
Cosmic expansion; 51:47	Breadth of creative capacity and interpretations of expanding the heavens	Cosmic expansion	Interpretive	Does not specify the Hubble constant or a single interpretation.
Cosmic origins; 21:30	Joining and separation	Models of cosmic evolution	Thematic correspondence	Does not detail singularity or inflation.
Water and life; 21:30	Water's relationship to living beings	Water's role in cellular systems	Thematic correspondence	Does not determine a single abiogenesis scenario.
Rainfall and groundwater; 30:48; 23:18; 39:21	Clouds, rainfall, water storage, and vegetation	Hydrological cycle	Thematic correspondence	Does not explain every water-cycle mechanism.
Marine resources; 16:14	Food, ornaments, and navigation	Use of aquatic foods	Thematic correspondence	Quantitative data follow the coverage of scientific sources.
Earth's protection; 21:32	A protected roof	Atmospheric and magnetospheric functions	Interpretive analogy	Does not detail protective structures and mechanisms.
Sunlight and moonlight; 10:5	Distinction in lighting characteristics	Fusion and light reflection	Descriptive correspondence	Does not technically define either mechanism.
Water boundaries; 25:53; 55:19–20	Meeting waters and barzakh	Stratification with mixing	Interpretive analogy	Does not establish an impermeable barrier.
Deep sea; 24:40	Parable of darkness and waves	Light attenuation and internal waves	Thematic and interpretive	Specific reference to internal waves cannot be established.
Mountains; 78:6–7	Mountains as awtād	Mountain structures and isostasy	Structural analogy	Does not establish earthquake prevention.
Night and day; 39:5	Alternation or wrapping of night and day	Temporal order and Earth's motion	Interpretive	Does not specify Earth's geometric parameters.
Embryo; 23:12–14	Progressive human development	Tissue differentiation	Thematic correspondence	Does not assign an age to each term or a

				universal bone–muscle sequence.
Reproduction; 53:45–46	Creation of pairs from nuṭfah	Gametic contributions and XX/XY patterns	Thematic correspondence	Chromosomes are not explicitly mentioned.
Fingertips; 75:3–4	Ability to reconstruct humans	Fingerprint identification	Interpretive extension	Does not establish forensic examination accuracy.
Coccyx; Muslim 2955b	Human reconstruction	DNA degradation in bone	Theological statement	Biological evidence does not test resurrection or coccygeal indestructibility.

DISCUSSION

Qur'an and Science as a Question of Interpretation and Evidence

The findings indicate that the relationship between the Qur'an and science cannot be understood as a single uniform form of correspondence. Thematic correspondence, interpretive analogy, and theological statements have different foundations and scopes of conclusion. This distinction matters because a shared subject does not always imply a shared explanation. Verses and scientific literature may both discuss water, for example, but do so with different aims, language, and levels of specificity.

The Qur'an situates natural phenomena in relation to creation, God's power, human life, and moral responsibility. Scientific literature, meanwhile, explains phenomena through observation, measurement, and assessable models. Relationships between the two must therefore account for their respective contexts. Comprehensive readings help preserve the connection between accounts of nature and their surrounding religious message (Rahman, 1980).

These differences do not preclude dialogue. Scientific knowledge can broaden readers' understanding of the complexity of phenomena mentioned in verses, while religious texts provide opportunities to reflect on meaning and human responsibility toward nature. Expanding readers' understanding does not, however, establish a theory as a verse's only meaning. Critical assessment of this relationship accords with Sardar's (1989) attention to the development and orientation of science within the Islamic intellectual tradition.

The findings' principal contribution lies in distinguishing levels of claims. Stating that a verse is relevant to a scientific phenomenon carries different evidential demands from stating that it predicts a particular mechanism. Prediction requires greater specificity: the intended concept must be identifiable from the text, not wholly dependent on subsequently acquired knowledge, and distinguishable from alternative interpretations. In the sources discussed, the relationships more often support thematic correspondence and interpretive possibilities than detailed technical predictions.

Linguistic Context And The Risks Of Retrospective Reading

Findings concerning mūsi‘ūn, barzakh, awtād, and terms of human development show that linguistic matching is an important step in connecting verses and science. These terms have contexts of use and interpretive ranges that cannot be replaced merely by translations closest to modern concepts.

For Qur’an 51:47, Surah Adh-Dhariyat, Al-Tabari’s exegesis explains the breadth of God’s creative capacity and includes a transmitted interpretation about expanding the heavens (Al-Tabari, n.d.). This diversity indicates that the cosmic expansion reading must be presented as an interpretive choice. Presenting it as an indisputable technical meaning from the outset would erase an important part of interpretive history.

Similar issues arise when barzakh is matched with a halocline or awtād with mountain roots. Scientific concepts can provide a comparison, but the association requires an argumentative bridge. This includes reasons for selecting the phenomenon, correspondence between its characteristics, and aspects that cannot be matched. Without these steps, similar wording is easily mistaken for conceptual identity.

Retrospective reading occurs when modern knowledge is used to select a textual meaning, which is then presented as evidence that the text anticipated modern knowledge. This risks circular reasoning. To avoid it, interpretation must allow that a verse may have a meaning understandable without contemporary theory while also gaining new relevance for communities with different knowledge.

Classical and contemporary interpretations should therefore be brought together through open comparison. Classical exegesis helps reveal contexts of understanding before modern theories, while contemporary exegesis demonstrates developments in readers’ questions and knowledge. Their differences become material for analysis rather than something to conceal to create an impression of perfect correspondence.

Cosmology Thematic Correspondence and Model Dependence

Cosmic expansion provides an important example of distinctions among observational facts, explanatory models, and textual interpretation. The distance–radial velocity relationship in Hubble’s research became an important part of observational cosmology (Hubble, 1929). Connecting it with Qur’an 51:47, Surah Adh-Dhariyat, however, does not derive from astronomical measurement itself. The connection is constructed through interpretation of the verse’s terminology.

Differences between the Hubble constant estimates in Riess et al. (2019) and Planck Collaboration (2020) show that scientific knowledge must be read alongside how it is obtained. Estimates from local distance measurements and those inferred from cosmic background data in ΛCDM do not have identical inferential foundations. A particular number therefore should not serve as a direct equivalent of an expression in the verse.

The implication is that changes or differences in scientific parameters should not immediately become questions about the truth of religious texts. When a verse is tied too closely to a particular value or model, scientific revision may suggest that its meaning depends on that measurement. A more defensible relationship preserves the distinction between the verse's message and the model used to explain cosmic phenomena.

The same applies to associating Qur'an 21:30, Surah Al-Anbiya, with the Big Bang. Themes of joining and separation can support reflection on cosmic origins, but do not themselves establish singularity, inflation, or the entire sequence of cosmic evolution. General narrative similarity must be distinguished from correspondence with a model having specific parameters and observational consequences.

Cosmology thus offers a broader methodological lesson: a verse's affinity with a scientific theme does not authorize adding every theoretical detail to its meaning. Each additional detail requires its own argument.

Atmospheric and Marine Phenomena Mechanisms and Environmental Variation

Findings concerning the atmosphere and sea show that correspondence claims must attend to physical mechanisms and variation in environmental conditions. General expressions of protection, boundaries, and darkness can resemble several phenomena without identifying a particular mechanism.

In discussing Earth's protection, the atmosphere and magnetosphere must be conceptually separated. Ozone studies explain atmospheric processes, while magnetic interactions with solar particles involve different mechanisms (Solomon, 1999; NASA, n.d.-c). Combining them as "protective atmospheric layers" produces an apparently simple explanation that obscures scientific distinctions. The analogy with Qur'an 21:32, Surah Al-Anbiya, therefore requires an account preserving conceptual accuracy.

For sunlight and moonlight, the descriptive distinction in Qur'an 10:5, Surah Yunus, can support discussion of the two bodies' characteristics. Yet literature on solar fusion and lunar reflection explains mechanisms not detailed in the verse's terms (NASA, n.d.-a, n.d.-b). This relationship offers opportunities to enrich astronomy education but is insufficient to establish that the vocabulary constitutes definitions in modern physics.

The case of barzakh demonstrates the importance of distinguishing a boundary from an inability to mix. Stratification can maintain differences in water properties while exchange and mixing continue. Estuarine circulation patterns also vary with conditions (NOAA, n.d.-a). An image of two water masses that never mix therefore cannot provide a scientific foundation for the verse association.

Deep-sea darkness has a more direct affinity with light attenuation. Light penetration depths nevertheless describe physical conditions in waters rather than boundaries identical at every

location (NOAA, 2026). Moreover, the scientific existence of internal waves does not establish that the expression “waves above waves” refers specifically to them (Garrett & Munk, 1979).

These examples suggest that a strong analogy must identify both correspondence and difference. Recognizing variability and mechanistic limits strengthens the argument by allowing the proposed relationship to be openly assessed.

Water Life and Natural Resources Dialogue Beyond Finding Similarities

Findings on water and life reveal opportunities for dialogue that need not depend on scientific prediction claims. Water’s role in cellular systems provides biological explanations that enrich readings of life in Qur’an 21:30, Surah Al-Anbiya (Ball, 2008). This relationship remains meaningful even though the verse does not specify a prebiotic chemical mechanism.

Distinguishing organisms’ need for water from the origins of life is important for accurate conclusions. Origin-of-life research addresses more specific questions than water’s functions in existing organisms (Orgel, 1998). Evidence of water’s metabolic role is therefore insufficient to resolve how the first biological systems emerged.

In hydrology, verses about rainfall, water storage, and vegetation can illuminate connections among phenomena. The literature then explains networks of water movement in greater detail (USGS, n.d.-c). This dialogue can direct attention toward relationships between knowledge of nature and human dependence on environmental processes.

Marine resources extend the discussion into social and ecological domains. FAO (2024) situates aquatic foods in relation to nutrition, livelihoods, and sustainability. Compared with Qur’an 16:14, Surah An-Nahl, the focus can develop from recognizing the sea’s benefits to questioning how those benefits are managed.

The interpretive implication is that studies of the Qur’an and science can contribute by framing questions of human responsibility. Empirical knowledge is needed to understand resource conditions and the consequences of their use, while religious readings can strengthen attention to purposes and responsibilities. This relationship extends beyond matching terminology with discoveries.

Geology Embryology and Genetics Limits of Scientific Simplification

Findings in geology and human development show that mistaken associations often arise when complex processes are reduced to oversimplified relationships.

In geology, the analogy of mountains as pegs can help readers visualize relationships between topography and subsurface structure. Isostasy, however, concerns buoyant equilibrium and is not equivalent to earthquake prevention (USGS, n.d.-a, n.d.-b). Moving from structural similarity to a preventive function is an argumentative leap requiring further evidence.

In embryology, developmental terms in Qur’an 23:12–14, Surah Al-Mu’minun, can be compared with progressive development. Yet a table assigning each term a specific age can suggest greater

certainty than the available support warrants. Semantic ranges, dating conventions, and differences in tissue development must be considered.

Somite development studies show interconnected differentiation of skeletal and muscular structures (Gilbert, 2000). The text's verbal sequence therefore cannot be directly converted into a universal chronology for every organ. Distinguishing the sequence of presentation from biological sequence is important to avoid a misleading developmental account.

In genetics, correcting heterogametic and homogametic terminology demonstrates that terminological accuracy is a prerequisite for discussing relationships with verses. Common XX and XY patterns help explain gametic contributions but do not constitute a complete account of all sexual characteristic development (NHGRI, 2026). Qur'an 53:45–46, Surah An-Najm, is therefore more appropriately related to reproduction as a theme than treated as an explicit statement about chromosomes.

These three fields show that integrative arguments require understanding the concepts used for comparison. Scientific accuracy cannot be replaced by a strong conviction that two accounts must correspond. Conceptual examination enables defensible relationships to be distinguished from those requiring revision.

Fingerprints The Coccyx and The Boundary Between Biological Identity and Resurrection

Discussions of fingerprints and the coccyx demonstrate the need to preserve the resurrection context of religious sources. Qur'an 75:3–4, Surah Al-Qiyamah, addresses God's ability to reconstruct humans. Connecting it with fingerprints shifts the focus toward biological identification. This can prompt reflection but must be identified as an interpretive extension.

Forensic literature also limits claims that fingerprints always yield certain identification. Latent print examination involves trace quality, assessment procedures, and human factors (Expert Working Group on Human Factors in Latent Print Analysis, 2012). Biological pattern variation should therefore not be equated with decision accuracy. Associating a verse with fingerprints cannot eliminate uncertainty in forensic practice.

For *'ajb al-dhanab*, source accuracy is an initial concern. Hadith reports about this body part must be distinguished from verses concerning the gathering of bones and fingertips (Muslim ibn al-Hajjaj, n.d.). This ensures that arguments do not rest on mistaken attribution.

Research on DNA decay in bone concerns genetic persistence under particular conditions (Allentoft et al., 2012). It neither tests resurrection nor establishes absolute coccygeal durability. Using DNA preservation to substantiate resurrection extends research conclusions beyond the object examined.

This distinction does not determine whether belief in resurrection is true or false. It clarifies methodological scope: biological research has particular objects and procedures, while resurrection involves theological claims not operationalized in the studies discussed. Clear

boundaries help preserve scientific explanatory integrity and accurate presentation of religious teachings.

Implications for The Integration of Knowledge and Education

The findings provide a basis for understanding the integration of knowledge as dialogue that preserves rigor within each discipline. Integration cannot be achieved simply by placing a verse beside a scientific definition. The relationship requires explanation through questions, reasons for selecting sources, forms of correspondence, and limits of conclusions.

In education, a comparative and interpretive framework can be applied by asking students to examine a verse–scientific claim pairing. Students first identify verse context and its interpretive range, then investigate the scientific concept and supporting sources. They subsequently determine whether the association represents thematic correspondence, analogy, or a theological statement.

For example, estuary teaching can use verses about barzakh to frame questions. Students then examine stratification and mixing and assess which parts of the analogy remain defensible. Another example is embryology teaching that compares developmental terms in verses with tissue differentiation without forcing every term into a clinical stage of fixed age.

This approach may cultivate source tracing, distinctions among claims, recognition of uncertainty, and argument construction. Its educational benefits, however, remain implications requiring educational research. This literature-based study provides no data on improvements in students' understanding, critical thinking, or attitudes following such instruction.

Article preparation also requires review across areas of expertise. Linguistic and exegetical accuracy should be evaluated by specialists in Qur'anic studies, while cosmological, biological, and Earth science explanations require relevant disciplinary expertise. Joint review can help detect errors that are difficult to identify when all fields are treated as one homogeneous area of expertise.

Study Contributions and Interpretive Limits

This study contributes a framework for evaluating Qur'an–science associations according to relationship type and strength of support. It enables discussion to move from general correspondence claims toward traceable analysis: what the text states, what scientific literature supports, how the two are connected, and how far conclusions can extend.

The study also shows that conceptual correction is an important part of argument development. Constraining claims about water mixing, mountain functions, tissue development sequences, and coccygeal durability helps preserve relationships with defensible foundations. These corrections reduce reliance on inaccurate scientific explanations.

The findings are nevertheless limited by the narrative review design and the scope of sources discussed. The study does not quantify the frequency of all association patterns in the literature,

compare every exegetical tradition, or produce new empirical tests. Its categories also require interpretive judgment and therefore need reasons open to scrutiny.

Further research can deepen a single theme through more structured exegetical comparison and more specialized scientific literature review. Educational research can also test the framework in integrative teaching. These steps can support the development of Qur'an–science relationships grounded in source accuracy, interpretive openness, and assessable argument.

TRANSFORMATIVE CONTRIBUTION

This study contributes to the development of Qur'anic studies and the dialogue between religion and science by proposing a more critical, balanced, and interdisciplinary approach to understanding the relationship between Qur'anic verses and modern scientific discoveries. Rather than treating the Qur'an merely as a source of scientific predictions, this study emphasizes the importance of contextual interpretation, methodological rigor, and intellectual humility in examining the connections between revelation and scientific knowledge.

The transformative contribution of this study lies in encouraging a shift from confirming scientific findings through isolated Qur'anic verses toward a more comprehensive dialogue that respects both the theological significance of the Qur'an and the evolving nature of scientific inquiry. This approach provides a framework for researchers, educators, and students to engage with religious and scientific knowledge without reducing either domain to the other. Ultimately, the study supports a more responsible form of interdisciplinary scholarship that promotes critical thinking, academic integrity, and meaningful engagement between Islamic thought and contemporary science.

CONCLUSION

This study shows that relationships between the Qur'an and scientific knowledge in the sources reviewed take three forms: thematic correspondence, interpretive analogy, and theological statements. Thematic correspondence occurs in discussions of water and life, celestial motion, hydrological processes, marine resources, and human development. Associations between scriptural terms and more specific scientific concepts, however, require additional interpretation and do not always indicate identical mechanisms or explanatory specificity.

Shared themes and similar wording are insufficient to conclude that a verse predicts a particular scientific theory. Assessing such relationships requires attention to verse context, linguistic range, exegetical diversity, and the quality and scope of empirical evidence. Statements about resurrection must also be distinguished from biological explanations because their grounds of justification and testing limits differ.

The study's contribution lies in providing a comparative and interpretive framework for more systematic dialogue between the Qur'an and science. The integration of knowledge can develop through encounters among understandings of natural phenomena, religious interpretation, and reflection on human responsibility, while preserving conceptual accuracy and openness to

correction. These conclusions are limited to the literature reviewed and do not establish a single interpretation as a verse's only meaning.

LIMITATION AND RECOMMENDATION

This study is limited to a qualitative narrative literature review. Its findings depend on the selected Qur'anic verses, exegetical works, and scientific literature. Therefore, the proposed relationships remain subject to interpretive differences and developments in scientific knowledge. Future research should involve collaboration between Qur'anic scholars and scientific experts to strengthen interpretive and scientific accuracy. Further studies should also distinguish thematic correspondence, interpretive analogy, and scientific prediction to promote a more critical and responsible dialogue between the Qur'an and modern science.

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