

The Epistemology of Islamic Science: A Comparative Examination and Critical Appraisal of the Ideas of Armahedi Mahzar and Sayyed Hossein Nasr

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ABSTRACT: This study presents a comparative examination of the Islamic scientific epistemologies proposed by two prominent contemporary Muslim thinkers, Armahedi Mahzar and Sayyed Hossein Nasr. Both intellectuals offer distinct responses to the enduring separation between science and religion that characterizes modern Western thought. Mahzar formulates the notion of Islamic Integralism, which is grounded in the metaphysical principles of *tawhīd* and *wahdatiyyah*, whereas Nasr advocates *perennial philosophy* and *scientia sacra* as frameworks for re-sacralizing modern knowledge. Through a structured comparative analysis, this article identifies convergences, divergences, and critical points of tension between their conceptualizations. The findings indicate that, although both thinkers share a commitment to reuniting scientific inquiry with spiritual and ethical foundations, they diverge significantly in philosophical orientation, methodological assumptions, and practical implications. This study contributes to current debates on Islamic epistemology and highlights the relevance of these two frameworks for rethinking scientific development in the contemporary Muslim world.

KEYWORDS: Islamic Epistemology, Islamic Science, Integralism, Perennial Philosophy, Sacred Knowledge, Desacralization

I. INTRODUCTION

In contemporary global civilization, science has assumed a central role in shaping human perception and structuring social life. Throughout its evolution, however, scientific inquiry has progressively distanced itself from the spiritual and moral foundations that historically endowed knowledge with meaning (Nasr, 1989). This condition, often described as the *desacralization of knowledge*, represents one of the major epistemological challenges confronting modern Muslim intellectual discourse.

By contrast, the Islamic tradition possesses a longstanding epistemic heritage in which knowledge is viewed not merely as factual accumulation but as an act of recognizing the divine signs (*āyāt Allāh*) manifest in both revelation and the created order (Mahzar, 1987, pp. 5–11; 2012, pp. 234–251). The growing divide between rational inquiry and revealed knowledge, and between modern scientific frameworks and classical Islamic wisdom, has contributed to significant epistemological tension within contemporary Islamic thought.

Two influential thinkers who seek to address these challenges—though through distinct conceptual pathways—are Armahedi Mahzar and Sayyed Hossein Nasr. Mahzar, an Indonesian scientist and Islamic intellectual, articulates the concept of Islamic Integralism, which seeks to harmonize multiple domains of knowledge through a unifying metaphysical principle rooted in *tawhīd* (Alifa, 2023). Nasr, an Iranian scholar based in the United States, presents an alternative vision grounded in *perennial philosophy*, emphasizing the reestablishment of Sacred Science (*scientia sacra*) as the epistemic foundation of Islamic intellectual life (Mughal et al., 2022).

II. PROBLEM FORMULATION

This article seeks to explore several core research questions:

1. How do Armahedi Mahzar and Sayyed Hossein Nasr conceptualize the epistemological foundations of Islamic science?
2. In what ways do their approaches converge, and where do they diverge fundamentally?
3. What implications do their epistemological frameworks hold for scientific practice and the advancement of science within Muslim societies?
4. What critiques can be raised regarding the coherence, applicability, and philosophical assumptions of each model?

III. PURPOSE AND SIGNIFICANCE OF THE STUDY

The objectives of this study are as follows:

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1. To provide a detailed examination of Mahzar's and Nasr's respective articulations of Islamic scientific epistemology
 2. To identify and analyze the key areas of overlap, divergence, and conceptual tension
 3. To contribute to scholarly discourse on contemporary Islamic epistemology through a structured comparative approach
 4. To deepen the understanding of how science, religion, and spirituality interact within the Islamic intellectual tradition
- The significance of this inquiry lies in its potential to illuminate the ways in which contemporary Muslim scholars attempt to construct scientific paradigms that remain grounded in Islamic values while remaining responsive to the methodological and philosophical developments of modern science.

IV. RESEARCH METHOD

This study employs a literature-based research method, which emphasizes the systematic identification, evaluation, and synthesis of scholarly sources to construct a comprehensive theoretical understanding of the topic. According to Snyder (2019), literature-based research enables researchers to map the intellectual landscape of a field by integrating existing theories and evidence through a structured analytical process. In this study, academic journal articles, books, conference proceedings, and credible digital repositories were examined through thematic categorization and comparative analysis. Such an approach aligns with the view of Bowen (2009), who argues that document analysis allows researchers to extract meaningful interpretations from written materials by assessing their content, context, and relevance. By relying on conceptual examination rather than empirical fieldwork, this method facilitates the identification of knowledge gaps, theoretical developments, and emerging debates, making it particularly suitable for studies aiming to refine conceptual frameworks or reassess established discourses within the existing literature.

V. DISCUSSION

1. Integration of Science and Religion: Historical and Theoretical Context

The Modern Western Dichotomy

The epistemological crisis characteristic of modernity can be traced to the fragmentation of knowledge that emerged during the Scientific Revolution and the Enlightenment. René Descartes' formulation of a strict separation between *res cogitans* (the thinking substance) and *res extensa* (the extended substance) created a dualistic framework that divided subject from object, consciousness from matter, and values from empirical facts (Descartes, 1977).

This dualism laid the foundation for the rise of modern science as an enterprise committed solely to empirical and rational investigation of the physical world, deliberately disengaged from metaphysical, ethical, or spiritual inquiries (Kuhn, 2012). As a consequence, knowledge underwent a process of secularization—what Nasr later refers to as *desacralization*. Religion, meanwhile, was gradually marginalized, regarded as a private domain devoid of epistemic authority in scientific discussions (Nasr, 1996).

Muslim Responses to the Science–Religion Divide

Muslim societies face a distinctive epistemological challenge. On one hand, they inherit a classical intellectual legacy in which scientific investigation and philosophical reasoning flourished within an Islamic metaphysical and cosmological framework (Saliba, 2007). On the other hand, contemporary Muslims encounter the dominance of Western scientific epistemology, which is widely regarded as the universal benchmark for modern scientific practice.

Responses to this dual challenge vary considerably. Some groups advocate a literalist rejection of modern science, while others adopt modern scientific paradigms uncritically. A third group, however, seeks to reconstruct an Islamic epistemology of science that remains faithful to Islamic intellectual tradition yet remains relevant to contemporary contexts (Sardar, 1991). Both Mahzar and Nasr represent this third trajectory, though they do so through markedly different philosophical commitments and methodological orientations.

2. Armahedi Mahzar's Conception of an Islamic Epistemology of Science

Biography and Intellectual Context

Armahedi Mahzar (1939–2020) was an Indonesian scientist and public intellectual whose contributions significantly shaped contemporary discussions on the epistemology of Islamic science. Recognized for formulating the concept of Islamic Integralism, Mahzar sought to reconcile scientific inquiry with the philosophical and spiritual foundations of Islam (Aziz, 2022). His intellectual development was formed by a dual exposure to modern scientific training—particularly in physics—and a deep engagement with Islamic intellectual tradition.

Mahzar's work emerged during Indonesia's post-independence period, when debates over national identity, the social role of religion, and the place of Muslims within scientific and technological modernization were particularly salient (Mahzar, 2004). His dual identity as both a practicing scientist and a committed Muslim gave him a unique vantage point from which to critique prevailing scientific paradigms and propose alternatives grounded in Islamic metaphysics.

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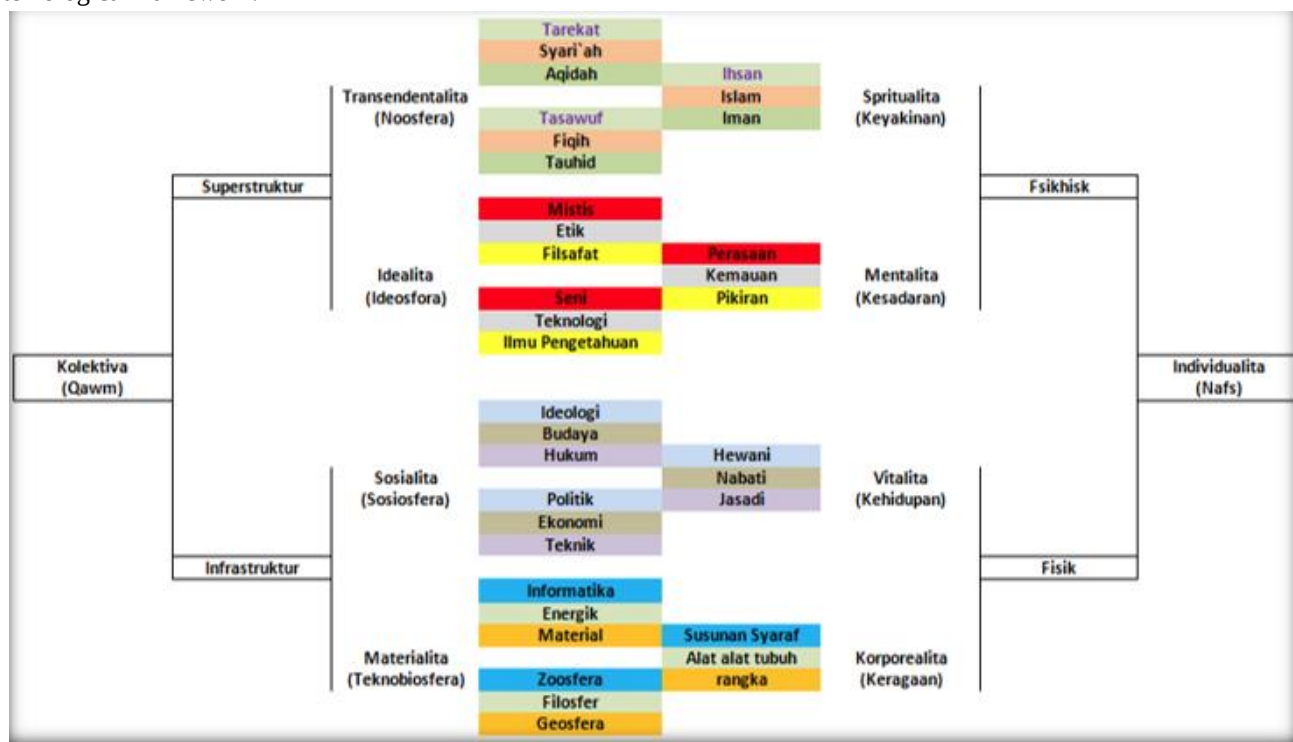
The Framework of Islamic Integralism

At the heart of Mahzar's epistemological project lies the framework he terms *Islamic Integralism*. This paradigm aims to overcome the compartmentalization of knowledge characteristic of modernity by reorganizing all domains of knowledge under the unifying principle of *tawhīd* (Alifa, 2023).

Mahzar outlines a four-stage structure of human development that embodies the integrative ethos he envisions:

- 1) Inner self-recognition, achieved through spiritual awareness rooted in the principles of *īmān*, *Islām*, and *iḥsān*.
- 2) Awareness of bodily potential, including physical capacities and limitations.
- 3) Social awareness and responsibility, reflecting the human obligation to contribute to communal harmony and uphold ethical norms.
- 4) Transcendent consciousness, where human effort is ultimately oriented toward God, enabling the reduction of existential conflict and psychological burden.

These four stages, as interpreted by scholars (e.g., Mardianto, 2024), represent Mahzar's attempt to interrelate personal, social, and spiritual dimensions within an integrated anthropological vision. This vision also forms the anthropological foundation for his larger epistemological framework.



resource: <https://wartagaruda.id/pendidik-inspiratif-armahedi-mahzar-200/>

Tawhīd as the Epistemic Foundation

For Mahzar, *tawhīd* is both a theological doctrine and an epistemological principle. It affirms that all aspects of reality are interconnected and ultimately grounded in divine unity. As such, scientific inquiry must reflect and preserve this ontological coherence (Mahzar, 1987).

He distinguishes between two inseparable dimensions:

- 1) Vertical (internal) dimension: emphasizes the human relationship with God and the notion that all knowledge originates from the Divine.
- 2) Horizontal (external) dimension: stresses the interconnectedness of humans with society and nature, implying that knowledge must contribute to human flourishing and ecological balance.

Together, these dimensions establish *tawhīd* as a meta-principle that organizes scientific activity, ethical considerations, and metaphysical commitments.

Hierarchical Structure of Integrated Knowledge

Mahzar proposes a structured hierarchy that organizes knowledge into three interdependent layers (Mahzar, 2012):

- 1) Ontological dimension — concerns the nature of being and reality.
- 2) Epistemological dimension — concerns the methods and sources through which knowledge is acquired, interpreted, and validated.

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3) Axiological dimension — relates to the moral and teleological purposes of knowledge.

These three dimensions do not operate independently but form a unified epistemic architecture bound by *tawhīd*. Rather than viewing science as detached from ethics or spirituality, Mahzar envisions scientific activity as embedded within a broader ontological–axiological matrix.

Islamic Science and the Classical Intellectual Tradition

Mahzar draws upon the intellectual achievements of classical Islamic civilization—especially during the Umayyad and Abbasid eras—to illustrate how earlier Muslims approached knowledge in a holistic and integrated manner (Munajah, 2022). In this tradition, disciplines such as philosophy, astronomy, medicine, jurisprudence, and theology were not fragmented but functionally interconnected within an Islamic worldview.

Against this historical background, Mahzar criticizes what he terms the “fragmentation of knowledge” in modern Western epistemology. He contends that the separation of scientific inquiry from ethical and metaphysical concerns has produced a form of science that risks losing its moral direction. By contrast, an integrated Islamic science would harmonize empirical investigation with spiritual insight and ethical responsibility, enabling scientific and technological development to promote *maṣlaḥah*—human and ecological well-being.

The Paradigm of Waḥdatiyyah

Building on the principle of *tawhīd*, Mahzar introduces the concept of *waḥdatiyyah*—a paradigm of holistic unity that extends the theological notion of divine oneness into an epistemological and methodological framework (Mahzar, 2004).

In this paradigm, the multiplicity of empirical phenomena is not perceived as contradictory to spiritual truth but as diverse manifestations of a single metaphysical order. Accordingly, scientific knowledge must be developed with explicit awareness of its ethical, spiritual, and social implications.

For Mahzar, *waḥdatiyyah* functions not merely as a philosophical ideal but as a guiding principle for reconstructing Islamic scientific inquiry in a manner that preserves coherence between empirical observation, metaphysical reflection, and moral action.

3. Sayyed Hossein Nasr’s Conception of Islamic Scientific Epistemology

Biography and Intellectual Context

Sayyed Hossein Nasr (b. 1933) is widely recognized as one of the most influential contemporary scholars of Islamic philosophy, metaphysics, and comparative religion. Trained in both the natural sciences and the classical Islamic intellectual tradition, Nasr’s academic formation spans Iranian, Middle Eastern, and Western educational contexts (Nasr, 1996). This diverse background cultivated in him a critical awareness of the philosophical foundations underlying modern science and the intellectual resources available within Islamic thought to address its shortcomings.

In addition to studying physics and geology, Nasr immersed himself in Islamic philosophy, Sufism, and traditional metaphysics. This enabled him to critique the philosophical assumptions of modernity from within an Islamic framework. His intellectual trajectory was further shaped by the socio-political transformations of Iran—particularly the period leading to and following the 1979 Iranian Revolution—which heightened his concern with the spiritual and civilizational implications of modern scientific paradigms (Nasr, 2003).

The Perennial Philosophy

A central pillar of Nasr’s epistemological vision is his commitment to *perennial philosophy*—a perspective that posits the existence of universal metaphysical truths shared across the world’s major religious and wisdom traditions (Nasr, 1989). For Nasr, these truths constitute a transcendent framework through which reality, knowledge, and human existence must be interpreted.

According to Nasr, perennial philosophy rests upon several foundational principles:

- 1) Metaphysical Unity — Beneath the plurality of religious expressions lies a shared metaphysical structure that affirms the oneness of ultimate reality.
- 2) Hierarchical Ontology — Reality consists of multiple levels, ranging from the Absolute to the material world, with intermediate ontic realms mediating between them.
- 3) Sacred Knowledge — Genuine knowledge concerns not only empirical facts but understanding of transcendent realities, divine principles, and the spiritual meaning of existence.
- 4) Integration of Exoteric and Esoteric Dimensions — Every authentic tradition comprises an outward (exoteric) form accessible to all and an inward (esoteric) dimension accessible through spiritual discipline and inner purification.

For Nasr, these principles provide the philosophical foundation for a distinctly Islamic approach to science that transcends the limits of secular modern epistemology.

Scientia Sacra: Re-Sacralizing Knowledge

One of Nasr’s major contributions is his call for restoring *scientia sacra*—the knowledge of sacred realities—as the basis of Islamic scientific inquiry (Nasr, 1996). He argues that modern scientific frameworks are rooted in a secular worldview that excludes metaphysical meaning, thereby producing a partial and spiritually impoverished understanding of the cosmos.

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The Problem of Desacralization in Modernity

Nasr contends that modern science has undergone a profound desacralization, which has severed knowledge from its divine source and reduced nature to an object of quantitative analysis and technological manipulation (Nasr, 1996). This secular orientation not only neglects the spiritual significance of the natural world but also contributes to ecological destruction, moral alienation, and a loss of human dignity.

Modern science, in Nasr's view, embodies a worldview shaped by Enlightenment rationalism and secular humanism. These philosophical currents elevate human reason as the sole arbiter of truth and exclude spiritual insight as a legitimate epistemic source (Nasr, 1989). As a result, the modern scientific enterprise becomes vulnerable to ethical and existential crises.

The Vision of Sacred Science

In contrast, *scientia sacra* reorients scientific inquiry toward metaphysical principles. It treats the cosmos as a series of signs (*āyāt*) pointing to divine reality and understands scientific exploration as a form of spiritual contemplation. The natural world is thus perceived not merely as physical matter but as a symbolic manifestation of transcendent truths.

Under this framework, scientific knowledge becomes a means of cultivating spiritual awareness and deepening the human relationship with the Divine. Empirical investigation is not rejected but is situated within a larger metaphysical context that restores meaning and holistic purpose to scientific practice (Nasr, 1996).

Nasr's Critique of Modern Western Science

Nasr offers an extensive critique of the philosophical foundations of modern science, arguing that its dualistic separation between subject and object, along with its insistence on empirical rationalism, leads to an impoverished conception of reality (Nasr, 1989). He asserts that modern science is inseparable from the worldview of the Enlightenment, which upholds secular humanism and marginalizes metaphysical inquiry. This worldview, according to Nasr, fosters an anthropocentric orientation that prioritizes human technological domination of nature over spiritual harmony.

The outcome, he warns, is a civilization capable of extraordinary technological achievements but lacking in wisdom, moral grounding, and ecological balance.

The Concept of *Intellect* ('*Aql*) in Nasr's Epistemology

Nasr gives particular emphasis to the distinction between reason (*ratio*) and *intellect* (*al-'aql*) in the Islamic philosophical tradition. Whereas modern epistemology typically equates knowledge with rational analysis, Nasr argues that the Islamic concept of *intellect* refers to a universal, timeless, and divinely bestowed faculty capable of perceiving metaphysical truths (Nasr, 1996, pp. 88–102).

This *intellective* faculty is not limited to abstract reasoning; instead, it operates through spiritual intuition, inner illumination, and the purification of the soul. For Nasr, the highest form of knowledge arises not from discursive thinking but from participation in this universal intellect through contemplative practice and moral refinement (Nasr, 1996, pp. 95–102).

Consequently, scientific inquiry must be grounded in a synthesis of spiritual insight and empirical observation, restoring the unity between metaphysical truth and the study of the natural world.

4. Comparative Analysis: Convergences and Divergences

Fundamental Convergences: Shared Critique of the Science–Religion Dichotomy

Mahzar and Nasr share a foundational critique of the rigid separation between science and religion that has shaped modern Western epistemology (Alifa, 2023; Mughal et al., 2022). Both reject the notion that scientific knowledge must be epistemically neutral or devoid of metaphysical and ethical grounding. For them, this dichotomy is not a universal intellectual condition but a historically contingent development rooted in Western philosophical history.

Drawing upon Islamic intellectual heritage, both thinkers argue that authentic knowledge integrates rational, ethical, and spiritual dimensions. They contend that in the classical Islamic worldview, scientific inquiry was not detached from metaphysical or theological concerns, but embedded within them.

Integrated Vision of Knowledge

Both Mahzar and Nasr promote a holistic epistemology in which scientific inquiry must remain connected to moral and spiritual meaning. Mahzar articulates this through his model of Islamic Integralism, while Nasr frames it within his perennialist metaphysics and the doctrine of *scientia sacra*. Despite differences in vocabulary and emphasis, both assert that knowledge must reflect the unity and coherence of reality (Alifa, 2023; Mughal et al., 2022).

Affirmation of the Classical Islamic Tradition

A further point of convergence lies in their appreciation for the classical Islamic intellectual tradition. Both thinkers see the Golden Age of Islamic civilization as evidence that scientific and philosophical pursuits can flourish within a religious worldview (Saliba, 2007). They draw upon this historical legacy to critique the fragmented epistemic structures of modern science.

Critical Engagement with Modernity

Although critical of modern Western epistemology, neither Mahzar nor Nasr wholly dismisses modern scientific advancements. Both emphasize the need for a discerning engagement that accepts empirical achievements while interrogating the metaphysical

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assumptions underlying them (Aziz, 2022; Nasr, 1989). Their aim is not to discard modernity, but to reorient it toward a more holistic intellectual framework.

Key Divergences : Distinct Philosophical Orientations

A major point of divergence lies in their philosophical orientations. Mahzar adopts what may be described as a rational–integrative approach, employing *tawhīd* as a methodological principle to synthesize various domains of knowledge (Alifa, 2023). Nasr, on the other hand, embraces a traditionalist and esoteric framework grounded in metaphysical universalism (Mughal et al., 2022, pp. 148–152). Whereas Mahzar’s system leans heavily on rational articulation, Nasr’s framework draws upon spiritual intuition, metaphysical symbolism, and esoteric hermeneutics.

Different Epistemic Authorities

Mahzar assigns a central role to reason—though reason illuminated by the principle of *tawhīd*. In contrast, Nasr privileges *intellect* (*al-‘aql*) in its metaphysical sense, which transcends rational discourse and includes supra-rational modes of knowing (Nasr, 1996, pp. 88–102). This leads Nasr to view spiritual illumination as the highest epistemic authority, whereas Mahzar tends to emphasize structured rational analysis.

Varied Relationships with Modern Science

The two thinkers also diverge in their attitudes toward modern science. Mahzar seeks to “Islamize” modern scientific structures by infusing them with metaphysical and ethical principles derived from *tawhīd* (Mahzar, 2004). Nasr, however, argues that modern science is fundamentally shaped by secular metaphysics and therefore requires a more radical reorientation—namely, the restoration of a sacred cosmology (Nasr, 1989). This difference reflects Mahzar’s reformist orientation versus Nasr’s reconstructive approach.

Rational versus Spiritual Emphases

Mahzar’s model foregrounds methodological coherence and rational integration. Nasr, by contrast, emphasizes spiritual and metaphysical awareness as the foundation of scientific inquiry. In practical terms, Mahzar’s proposals appear more readily compatible with contemporary scientific institutions, whereas Nasr’s vision requires a broader reformulation of the philosophical underpinnings of science.

Divergent Positions on Religious Pluralism

Nasr’s perennialist position explicitly recognizes metaphysical truths across diverse religious traditions, opening the possibility of epistemic universality beyond Islam (Nasr, 1989). Mahzar’s system is more distinctly rooted in Islamic doctrinal foundations and does not explicitly endorse perennialist universality (Mahzar, 2004). This distinction has implications for how each thinker conceptualizes the universality or particularity of Islamic science.

Shared Theoretical Challenges : Ambiguities in Key Terminology

Both frameworks face challenges concerning the consistency and precision of key epistemological terms. Concepts such as “science,” “religion,” “Islamic knowledge,” and “epistemology” are employed in ways that at times lack terminological clarity (Alifa, 2023). This ambiguity complicates comparative analysis and may pose challenges for practical implementation.

Both thinkers claim universal validity for their frameworks, yet their ideas remain deeply shaped by particular historical, cultural, and intellectual contexts. This raises the question of whether their proposed models can function as universally applicable epistemologies or whether they remain contextually bounded (Mughal et al., 2022, pp. 155–156).

Finally, both approaches encounter difficulties when translated into concrete scientific practice. While they offer significant philosophical and metaphysical insights, their applicability in contemporary scientific institutions—laboratories, universities, and research policy—remains insufficiently elaborated (Aziz, 2022, pp. 55–62). Both thinkers therefore contribute more as theoretical architects than as methodological designers.

5. Critical Reflections and Evaluation

Critique of Armahedi Mahzar’s Framework

A central critique directed at Mahzar concerns the extent to which his system remains dependent on rationalism. Although he positions *tawhīd* as the metaphysical principle grounding his epistemology, the operational aspects of his framework rely heavily on rational synthesis (Sardar, 1991, pp. 110–125).

This dependence raises an important question: Does Mahzar genuinely transcend the rationalist assumptions of Western epistemology, or does he reproduce them under an Islamic vocabulary? In other words, the dominance of structured rational integration may undermine his intention to present a distinctly Islamic epistemology.

Another major concern relates to the practical viability of Islamic Integralism. While Mahzar succeeds in articulating an intellectually compelling framework, his writings offer limited guidance on how this epistemology could be operationalized within contemporary scientific practice. For example:

- 1) How should scientific methodology be restructured?
- 2) What criteria would distinguish “Islamic scientific inquiry” from conventional methods?
- 3) How can laboratories, universities, or scientific policies implement such a model?

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Without concrete methodological guidance, Integralism risks remaining a philosophical ideal rather than an applicable scientific paradigm.

A further critique is that Mahzar's insistence on subjecting all scientific inquiry to the criterion of *tawhīd* may generate a new form of methodological exclusivism. When every form of knowledge production must pass through a singular metaphysical filter, there is a possibility that intellectual creativity and empirical openness could be constrained (Kuhn, 2012, pp. 147–159). Thus, while promoting integration, Integralism could inadvertently create rigid boundaries that limit exploratory scientific inquiry.

Critique of Sayyed Hossein Nasr's Framework

A frequent criticism of Nasr is that he idealizes premodern Islamic intellectual traditions (Sardar, 1991). In portraying classical Islamic civilization as a nearly flawless model of integrated knowledge, Nasr tends to understate:

- 1) historical complexities,
- 2) internal debates, and
- 3) socio-political contingencies that shaped classical scientific practices.

This romantic framing may hinder critical assessment of how traditional metaphysics can be adapted to contemporary contexts.

Although *scientia sacra* presents a profound metaphysical vision, critics argue that Nasr does not provide sufficient clarity regarding its methodological implications for empirical science (Kuhn, 2012). For instance:

- 1) How should sacred metaphysics inform experiment design?
- 2) What would constitute a “sacred methodology”?
- 3) How can modern laboratories integrate spiritual principles?

Nasr's framework thus remains more philosophical than methodological, limiting its direct applicability to modern scientific settings. Nasr's heavy emphasis on metaphysical intuition, inner illumination, and esoteric hermeneutics may marginalize empirical and analytical dimensions of science. While spiritual insight enriches scientific worldview, empirical rigor remains indispensable. If overemphasized, Nasr's esotericism could lead to an imbalance in which empirical analysis is undervalued and scientific inquiry becomes detached from its methodological foundations.

Shared Limitations of Both Approaches

Both thinkers employ epistemological terms—such as “Islamic science,” “knowledge,” “metaphysics,” and “integration”—that at times lack analytical precision (Alifa, 2023). Without careful definition, these terms risk conceptual vagueness that complicates comparative analysis and empirical application.

Although both frameworks make universal claims about the nature of Islamic epistemology, their ideas are shaped by specific intellectual histories—Mahzar by Indonesian post-independence discourse, and Nasr by perennialist metaphysics (Mughal et al., 2022, pp. 155–156). This raises an epistemological tension between their universal aspirations and culturally situated origins.

Finally, both thinkers provide comprehensive philosophical architectures but limited actionable methodologies. Translating their frameworks into educational curricula, research protocols, scientific institutions, or technological innovation remains an unresolved challenge (Aziz, 2022, pp. 55–62). Thus, their contributions serve more as conceptual foundations for future scholarship rather than immediate blueprints for scientific practice.

6. Implications and Contributions to Contemporary Islamic Epistemology

Taken together, the epistemological projects of Mahzar and Nasr contribute to the ongoing reconstruction of the Muslim intellectual self-understanding. Their ideas demonstrate that Muslims are not compelled to choose between the legacy of their religious tradition and the contemporary scientific enterprise. Instead, they argue that an Islamic epistemology can simultaneously remain faithful to classical metaphysical commitments while engaging critically and constructively with modern science (Mahzar, 2004; Nasr, 1989).

Both thinkers therefore provide a foundation for recovering an Islamic intellectual identity that is neither reactionary nor assimilationist. Their work illustrates the possibility of embracing modern scientific developments without abandoning the spiritual, metaphysical, and ethical dimensions that have historically shaped Islamic thought.

Another major contribution of both frameworks lies in their philosophical critique of the modern scientific paradigm. By challenging assumptions such as value-neutrality, secularism, and the exclusive reliance on empirical rationalism, Mahzar and Nasr expose the metaphysical underpinnings of modern scientific practice (Kuhn, 2012).

Their critiques reveal that:

- 1) scientific knowledge is shaped by philosophical presuppositions,
- 2) the separation of facts and values is neither universal nor inevitable, and
- 3) modern science often carries implicit metaphysical commitments of its own.

These insights open avenues for rethinking science not merely as a technical enterprise but as a worldview that can—and should—be critically examined from within Islamic intellectual resources.

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Opening Space for Epistemic Pluralism

The epistemological models proposed by Mahzar and Nasr also create conceptual space for a more pluralistic landscape of scientific inquiry. Their work affirms that scientific knowledge does not have to be founded exclusively on Western secular metaphysics. Instead, alternative traditions—such as the Islamic philosophical and metaphysical heritage—may offer equally coherent frameworks for grounding scientific investigation (Sardar, 1991).

Although their approaches vary—Mahzar's more rationalist and systematizing, Nasr's more metaphysical and perennialist—both reject the epistemic monopoly of modern Western science. This pluralism opens possibilities for integrating insights from diverse intellectual traditions while preserving methodological rigor.

Implications for Science Education in the Muslim World

The ideas of Mahzar and Nasr carry important implications for reforming science education in Muslim-majority contexts. Their frameworks highlight the need for curricula that:

1. integrate historical and philosophical foundations of Islamic scientific thought,
2. acknowledge ethical and spiritual dimensions of scientific inquiry,
3. encourage critical engagement with modern scientific assumptions, and
4. foster a holistic understanding of the natural world (Aziz, 2022; Suparjo et al., 2021, pp. 234–251).

Such approaches could contribute to the development of educational models that not only teach scientific content but also cultivate reflective, ethically grounded, and spiritually aware scientific practitioners.

Their contributions thus offer valuable conceptual resources for reshaping how science is taught and practiced in the contemporary Muslim world.

VI. CONCLUSION

This study has examined and compared the epistemological frameworks of Armahedi Mahzar and Sayyed Hossein Nasr, two significant contemporary Muslim thinkers who seek to rearticulate the relationship between Islam and modern science. Despite differences in methodology and philosophical orientation, both share a common aspiration: to offer an alternative scientific worldview grounded in Islamic metaphysics, ethics, and intellectual tradition.

Mahzar demonstrates that *tawhīd* can serve as an integrative epistemic principle that unifies the diverse domains of knowledge. His model of Islamic Integralism attempts to harmonize scientific rationality with spiritual morality, thereby positioning Islam not as a barrier to scientific inquiry but as a comprehensive worldview capable of guiding it. However, the framework faces limitations, particularly regarding its heavy dependence on rational synthesis and its insufficient articulation of concrete methodological pathways for implementation in contemporary scientific practice.

Nasr, by contrast, advocates a reconstruction of science through the revival of *scientia sacra*, a sacred cosmology grounded in perennial metaphysical truths. His critique of modern science highlights its secular philosophical assumptions and its tendency toward desacralization. Nasr calls for the reintegration of spiritual insight and metaphysical awareness into scientific inquiry. Yet, his model also presents challenges, especially concerning its esoteric emphasis, the idealization of premodern intellectual traditions, and the vagueness surrounding its applicability for empirical research.

The comparative analysis reveals significant convergences: both thinkers reject the science–religion dichotomy, affirm the unity of knowledge, and critique the philosophical underpinnings of modern scientific paradigms. At the same time, notable divergences emerge, particularly in their sources of epistemic authority, their approaches to metaphysics, and their visions of how Islamic science should be reconstructed.

Overall, this study underscores that both Mahzar and Nasr offer valuable conceptual resources for rethinking science within an Islamic worldview. Their contributions help illuminate broader conversations in contemporary Islamic epistemology, including debates on the metaphysical foundations of knowledge, the role of spirituality in scientific inquiry, and the possibilities of epistemic pluralism beyond Western secular paradigms.

Future research may explore ways to operationalize their conceptual frameworks in the context of modern scientific institutions, educational systems, and technological innovation. By bridging philosophical discourse with practical implementation, subsequent scholarship can further advance the project of developing a holistic and spiritually grounded Islamic scientific epistemology.

REFERENCES

- 1) Alifa, A. Z. (2023). Epistemology of Islamic Integralism as a Solution to Building a Global Civilization. *Al-Irfan: Journal of Arabic Literature and Islamic Studies*. <https://ejournal.kopertais4.or.id/madura/index.php/alirfani/article/view/6934>
- 2) Aziz, H. (2022). Epistemology of the Integration of Religion and Science Qur'anic Perspective. *Tribakti: Jurnal Pemikiran Keislaman*, 33(2), 239–264. <https://doi.org/10.33367/tribakti.v33i2.2833>

The Epistemology of Islamic Science: A Comparative Examination and Critical Appraisal of the Ideas of Armahedi Mahzar and Sayyed Hossein Nasr

- 3) Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/QRJ0902027>
- 4) Descartes, R. (1977). *Meditations on first philosophy*. Hackett Publishing. (Original work published 1641).
- 5) Kuhn, T. S. (2012). *The structure of scientific revolutions (4th ed.)*. University of Chicago Press. (Original work published 1962).
- 6) Mahzar, A. (1987). *Pemikiran Islam dan masa depan iptek*. Majalah Aksara.
- 7) Mahzar, A. (2004). *Pendekatan integratif dalam membangun sains dan teknologi di dunia Muslim*. Mizan Publika.
- 8) Mahzar, A. (2012). *Generasi muda, sains, dan Islam*. In *Kumpulan esai pemikiran Islam*. Mizan Publishers.
- 9) Mardianto, Prof. (2024, April 8). Pendidik Inspiratif, Armahedi Mahzar (200). *Warta Garuda*. <https://wartagaruda.id/pendidik-inspiratif-armahedi-mahzar-200/>
- 10) Mughal, M. J., Ali, M. M., & Tahir, M. (2022). A critical study of the view of Sayyed Hosein Nasr on the Philosophical foundation of Isamic Science. *Trames. Journal of the Humanities and Social Sciences*, 26(2), 141–156. <https://doi.org/10.3176/tr.2022.2.02>
- 11) Munajah, N. (2022). The Concept of Integration of Science and Religion. *Al-Risalah*, 13(1), 108–117. <https://doi.org/10.34005/alrisalah.v13i1.1728>
- 12) Nasr, Husain. (2003). *A young Muslim's guide to the modern world* (3. ed). Kazi Publ.
- 13) Nasr, S. H. (1989). *Knowledge and the sacred*. State Univ. of New York Pr.
- 14) Nasr, S. H. (1996). *Religion and the order of nature*. Oxford University Press.
- 15) Saliba, G. (2007). *Islamic Science and the Making of the European Renaissance*. The MIT Press.
- 16) Sardar, Z. (1991). *Exploration of Islamic science*. Seagull Books.
- 17) Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- 18) Suparjo, Hanif, Muh., & Indiana, D. (2021). Developing Islamic science based integrated teaching materials for Islamic religious education in Islamic high schools. *Pegem Journal of Education and Instruction*, 11(4). <https://doi.org/10.47750/pegegog.11.04.27>



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