

Scientific Approaches In Al-Biruni's Kitab Al-Hind: A Pre-Modern Framework For Comparative Religion

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Abstract

This article examines the pioneering methodologies employed by Abu Rayhan al-Biruni in his comparative study of religions, with particular emphasis on his work *Kitāb al-Hind*. It explores how Al-Biruni's scientific approach – based on empirical observation, philological precision, and cultural empathy—set a precedent for future developments in religious studies. By analyzing his techniques within both historical and contemporary frameworks, the article argues for Al-Biruni's continued relevance in academic discourse. The study also evaluates his contributions to interreligious understanding and proposes directions for future research on non-Western foundations of comparative religion.

Keywords

Al-Biruni, comparative religion, scientific methodology, *Kitāb al-Hind*, interreligious dialogue, history of religions, religious studies, cultural empathy, philology.

Introduction

Abu Rayhan al-Biruni (973–1048 CE) is widely regarded as one of the most important polymaths of the medieval Islamic world, whose intellectual contributions span astronomy, mathematics, geography, and the study of religions. Among his many works, *Kitāb fī Taḥqīq mā li'l-Hind* (commonly known as *Kitāb al-Hind*) stands out as a foundational text in the comparative study of religion. Written after his extended stay in India, the work provides an extensive and structured analysis of Hindu religious doctrines, rituals, social customs, and cosmology.

Among his more than 100 works, *Kitāb al-Hind* (The Book of India), written around 1030 CE, stands out as a pioneering text in the comparative study of religion. In this encyclopedic account, Al-Biruni systematically documented the beliefs, rituals, cosmologies, literature, and scientific achievements of Indian civilization. (Mukhamedov, N., & Turambetov, N., 2023, pp.105-110). Importantly, his work was grounded in direct observation, linguistic competence, and a sustained effort to comprehend Indian religious traditions from the perspective of their adherents. He studied Sanskrit, consulted native scholars, and distanced himself from polemical tendencies, instead striving for objective representation and critical analysis.

At a time when religious difference often fueled conflict and theological exclusivism, Al-Biruni's methodology represented an intellectual stance. Although the discipline of comparative



religion as we understand it today would not be formally developed until the 19th century, Al-Biruni's work prefigured many of its central principles (Nematullo Mukhamedov, Nurulloh Turambetov, 2024, pp.267-270). His descriptive, cross-cultural, and philological orientation anticipated key elements in later scholarship, including the hermeneutic imperative to understand religious systems on their own terms (Sharpe, 1986), the rejection of ethnocentrism, and the use of historical context to explain doctrinal developments.

What sets Al-Biruni apart from his contemporaries is his methodologically rigorous and empirically grounded approach to the study of non-Islamic traditions. His reliance on primary sources in Sanskrit, use of direct observation, and interpretive neutrality reflect a striking anticipation of modern principles in comparative religious studies. Despite this, his contribution remains underrepresented in mainstream histories of the discipline, which often center on European thinkers such as Max Müller, Friedrich Max Schelling, or Ninian Smart (Sharpe, 1986; Smart, 1996).

Modern comparative religion, as outlined by Smart (1996), emphasizes descriptive neutrality, cross-cultural understanding, and methodological pluralism. Similarly, Eliade (1969) and Sharpe (1986) have noted the need to include non-Western paradigms in the academic canon. Al-Biruni's work aligns closely with these principles, yet is rarely acknowledged in standard comparative religion curricula or theoretical literature (Nematullo Mukhamedov, Nurulloh Turambetov, 2021, pp.68-73). This gap underscores the need to revisit Al-Biruni not only as a historical figure, but also as a methodological precursor whose work anticipates and complements contemporary theoretical frameworks.

This article aims to examine the scientific and analytical methods employed by Al-Biruni in *Kitāb al-Hind*, evaluate them through the lens of modern comparative religion, and argue for his inclusion in the foundational literature of the discipline. Through close textual and conceptual analysis, the study contributes to ongoing efforts to globalize and decolonize the history of religious studies.

This article seeks to examine the scientific and methodological underpinnings of Al-Biruni's comparative approach to religion, particularly as articulated in *Kitāb al-Hind*. In doing so, it highlights how his interdisciplinary methods and commitment to epistemic neutrality laid foundational groundwork for the study of religions as an academic field.

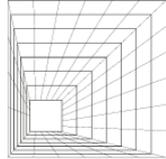
Main Part

Al-Biruni lived during the Islamic Golden Age—a period marked by intense scientific and intellectual exchange across the Muslim world. This era saw the translation and assimilation of Greek, Indian, and Persian knowledge into Arabic, the flourishing of major learning centers like Bukhara, Baghdad, and Khwarezm, and a unique environment for scholarly pursuits in both the natural and human sciences (Nasr, 2006, p. 41).

Born in 973 CE in the region of Khwarezm (modern-day Uzbekistan), Al-Biruni received his education in mathematics, astronomy, and languages. He was multilingual, mastering Arabic, Persian, Greek, and later Sanskrit, which enabled him to access diverse religious and scientific traditions. His intellectual versatility is evident in his over 150 authored works, with topics ranging from astronomy and mathematics to theology and pharmacology (Nasr, 2006, pp. 72–75).

Among his major contributions is *Kitāb al-Hind* (The Book of India), written during his time in India around 1030 CE, where he examined Hindu customs, cosmology, rituals, and beliefs. His scientific curiosity and respect for other cultures guided his approach. He emphasized direct observation and reading of primary sources in their original language, citing the *Bhagavad Gita*, *Vedas*, and *Puranas* throughout the text (Sachau, 1910, Vol. I, pp. 8–10).

Al-Biruni adopted a neutral tone, writing: “We shall not criticize them, nor shall we attempt to refute them; we shall simply describe” (Sachau, 1910, Vol. I, p. 7). This commitment to



objective representation distinguished him from many medieval polemicists. He used descriptive analysis rather than theological judgment, aiming to understand the beliefs of others on their own terms.

He also integrated Aristotelian logic and empirical observation into his studies. However, he emphasized that understanding different religious communities requires cultural sensitivity and intellectual fairness, thus bridging rational inquiry and ethical responsibility.

Al-Biruni's work reflects the intersection of intercultural engagement, linguistic depth, and methodological rigor. His contributions laid foundational elements for modern comparative religion, setting a precedent for unbiased and interdisciplinary religious scholarship.

Core Scientific Approaches in His Comparative Methodology

Abu Rayhan Al-Biruni was a polymath of the Islamic Golden Age whose work across astronomy, mathematics, geography, and religious studies reveals a pioneering intellect committed to empirical inquiry and intercultural understanding. Among his most remarkable contributions is his comparative study of religions, particularly in his seminal text **Kitab fi Tahqiq ma li'l-Hind** (The Book Concerning the Knowledge of Indian Things). In this work, Al-Biruni systematically examined Indian religion and culture using methods that would later become standard in modern religious studies.

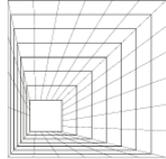
Central to Al-Biruni's methodology was his emphasis on primary sources and linguistic accuracy. He learned Sanskrit to read and translate Hindu scriptures such as the Vedas, Puranas, Bhagavad Gita, and the Manu Smriti into Arabic, thereby ensuring fidelity to the original concepts. As he himself stated, "I had to translate these books from Sanskrit into Arabic, with all the accuracy I could attain" (Al-Biruni, 1910, p. 10). This philological rigor foreshadowed the textual criticism and linguistic precision now standard in comparative religion.

Another hallmark of Al-Biruni's approach was his commitment to ethnographic observation. He spent years in India, engaging directly with scholars, practitioners, and local customs. His documentation of religious festivals, cosmological ideas, and caste rituals displays a methodological consistency with modern participant-observation techniques used in anthropology and sociology.

Al-Biruni also utilized a comparative framework that placed Indian traditions in dialogue with Islamic Kalam, Greek philosophy, Christian theology, and Zoroastrianism. For instance, he compared Platonic Forms to Hindu metaphysical concepts and found similarities between Advaita Vedanta and Islamic Sufi mysticism. He wrote, "The Hindus believe in the eternity of the world... These ideas may remind one of the Greeks" (Al-Biruni, 1910, pp. 23–24). This early attempt at cross-cultural comparison anticipates the structural logic of modern courses in comparative religion.

In addition, Al-Biruni differentiated between doctrinal teachings and popular religious practices. He noted that much of what was practiced by the Indian populace did not stem from scriptural authority but rather from cultural traditions, writing, "Much of what the common people believe is not found in the sacred texts, but in customs transmitted through generations" (Al-Biruni, 1910, p. 15). This distinction between theological doctrine and lived religion aligns with contemporary understandings of emic and etic perspectives in religious studies.

Finally, Al-Biruni applied rational analysis to theological claims. He examined complex doctrines such as karma, the transmigration of souls, and Hindu cosmology, relating them to Islamic and Greek philosophical reasoning. He acknowledged the value of Hindu logical systems, noting, "The Hindus, like the Greeks, have systems of logic and reason... one must examine their arguments carefully before accepting or rejecting them" (Al-Biruni, 1910, p. 31).



His intellectual humility and dedication to critical thinking reflect the epistemological integrity now expected in academic research.

Al-Biruni's work represents a rare synthesis of linguistic mastery, empirical observation, cross-cultural comparison, and rational analysis. His legacy establishes him not merely as a historian of religion, but as one of its earliest scientific practitioners. The methodological principles he employed continue to inform contemporary discourse in comparative religion, cultural anthropology, and interfaith dialogue.

Contribution to the Discipline of Comparative Religion

Al-Biruni's work marks a foundational contribution to the scholarly discipline of comparative religion, both in terms of method and spirit. At a time when religious polemics were dominant, he established a tone of neutrality and intellectual respect. Rather than framing non-Islamic beliefs in adversarial terms, he sought to understand them within their own frameworks (Al-Biruni, 1910, p. 7). This methodological commitment prefigures the neutrality and descriptive accuracy now regarded as essential in academic religious studies.

His recognition of religious pluralism is especially significant. Al-Biruni acknowledged that different societies articulate truth through distinct metaphysical and ethical systems. Instead of reducing Hinduism to Islamic categories, he approached it as a coherent worldview requiring immersion and engagement with original sources. He insisted on accessing the Vedas, Puranas, and local oral traditions in Sanskrit (Sachau, 1910, pp. 8–10), anticipating what would later be called the emic perspective in anthropology—the view from within.

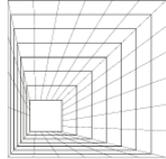
Al-Biruni also contributed to the methodological ideal of religious universals. Through his comparisons of cosmology, ethics, and metaphysics across Hindu, Islamic, and Greco-Roman traditions, he implicitly explored themes common to all religious worldviews—such as the soul, divine justice, and cosmological order. His exploration of these shared elements laid the groundwork for the later structuralist approaches of thinkers like Ninian Smart and Mircea Eliade.

Esteemed orientalist I. Yu. Krachkovskiy, in assessing Beruni's scientific acumen, stated that it would be simpler to enumerate the scientific disciplines that did not pique Beruni's interest than those that did. Western scholar M. Meyerhoff further emphasized Beruni's prominence, asserting that Beruni should be recognized as the most distinguished among the polymaths who exemplified the scientific advancements in the Muslim world (Abduhalimov B. 2002, p. 44).

The esteemed American science historian, Sarton, characterizes the 11th century as the "Age of Beruni." This high and justified appraisal is primarily attributable to the unparalleled contributions of this eminent scholar to the advancement of science. It is noteworthy that Beruni demonstrated exceptional impartiality and veracity in his scientific inquiries, as well as in his assessment of historical events and his contemporaries. Despite enduring significant hardship throughout his life and facing challenges towards its end, Beruni remained steadfast in his convictions, reflecting his unwavering commitment to his spiritual ideals (Mukhamedov, N., & Turambetov, N., 2023, pp. 322-325).

The Indian scholar Hamid Reza said about Beruni: "None of the authors of the Middle Ages and modern times could achieve the achievements achieved by Beruni in understanding the complex issues of Indian culture in a deep scientific spirit. It consists of his contribution to culture and science". Indian academic Hamid Reza has lauded Beruni's unparalleled understanding of the intricate aspects of Indian culture, attributing it to his deep scientific approach. Beruni's contributions to culture and science are noteworthy (Bulgakov P.G. 1973, p. 52).

Abu Rayhan Beruni is recognized as a foundational theorist in the realm of modern science, alongside scholars such as Muhammad Musa Khorezmi (Nematullo Mukhamedov, Nurulloh



Turambetov, 2022, pp. 606-615), Ahmad Farghani (Mukhamedov H., 2015, p.3-5), Abu Nasr Farabi, and Abu Ali ibn Sina. As a poet, he is celebrated for his lyrical and epic poetry from the Samani period, with his works standing alongside those of Rudaki, Farruhi, Shahid Balkhi, Daqiqi, and Abu Zaroa. In the Western context, Beruni is a prominent scientist, comparable to Shahrastani, Ibn Hazm Andalusi, and Abul Hasan Omiri, particularly in the domain of religious studies.

Beruni exhibits a significant degree of religious tolerance and maintains an unbiased stance towards individuals of different faiths. His work contains recurrent affirmations of his faith in God and the prophet. However, he refrains from engaging in abstract knowledge, focusing instead on issues directly pertinent to human existence, encompassing both material and spiritual culture. Beruni places emphasis on objective facts that he has personally observed and assessed without prejudice or bias. As he often stated, "Truth does not obey passion" (Muminov, I. 1973, p. 43).

Furthermore, Al-Biruni's work pioneered field-based research. His decade-long residence in India and direct engagement with Brahmins and laypersons constitutes one of the earliest examples of participant-observation in religious studies. This empirical engagement gave *Kitab al-Hind* a depth of insight unmatched by many of his contemporaries, establishing it as a proto-ethnographic text.

Lastly, his insistence on rigorous textual analysis through cross-linguistic comparison made non-Islamic traditions accessible to a broader intellectual community. By translating core Hindu texts into Arabic and explaining them without distortion, he helped initiate an interreligious scholarly discourse that bridged civilizations. This integration of textual, ethnographic, and rational approaches remains the hallmark of comparative religion as a discipline.

Contemporary Relevance of Al-Biruni's Methodology

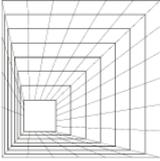
The intellectual legacy of Abu Rayhan al-Biruni remains deeply relevant to the methodological principles of modern comparative religion. His integration of empirical observation, linguistic precision, and hermeneutic neutrality continues to resonate with current approaches to religious scholarship.

Al-Biruni's comparative method prefigures essential features of contemporary scientific inquiry in the humanities. His insistence on direct engagement with primary sources—especially through his study of Sanskrit to access the Vedas, Puranas, and other Hindu scriptures—demonstrates a clear commitment to avoiding reliance on hearsay or polemical sources (Sachau, 1910, pp. 7–10). This philological rigor, centered on engaging with original texts in their native language, aligns with current academic norms in textual and historical studies.

Crucially, Al-Biruni's approach was marked by an early form of epistemological humility. This phenomenological posture anticipates later approaches advocated by figures such as Ninian Smart (1996, pp. 16–17), who emphasized the importance of describing religious phenomena without evaluative bias.

Moreover, Al-Biruni's work provides a foundational model for interfaith understanding. His respectful treatment of Hindu cosmology and theology, as well as his attention to conceptual parallels—such as shared beliefs in a transcendent creator—offer early examples of dialogical engagement across religious boundaries. These aspects of his scholarship can inform modern interreligious dialogue efforts, such as those supported by UNESCO and KAICIID, which emphasize empathy, textual integrity, and cultural understanding (Khan, 2009, pp. 8–10).

His influence also extended within Islamic intellectual traditions. Later Muslim thinkers such as Ibn Khaldun and Shah Waliullah inherited the tradition of *adab al-baḥṭh wa al-munāzara* (the etiquette of scholarly disputation), which is reflected in Al-Biruni's balanced and textually



grounded method (Nasr, 2006, p. 112). By demonstrating that one could engage critically with non-Islamic traditions while maintaining Islamic theological commitments, Al-Biruni set a powerful precedent for models of Islamic pluralism that remain relevant in the contemporary discourse.

Finally, Al-Biruni's legacy is increasingly acknowledged in global academic discourse. His methods resonate with current postcolonial approaches that seek non-Eurocentric genealogies for the comparative study of religion. His use of philology, ethnography, and historical contextualization positions him as a proto-comparativist whose interdisciplinary approach continues to inform religious studies, anthropology, and intercultural philosophy.

Conclusion

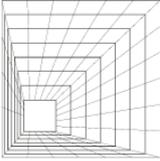
Abū Rayḥān al-Bīrūnī's methodological contributions represent a significant yet underrecognized foundation for the academic study of comparative religion. His combination of linguistic precision, empirical observation, and interpretive neutrality anticipates key elements of modern religious scholarship. By engaging deeply with Hindu texts and traditions through direct contact, Al-Bīrūnī practiced what later scholars like Smart (1996) and Sharpe (1986) define as descriptive, cross-cultural, and phenomenological approaches.

His refusal to impose polemical judgments, along with his recognition of internal diversity within religious systems, offers a model still relevant to today's interreligious studies and postcolonial discourse. Rather than viewing his work as a historical anomaly, scholars should reassess *Kitāb al-Hind* as an early example of rigorous, interdisciplinary research.

Future studies can deepen this reassessment by comparing Al-Bīrūnī's framework with 20th-century theories such as Eliade's (1969) structural comparativism or Smart's dimensions of religion. Integrating Al-Bīrūnī into contemporary curricula would not only diversify the canon but also enrich the methodological debates in comparative religion and global humanities.

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