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The Landscape of the Interplay between Religion and Science: The Experience of Islamic Discourse

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Abstract

This study explores current viewpoints on how science and Islam can coexist in the Islamic context, delving into the dynamic conversation at the intersection. It discusses key figures and occasions influencing the interaction between religion and science in Islam, following the dynamic interplay from the modern to post-modern periods. One of the findings is that scholars who initially brought these discussions to the forefront in the modern age, such as Sir Syed Ahmed Khan, Jamal al-Din al-Afghani, and Muhammad Abduh, coincided with the rise of nation-states and the dissolution of the caliphate in 1924. The paper also delves into the ideas of Tantawi Jawhari's "scientific miracle" and Naquib al-Attas's "Islamization of science and knowledge." It also sheds light on the ongoing discourse that aims to synthesise these domains and promote interdisciplinary convergence, particularly in the areas of religion and science.

Keywords: *Science, Religion, Islam, Scientific Miracles, Islamization of Knowledge.*

INTRODUCTION

The religion and science debates in the West are pictured by the departure of scientists and thinkers from the Church. This article will first examine the history of religion-science debates, with the expectation that Islam will also be the subject of studies on religion and science, although it is not Christian-centred, and the discussion must be handled holistically. In addition, to understand the background of today's debates, it is necessary to look at the historical background.

The debates on Islam and science, which constitute the main subject of this study, and their projections in the modern period are historically based on the end of the caliphate, with the influence of the leading Islamic thinkers of the period. The approach of these thinkers to "Western science" within the framework of Islam and their thoughts on what attitude they should take towards this science are remarkable. Following this, the critique of the problems encountered today and the contributions of a few critical thinkers to the discourse will be evaluated.

HISTORICAL PREFACE OF SCIENCE AND RELIGION IN THE MODERN ERA

The relationship between science and religion has been an ongoing debate since the 16th century, particularly in Europe, shaping the understanding of the cosmos, scientific methodology, and the complicated connections between religious and scientific truths. The contributions of pivotal figures like Nicolaus Copernicus, Francis Bacon, Galileo Galilei, René Descartes, Isaac Newton, and Albert Einstein have revolutionised scientific thinking and challenged established religious beliefs.

Most Europeans in the Middle Ages believed that the Earth was the centre of the cosmos and that planets and stars revolved around it in concentric shells of ether, as proposed by Aristotle. Catholic theologians incorporated these views into biblical passages. Copernicus proposed a system where planets orbited the Sun, leaving from "theological" physics and cosmology and using Islamic astronomers' mathematical techniques and updated Ptolemaic models (Campbell & Looy, 2009: 102). Copernicus' heliocentric theory contradicted the Church's geocentric position by placing the Sun at the centre of the solar system, rather than the Earth. De

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revolutionibus orbium coelestium (On the Revolutions of the Heavenly Spheres, 1543), a major astronomical revolution, was opposed by religious authority because it challenged their teachings.

Muslim astronomers made significant contributions to astronomy long before Copernicus presented his heliocentric model. Islamic scholars played a crucial role in preserving and translating ancient Greek works on astronomy and mathematics, which included the geocentric models proposed by Ptolemy and Aristotle. They also criticised Ptolemy's model of the universe and provided valuable data and techniques that influenced later astronomers, including Copernicus. Ibn al-Shatir's (1375 CE) lunar model turned out to be identical to the one proposed by Copernicus around 200 years later (Saliba, 2007: 144). Or, more accurately stated, the planetary models of Copernicus, appearing 150 years after the time of Ibn al-Shatir, are duplicates of the models developed by the Maragha (the observatory in western Iran) astronomers (Huff, 2003: 51).

When these and all other Muslim scientists contributed to various fields of science, science was not considered to contradict the Qur'an. Similarly, in the early history of churches, there was no conflict between scientific advancements and religious beliefs. However, the emergence of figures like Copernicus, Galileo, and subsequent thinkers is the starting point of tension between scientific discoveries and religious doctrines. This period also saw the rise of the "methodology," accompanied by diverse interpretations and concepts. One key aspect of the "methodology" is the inclination to distance itself from "theology."

Francis Bacon questioned Aristotelian philosophy as the final authority on nature after Copernicus. Bacon is credited with creating the modern scientific method in Novum Organum, which emphasises direct observation and experimentation to acquire particular observations of nature (Campbell & Looy, 2009: 74-75). Bacon argues in his book that religious authorities typically saw scientific discoveries that questioned their beliefs as impious or heretical (Bacon, 1901: 48). The religious worldview in his time, which relies on supernatural explanations, disagrees with the scientific approach, which uses actual evidence and reason to explain natural events.

While Bacon, as a natural philosopher, recognised the significance of religion, he argued that science and religion should not be mixed indiscriminately. He proposed an analogy of "two books," where knowledge of the natural world was attainable through reason and observation, while knowledge of God could only be obtained through divine revelation in the Bible. Bacon also distinguished between religion and science using the analogy of a chess game. He compared the rules of chess, which must be accepted without dispute, to religion, while learning how to play skilfully represented a scientific and rational process (Bacon, 1893).

Galileo Galilei continued the same discourse with works like Dialogue Concerning the Two Chief World Systems and his Letter to the Grand Duchess Christina of Tuscany (1615). His improved telescope observations supported Copernicus' heliocentric model but contradicted Old Testament passages, leading to theologians' criticism (Campbell & Looy,, 2009: 176-177). Galileo saw no conflict between his religious beliefs and his scientific ideas because God is the author of both the Book of Nature and the Book of Scripture. However, the holy book's role is to lead to humans' spiritual and moral development; it does not provide scientific facts (Golshani, 1998: 3-4). He proposed interpreting the Bible beyond its literal meaning when discussing physics and natural phenomena, challenging the Church's entrenched geocentric beliefs (Galilei, 1997: 4).

The questioning of the prevailing Aristotelian natural science continued with René Descartes. He sought to reconcile religion and science in works like Discourse on the Method (1637) and Meditations on First Philosophy (1641). He believed reason and scientific inquiry were crucial for understanding the natural world, while religious matters should rely on faith and divine revelation. Descartes argued for the harmonious coexistence of these domains, asserting that their truths should not conflict but contribute to a comprehensive understanding of the world. His theistic metaphysics formed the foundation for his mechanistic view of physics (Campbell & Looy, 2009: 121-122).

In essence, the endeavours of Bacon, Galileo, and Descartes heralded a new era of thinking that significantly impacted the Western world, prioritising empirical inquiry over theological doctrine. This departure from religious dominance and the rise of methodology became symbolic of modern intellectual thinking. Rather than relying solely on theological explanations, they emphasised the importance of empirical observation and

experimentation to arrive at truth. This emphasis on methodological rigour and empirical evidence differed from the theology that had previously held sway.

These thinkers also questioned the notion of anthropocentrism, challenging the prevailing worldview of their time. Their contributions led to the development of methodology and a mechanistic interpretation of nature, the universe, and various aspects of life. This shift towards methodology represented a departure from the mediaeval period when religious authorities often controlled knowledge and scientific methods. The result reshaped fundamental concepts like authority, freedom, and the relationship between scripture and science in the early modern period.

With the advent of modern science in Western Europe, Isaac Newton, after Copernicus, Kepler, and Galileo, presupposed the Two-Books Model. According to this model, it is assumed that nature, as science interprets it, constitutes a book, a text describing the mind of God as the creator. The second book, the Bible, shows God's redemptive intention. As a matter of fact, during the period after the New Testament but before the rise of modern science, church fathers recognised the knowledge of God both in nature and in scripture. However, with the emergence of modern science, nature now serves as a new interpreter, unveiling the divine mind behind creation (Peters, 2018: 13).

Today, many Muslim scholars emphasise that the Western world has adopted a predominantly secular stance, seemingly unconcerned with reconciling science and religion. These scholars propose a paradigm similar to The Two-Books Model within Islam. Remarkably, a parallel can be drawn to Western history, particularly with figures like Copernicus and Galileo, where the focus should not solely be on determining who came first but rather on understanding who deviated from the path these early scientific pioneers set. It is worth highlighting that these early Western thinkers maintained a religious faith. As a result, it is implied that reconciling two books is not confined to Islam alone.

Returning to Newton, his theological manuscripts reveal his belief in natural theology. His The Mathematical Principles of Natural Philosophy (1687) represented a significant turning point in the religion-science connections. While Newton's laws of motion and universal gravitation did not directly challenge religion, they established a new scientific paradigm. He believed natural philosophy could prove God and discussions about God were essential to nature studies. Newton used inductive reasoning to interpret prophecies, identifying analogies between nature and scripture. He also believed the original religion worshipped one God and studied nature (Campbell & Looy, 2009: 257).

As we move chronologically through the discussion of science and religion, we come across Charles Darwin, claims that science is so unimportant to religion that it is hard to establish even places of contact, let alone conflict (Golshani, 1998: 71). Darwin's On the Origin of Species (1859) challenged creationism and sparked controversies by proposing the hypothesis of evolution by natural selection. Darwin disagreed with Christians about divine design, providence, and purpose in nature. Darwin gradually lost faith due to theological issues like inherent evil and damnation. He identified as agnostic, viewing a detached and deistic understanding of God as more rational (Campbell & Looy, 2009: 118).

Despite certain aspects of Darwin's theory being proven wrong, the concept of natural selection remains influential and contentious. Progressive Christians have reconciled with Darwin's ideas by reinterpreting the Bible. However, many Christians strive to uphold the Biblical account by critiquing or adjusting the theory of evolution. The conflict arises because the Biblical writers had misconceptions about the origins of things, and science has proven certain aspects of those misconceptions to be inaccurate (Golshani, 1998: 72).

As for Albert Einstein, a renowned physicist who revolutionised our understanding of the universe, his most famous work is his theory of relativity, which challenges Newtonian mechanics and redefines space and time as a four-dimensional continuum. He received the Nobel Prize for explaining the photoelectric effect, an essential phenomenon in developing quantum mechanics. However, he had reservations about some aspects of quantum theory. Regarding quantum theory, Einstein disagreed with the probabilistic nature of the theory, famously stating, "God does not play dice." (Golshani, 1998: 17). He believed the universe should adhere to deterministic principles, where definite causes and not random probabilities govern events. This deterministic

view contradicted quantum mechanics, which held that certain occurrences were fundamentally uncertain and could only be represented by probability distributions. Einstein's theological objections to quantum theory stemmed from its apparent lack of order and predictability in reality. He believed a coherent and predictable universe was divinely designed. He sought a deeper understanding of reality that would reconcile scientific principles with his theological worldview.

Getting back to Darwin, his insistence that his theories be supported by concrete empirical evidence helped to draw attention to the crucial and controversial issue of what exactly qualifies as science. As Thomas Kuhn has noted, there are many levels of dogmatism regarding fundamental beliefs in scientific study. In Kuhn's opinion, this dogmatism positively advances the goals of science (Ziadat, 1986: 107-108).

In 1962, Kuhn's seminal work, The Structure of Scientific Revolutions, introduced a new perspective on the nature of scientific progress. Kuhn argued that scientific advancement occurs through paradigm shifts rather than a steady accumulation of knowledge. According to Kuhn, scientists work within specific scientific frameworks or paradigms until a revolutionary change in understanding occurs, leading to a new paradigm. Kuhn's ideas challenged the notion of a linear progression in science and emphasised the importance of paradigm shifts in driving scientific breakthroughs.

By 1996, it was clear that the debates on Darwin's theory of evolution continued, and these debates played an active role in efforts to reconcile science with religion. Pope John Paul II delivered an address affirming the compatibility of evolutionary theory with Catholic teachings and acknowledging its validity in explaining the evolution of life on Earth. However, he rejected the application of evolutionary theory to the human soul, which he believed resulted from a separate and unique creation (John Paul II, 1996). This conciliatory statement highlighted the Catholic Church's willingness to engage with scientific theories while maintaining its theological principles.

Efforts to reconcile Christianity with evolution also continued in sectarian terms. Peter Harrison's work, The Bible, Protestantism, and the Rise of Natural Science (1998), presented an argument connecting Protestant theological conceptions of nature and humanity to the emergence of science in the seventeenth century. Harrison contended in his book that Protestant beliefs, such as the emphasis on individual interpretation of scripture and the idea of a personal relationship with God, created an intellectual environment conducive to pursuing natural knowledge (Harrison, 1998: 95, 99-100). His ideas challenged the traditional warfare model that depicted religion and science as perpetually in conflict.

Furthermore, Harrison suggests that the concept of 'religion,' subject to scientific study and explanation, reveals significant transformations in understanding science and religion between the Middle Ages and modern times. During the mediaeval era, the notion of a scientific investigation into "religion" would have been incomprehensible since "science" and "religion" (or scientia and religio in Latin) were viewed as virtues or qualities of character (Harrison, 2015: 83-84).

In the West, as many as those who try to reconcile religion and science —perhaps even more so— those who conflict with them have also found their spheres of influence. The most prominent member of the New Atheist movement, Richard Dawkins, published The God Delusion in 2006. In this book, Dawkins argues that religious claims, including the existence of God, are testable scientific hypotheses. Dawkins aimed to challenge and debunk religious beliefs by applying scientific reasoning and empirical evidence. His work stimulated intense debates surrounding the relationship between science and religion.

Religion and science conflicts gained institutional and academic orientation in the early 2000s. The Vatican Observatory and the Center for Theology and the Natural Sciences (CTNS) in Berkeley, California, co-edited Scientific Perspectives on Divine Action in 2008 after a series of research conferences. The conferences examined divine intervention and its relevance to modern sciences, including quantum physics and neuroscience. The six-volume book summary of these sessions sheds light on science-religion discussion. The Divine Action Project (DAP) has greatly influenced the divine action debate in science and religion.

As the exploration of the interplay between religion and science continues, academic institutions and research centres foster a deeper understanding of this complex relationship. One such influential centre that has emerged

as a prominent hub for research in this field is The Ian Ramsey Centre for Science and Religion (IRC). Established at the prestigious University of Oxford in 2008, this centre promotes interdisciplinary dialogue and advances knowledge about the intricate interactions between science and religion.

IRC and similar institutions emphasise Christianity while studying religion and science, which may be an issue. Christianity has undeniably shaped Western intellectual history and its relationships with science, but the discourse between religion and science should include a wider range of religious traditions and perspectives.

The relationship between religion and science should go beyond Christianity. Exclusively focusing on Christianity risks sustaining a Eurocentric and Western-centric view of this complex connection and ignoring other religious traditions' contributions. Instead, it should include varied theological, philosophical, and cultural beliefs.

Efforts to foster interdisciplinary dialogue between science and religion should aim to engage scholars and practitioners from various religious backgrounds and traditions. These institutions can promote a more diverse and stimulating interchange of ideas by involving people from different faiths, helping to grasp the complex relationship between religion and science.

ISLAM AND SCIENCE: THE INTERSECTION OF KNOWLEDGE AND FAITH

In Muslim countries, science and religion are multifaceted, coexist and clash. Historical and epistemological communication between these two shaped science-Islam distinctions. Socio-institutional variables shaped science-Islam interactions in many cultural arenas. Theological disputes shaped scientific practices as well as religious and philosophical beliefs. Religious scholars and intellectuals evaluated scientific disciplines and their relationship to religion. Here, we shall examine thinkers who discussed Islam and science and their works.

Key figures and historical events have significantly shaped the interaction between religion and science within the Islamic context. Some prominent Muslim thinkers, like Jamal al-Din al-Afghani, Sir Syed Ahmad Khan, Muhammad Abduh, Rashed Rida, and Tantawi Jawhari, played crucial roles in influencing the discourse on Islam and science before the dissolution of the caliphate in 1924. This period coincided with the emergence of nation-states, and their contributions have had a lasting impact on discussions surrounding the relationship between Islam and scientific inquiry.

The engagement with science in the modern Muslim world is a response to Western science rather than an indigenous aspect of Islamic culture, as there is a significant absence of modern scientific culture within Muslim societies (Dallal, 2010: 160). We see an example of this when Jamal al-Din al-Afghani entered into a discussion with the French Orientalist Ernest Renan about the relevance of Islam to science. In response to Renan's article published in 1883, claiming that Arabs and Semites, including Muslims, are inherently hostile to philosophy and science, describing Islam as "the heaviest chain that humanity has ever carried" (Renan, 1883: 273), al-Afghani said that all religions can be intolerant in their ways, but he also argued that just as European rational thought overcomes Christian dogma, Muslims, given the opportunity, can likewise overcome the dogmas of their religion and embrace scientific thinking (Keddie, 1972: 189-199).

Al-Afghani published essays criticising Muslim materialists, particularly those who followed Sir Syed Ahmad Khan. "The Refutation of the Materialists is the first of Afghani's writings in which he presents himself as a champion of Islam against heretical and Western liberal tendencies. At the same time, however, he was continuing to write reformist articles." (Keddie, 1972: 151). He suggests that Sir Syed Ahmad Khan's ideas on naturalism were subjects of criticism and debate among Muslim thinkers during that time. Besides, Al-Afghani contributed significantly to the discussion on Darwin's theory of evolution among Muslims. His main concern was not Darwinism's scientific aspects but the Neichiri sect's political implications, founded by Sir Syed Ahmad Khan in India. Al-Afghani accused Khan and his followers of being British agents who undermined the unity and interests of Muslims in India. He rejected human evolution while seemingly accepting natural selection in other aspects (Dallal, 2010: 168).

Sir Syed Ahmad Khan, an early proponent of exploring the intersection of Islam and science, sought to address the relationship between Quranic verses and Greek concepts in his work Tafsir al-Samawat. This booklet,

originally published as an article in Tahzib-ul-Akhlaq in 1857, delves into the interpretation of specific Quranic passages seemingly incongruent with Greek notions present in Ptolemy's Almagest (al-Majisti) (Nizami, 1974: 92-93). His efforts laid the cornerstone for future discussions on harmonising scientific knowledge with Islamic teachings.

Later Islamists, including Hasan al-Banna, Sayyid Qutb, and Abu al-A'la al-Mawdudi, also emphasised the importance of science and technology for the revival of Muslim societies. They accept Western science as a universal and historical product, considering it essential for empowering Muslim communities in their political and social struggles (Dallal, 2010: 161-162).

Following the end of the caliphate, the post-caliphate era witnessed two critical developments in Islam and science. The first was the exploration of "i'jaz," which refers to scientific miracles in the Quran. Some scholars, like Tantawi Jawhari, Said Nursi, and Maurice Bucaille, have been instrumental in researching and promoting the idea that the Quran contains profound scientific truths that were only later discovered by modern science. In the same century, and perhaps earlier, scholars such as Muhammad Abduh and Muhammad Iqbal proposed a harmony between Islam and science. These figures proposed interpretations of the Qur'an that seemingly predicted modern scientific discoveries. This perspective advocates integrating religious and scientific knowledge, emphasising the harmony between the Qur'an and science.

Influenced by figures like Sir Syed Ahmad Khan, Jawhari played a significant role in the fusion of science and Islamic tradition. His Quranic commentary, Al-Jawahir fi Tafsir al-Qur'an al-Karim, is an early endeavour to harmonise scripture and science within the Muslim world. Through his twenty-six-volume work, titled Al-Jawahir fi Tafsir al-Qur'an al-Karim (The Gems in the Interpretation of the Noble Qur'an), Jawhari emphasised a notion that resonates in contemporary discussions concerning the Quran and science. He pointed out that the Quran contains approximately 750 verses directly addressing the physical universe, whereas it has no more than 150 verses about legal matters (Dallal, 2010: 170). Thus, Jawhari urged Muslims to reorder their priorities and accord precedence to the scientific verses, particularly given the current era's scientific context.

Another scholar who has significantly contributed to the understanding of the relationship between scriptures and modern science is Maurice Bucaille. His book The Bible, the Quran, and Science presented a comparative analysis of verses from the Quran and the Bible, concluding that the Quran had fewer scientific inconsistencies (Bucaille, 1995). This work profoundly impacted the Muslim world, encouraging a new approach to scriptures, where people began investigating their conformity with modern science. This approach extended to hadith texts, where individuals sought to explore their compatibility with scientific discoveries.

In contrast to premodern debates on the autonomy of science, modern and contemporary Islamic discourses on Islam and science often assert a relationship between the two. This joint approach is the assertion of the scientific miracle of the Qur'an, claiming that modern scientific findings were predicted or alluded to in the Qur'an. This view emerged in the 19th century and gained traction among Muslim intellectuals in the 20th century.

The second significant development during this era was the "Islamization of Science and Knowledge" movement, which involved scholars such as Isma'il Raji al-Faruqi, Naquib al-Attas, AbdulHamid AbuSulayman, and Mohd. Kamal Hassan. These individuals sought to integrate Islamic principles and values into the study and practice of science, fostering a unique Islamic approach to scientific pursuits.

Mohd. Kamal Hassan acknowledged the divide between religious and scientific minds in the modern Muslim world, advocating for integrating scientific education within Islamic religious studies to bridge the gap. He criticised the fragmented approach of modern science and stressed the importance of a holistic perspective, which prevents the dehumanisation of science and aligns with the Qur'an's encouragement to observe and contemplate nature (Hassan, 1985: 202). He argued that "the Koranic worldview is characterised by Tawhid," emphasising the absolute oneness of God and promoting the objective study of the natural world (Hassan, 1985: 191-193).

The three-volume book Natural Science from the Worldview of the Quran, edited by M. Kamal Hassan, further applies his idea of integrating Islamic science into education. It explores the harmonious relationship between

Islam, knowledge, and scientific progress, presenting the natural sciences as a means to deepen one's faith in Allah and inspiring a new generation of Muslim scientists.

Syed Naquib Al-Attas, one of the pioneers of the general "Islamization of Knowledge" movement, discusses in his book Islam and the Philosophy of Science the meaning of religion in Islam and its relationship with science and philosophy. According to Al-Attas, science is limited to observable phenomena and subject to change. He advocates for critically evaluating scientific statements and general conclusions in modern philosophy by examining their methods, concepts, presuppositions, and social relations (Al-Attas, 1989: 1-4).

Al-Attas delves into the concepts of ta'wil (allegorical interpretation) and tafsir (interpretation of apparent meanings) in the Qur'an. He sees science as a form of ta'wil, interpreting empirical phenomena in nature, and believes it should be based on tafsir, the understanding of the apparent meanings of the Qur'an (Al-Attas, 1989: 30-34). His scientific methodology involves analysing the meaning of words and key concepts in the Qur'an.

Isma'il Raji al-Faruqi and AbdulHamid AbuSulayman developed the concept of Islamic science and education, advocating for integrating modern disciplines according to Islamic values and worldviews (AbuSulayman, 1997: 18). However, questions arose regarding whose interpretation of Islamic values should guide these changes.

M. Zaki Kirmani, who has written works on Islam and science and is also seen in the movement of the Islamization of knowledge, founded the Muslim Association for the Advancement of Science, associated with the Centre for Studies on Science. He emphasises the significance of integrating ethics, Islamic philosophy, and epistemology into scientific methodology (Kirmani, 2011). Kirmani, in his article, challenges the notion that the scientific method is the only way to understand reality. He suggests that different levels of reality require other forms of investigation, as understood in Islamic thought. Kirmani also highlights institutional challenges through weaknesses in modern universities that hinder the proper growth of science. He proposes that Islamic "madrasahs" could provide an environment better suited for advancing science in line with Islamic values. Thus, Kirmani explores how Islamic values shape the scientific process and emphasises the need for a supportive environment rooted in these values for the growth of science within an Islamic framework. He heavily emphasises Islamic values shaping the scientific process, potentially neglecting the importance of broader factors such as socioeconomic conditions, political structures, and global scientific advancements.

M.A. Kettani, the representative of another Islamic and scientific organisation, the Islamic Foundation for Science, Technology, and Development (IFSTAD), presented his views on science and technology in the Muslim world in his article in 1986. Kettani argues that Islamic science and technology primarily involve the transfer and mastery of Western scientific and technological knowledge by Muslims without consideration for ideological or value-based factors. His perspective focuses on acquiring and utilising scientific knowledge without necessarily delving into its broader implications or underlying beliefs.

However, it is essential to recognise that science and technology are shaped by various factors, including the values, beliefs, and interests of individuals and communities involved in their development and use. Considering the ideological and value-based implications of scientific and technological advancements is crucial, even within Islamic societies. This broader perspective encourages a deeper examination of scientific and technical progress's social, ethical, and cultural dimensions.

Another response to modern science is criticism of scientific positivism and its Western roots. Thinkers like Ziauddin Sardar and Seyyid Hossein Nasr also question the metaphysical framework of modern science and propose alternative Islamic frameworks. Ziauddin Sardar argues that Western science is distinct and offers an "operational model of Islamic science" based on Islamic values (Sardar, 1982: 20-21). Seyyid Hossein Nasr questions the metaphysical foundation of modern science and advocates for an Islamic framework rooted in sacredness and unity of knowledge (Nasr, 1982: 177–90). However, both critical approaches are reactions to scientific positivism, but these critiques often lack direct connections to classical Islamic sources.

Ziauddin Sardar called for a critical examination of Islamic science, urging a reconstruction that integrated concepts from the Qur'an and Shariah while assimilating the fruitful products of Western science and technology (Sardar, 1988: 35-63). He rejected a mystical approach to science, emphasising the existence of a

unique Islamic science. It is unclear whether Sardar and his followers, the "Ijmalists," offer a satisfactory alternative for the mode of operation for scientific activities to produce an Islamic science.

Seyyed Hossein Nasr has authored several works related to Islamic science, including Islamic Science: An Illustrated Study and An Annotated Bibliography of Islamic Science. In Nasr's book Islamic Science, he presents an Islamic cosmology grounded in his worldview, which Ziauddin Sardar criticises as equating Islamic cosmology with mere mystical experiences and neglecting other important aspects (Sardar, 1988: 42). Nasr's cosmology draws upon esoteric and sapiential teachings from various traditions such as Platonism, Vedanta, Sufism, and Buddhism.

Sardar criticises Nasr's An Annotated Bibliography of Islamic Science for its narrow focus on mysticism, occultism, and Ismaili gnosis, which he believes does not represent the dominant trends in Muslim intellectual history. Moreover, Sardar contends that Nasr's emphasis on his ideas of Islamic science and omitting important works and bibliographical tools in the field could lead to a misinterpretation of the subject. As evidence against Nasr's approach, Sardar references al-Ghazzali's rejection of astrology and mystical knowledge (Sardar, 1988: 49-50).

These diverse voices and perspectives within the Islamic world have contributed to the ongoing debate on Islam and science. They have explored the integration of scientific discoveries with Quranic teachings, emphasising the importance of understanding the limitations of scientific knowledge and its interpretation. While there have been differences in approaches and interpretations, exploring this relationship continues to shape the discourse on Islam and science.

While the influence of these scholars and movements continues, the period from 1980 to 2000 witnessed a surge of activity in the field. However, after 2000, new lines of thought emerged, reflecting the ever-evolving nature of the relationship between Islam and science.

It is essential to recognise that the views presented here represent a range of perspectives within the broader Islamic intellectual tradition. Some of the current focus areas include the discussion of evolution, the integration of quantum mechanics into Islamic thought, the exploration of Islamic psychology, and the intersection of fiqh (Islamic jurisprudence) with science. Furthermore, historians continue to study the rich history of Islam and its contributions to various scientific fields.

Contemporary perspectives: integrating science and religion in the Islamic context

In an era characterised by the rapid progression of scientific knowledge and its intricate relationship with religious belief systems, the interaction of Islam and science has emerged as a compelling nexus of modern discourse. This dynamic intersection has given rise to many challenges, discussions, and deliberations extending across academic and societal realms. Modern science elicits diverse and intense reactions from Muslims and non-Muslims, regardless of its definition. The conversations in the contemporary Islamic world are centred on dialogues surrounding science rather than the core scientific concepts themselves due to the absence of a thriving scientific culture among Muslims. These discussions emerge from the groundwork of modernity, and all the dialogues analysed here reflect science, a prominent element of modernity.

The challenges served by contemporary scientific perception are distinct from those encountered in premodern societies. In contemplating modern science, today's Muslims are coming across issues that were not addressed during the classical era of Islam. Nevertheless, the intention to express current critical concerns about science using Islamic terminology cannot hide the significant deviation of these contemporary expressions from the classical ones.

While specific approaches to science aim to run it as a tool of authority, others seek to release scientific progress from Western influence. As a tool of power, science can sustain the subjection of Muslims, yet it also embodies aspirations for their future revival. However, the recently formed Islamic discourse on science lacks a solid basis for comprehending the historical connection between Islam and science. A common characteristic of the modern Islamic dialogues on science may be a lack of historical awareness and indifference to history by their

presenters. A limited number of names are encountered when dealing with discussions by ignoring such narrow perspectives.

Osman Bakar explored the relationship between Islamic and modern science, arguing for synthesising the two approaches. Bakar proposed a post-modern perspective that considered language constraints, cultural biases, and historical contexts in shaping our perception of science. He believed Islamic science could offer a more holistic and interconnected conception of knowledge by incorporating spiritual and ethical dimensions (Bakar, 2020: 94-97).

İbrahim Kalın, one of the most influential intellectuals and politicians of our time, argues in his article that the reluctance of some Muslim professionals to accept anything other than modern science as the sole valid form of scientific inquiry creates challenges in developing an Islamic philosophy of science that is in harmony with Islamic beliefs and values. He highlights the need for the Islamic world to establish a scientific tradition relevant to its needs and religious framework rather than blindly importing Western scientific ideas and practices without critical examination (Eisen & Laderman, 2007: 112, 117).

Kalın's perspective suggests that the Islamic world should aim to develop a scientific approach that integrates Islamic beliefs and values rather than treating science as a separate domain detached from religious considerations. By doing so, the Islamic world can address its specific requirements and create a scientific tradition that aligns with its cultural and religious context. He advocates for a scientific practice in the Islamic world rooted in its needs, values, and religious framework.

In his book, Astrophysicist Nidhal Guessoum argues that science and religion, specifically Islam, are compatible and harmonious (Guessoum, 2011). He rejects treating the Qur'an as a scientific encyclopaedia, emphasising its primary purpose is spiritual and moral guidance rather than providing detailed scientific information. While recognising the value of religious texts, Guessoum also acknowledges their limitations in providing specific scientific knowledge. He advocates for a nuanced understanding of sacred texts, encouraging Muslims to appreciate their spiritual and moral teachings without expecting them to serve as comprehensive scientific manuals.

Guessoum adheres to the "no-possible-conflict" principle advocated by Ibn Rushd (Averroes), which asserts that there can be no conflict between religious teachings and scientific findings when adequately understood. By upholding this principle, he promotes a balanced perspective that respects modern science's insights and Islam's spiritual teachings.

Besides all these discussions, modern science is monopolised in the West, and not only the Islamic world but all other second and third worlds have the problem of catching up with science (Saliba, 2007: 255). Thus, these countries are engaged in a competitive race to catch up, yet they lack the essential financial resources, technological infrastructure, and skilled workforce required for equitable participation. Additionally, the ongoing brain drain further compounds their struggles; the departure of talented individuals to more developed regions deprives these nations of the expertise vital for advancement. This collective scenario underscores these non-western nations' immense challenge in narrowing the scientific and technological divide with the West.

Furthermore, M. Fuat Sezgin, a pioneer in the field of the history of Islamic science, notes that Europeans often misunderstood the origins and contributions of the knowledge they acquired from the Islamic world (Sezgin, 2009: 7). This misunderstanding led to a sense of superiority among Europeans but a growing sense of inferiority among Muslims.

CONCLUSION

In tracing the historical trajectory of the relationship between science and religion, it is apparent that the initial contributions of Muslim scientists and early Christian scholars did not inherently pose conflicts with religious beliefs. Similarly, the emergence of figures like Copernicus and Galileo marked a starting point where tensions between scientific discoveries and religious doctrines began to surface. This tension became apparent with the rise of a methodology that sought to distance itself from theology. Figures like Bacon, Galileo, and Descartes initiated a shift towards empirical inquiry, preferring methodology to theological explanations, thereby

redefining the intellectual landscape of the Western world. This departure from theological dominance and the rise of methodology reshaped the relationship between science and religion and led to a mechanistic interpretation of nature. As these early Western thinkers challenged anthropocentrism, they paved the way for developing a new worldview. This transition contradicts the present-day discourse within the Muslim world, where scholars contend that the Western world has largely embraced a secular stance, seemingly uninterested in reconciling science with religion.

Interestingly, parallels can be drawn between Islamic and Western histories, particularly when considering early modern scientific pioneers like Copernicus, Bacon, Galileo, and Descartes. It is worth recognising that these figures, while instrumental in shaping scientific thought, did not entirely divorce themselves from religiosity. Reconciling scientific inquiry with religious beliefs is not limited to Islam alone. This idea, embodied in the Two-Books Model, signifies the convergence of scientific exploration and religious understanding.

The intricate and thriving relationship between Islam and science has been a source of continuous discourse and exploration, spanning centuries and encompassing diverse perspectives. From historical interactions shaped by pivotal figures to contemporary dialogues fuelled by the rapid advancement of scientific knowledge, this interaction is understood to have a multifaceted nature. The historical interplay between the Islamic faith and scientific inquiry has laid the groundwork for present-day discussions, which seek to harmonise scientific exploration with Islam.

The multifaceted relationship between Islam and science has emerged as a compelling focal point within contemporary discourse, driven by the rapid progression of scientific knowledge and its intricate interplay with religious belief systems. The dynamic intersection of these fields has engendered diverse challenges and discussions, permeating both academic and societal spheres. As revealed by the dialogues analysed herein, the conversations in the contemporary Islamic world are centred on dialogues surrounding science rather than the core scientific concepts themselves due to the absence of a thriving scientific culture of Muslims.

The challenges posed by the modern scientific landscape differ significantly from those encountered in premodern societies, thereby necessitating a novel contemplation of the role of science in the Islamic context. The emergence of a new genus of Muslim thinkers grappling with these contemporary issues highlights the distinct nature of their concerns compared to their classical counterparts. While specific approaches to science endeavour to harness it as a tool of authority, others strive to liberate scientific progress from Western influence. Science, often construed as both a potential instrument of subjugation and a beacon of future revival for Muslims, raises intricate questions that transcend narrow viewpoints.

As contemporary Muslim scholars grapple with the complex relationship between Islam and science, their perspectives reflect and shape the evolving discourse. The complexity of this interaction defies simplistic categorisation, encompassing a broad spectrum of viewpoints that seek to bridge the gap between tradition and modernity, faith and reason. In this ongoing debate, the discourse on Islam and science is a testament to the enduring pursuit of knowledge and enlightenment within the Islamic context and the broader global narrative.

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