

**COSMOLOGY IN ISLAM, CONSTRUCTING ISLAMIZATION OF NATURE
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ABSTRACT

Cosmology is one of the philosophical and scientific objects that become attention in Greek philosophers, especially Aristotle. However, with the times, this cosmology was found in The Qur'an, exactly in the concept of the sky and earth creation which was written and explained by the creator Himself. Then, Islamic scholars and philosophers come up with this issue and choose it as a medium in constructing Islamic science or Islamization of Nature Knowledge that faces fundamental basic deconstruction, so it causes the epistemological flaw in modern science's body. Seyyed Hossein Nasr, as the inspirator for sacred science, popularize cosmology as one of Islamic science based on him. Past Muslim scholar, Al-Farabi, involved cosmology in integrating Islam and knowledge before. The interesting thing that will be solved in this article is how Muslim scientist, Fakhruddin Ar-Razi interprets creation signs as the source of cosmology in Islam, which leads this toward signs for thinkers. Not only, these cosmology concepts derived from contemporary Muslim scholars and philosophers will also explain the wisdom behind the creation of nature from its microcosmic and macrocosmic not only for increasing people's faith nor sign but one of the main concepts of Islamization Nature Knowledge, because it is derived from main Muslim guidance, namely The Qur'an Al-Karim.



Keywords: Cosmology, Integration, Microcosmos, Macro cosmos

INTRODUCTION

The word cosmology - which is used nowadays to cover a vast range of topics ranging from scientific cosmology and astronomy to philosophy, anthropology, and religious studies¹ - comes from the Greek language contextually the same with cosmetology: the word kosmos, meaning harmony or order. This term is related to modern cosmetologists' trying to make a human face more harmonious by smoothing over small blemishes such as pimples and wrinkles when cosmologists sometimes must smooth over small "blemishes" such as galaxies. In modern terms, cosmology is regarded as the study of the Universe, or cosmos, regarded as a whole.²

Norriss S. Hetherington defines cosmology as "The science, theory, or study of the Universe as an orderly system and of the laws that govern it." His definition goes on to add, "in particular, a branch of astronomy that deals with the structure and evolution of the Universe."³ It means that by cosmology, humans will find the answers to their questions about the origin of the Universe and the final human destination.⁴ Before, the answers to these questions were the prerogative of philosophers, scientists, theologians, or mystics as part of religious knowledge. But now, modern science confiscates their prerogative to answer these questions ambiguously and based on modern cosmology that this Universe starts from nothing. This means this Universe starts instantly from its nothing. This sudden appearance was happened as the result of a long process long time, in the struggle

¹ William C. Chittick, *The Self-Disclosure of God Principles of Ibn Arabi's Cosmology* (New York: State University of New York Press, 1998), xii.

² Barbara Sue Ryden, *Introduction to Cosmology*, Second edition (New York, NY: Cambridge University Press, 2017), p. 1.

³ Chittick, *The Self-Disclosure of God Principles of Ibn Arabi's Cosmology*, xii.

⁴ Dr. Humaidi, *Paradigma Sains Integratif Al-Farabi* (South Jakarta: Sadra Press, 2015), p. 135.



between mass and energy.⁵ As for the meaning of lack here refer to the emersion of one physical material object and form, or existence of space which empty. Then so is time, because time becomes nature or along with the emergence of nature in the material sense. So, it can be regarded that modern cosmologist, in effect, pretends to be a disembodied spirit who stands outside the cosmos. The quest is to achieve “objectivity”, but no attempt is ever made to grasp the nature of the inescapable subject who is needed for the object to be known.⁶

This wrong paradigm causes the fallacy in constructing scientific paradigm in modern science, therefore some scholars like Robert M. Augros and George N. Stanciu initiated a new concept of scientific paradigm toward their books “The New Story of Science” (1985).⁷ The term “Story” was taken from Thomas Berry’s article means the view of civilization toward cosmic, specifically its framework for understanding and evaluating the Universe and all particles in it.⁸

As a branch of philosophy that specifically discusses nature, cosmology has an important role in science, called natural science. Cosmology is related to science to work formulating a universal and fundamental view of nature, evaluating, critiquing, and systematizing various data and finding presented science, and maintaining the continuity of development of the pitfalls in normal science. Therefore, functionally, cosmology is the foundation of science in its development. However, the role can be played without being separated from the role of science with donated data found.⁹

Seyyed Hossein Nasr, a traditionalist who takes cosmology as his

⁵ 139.

⁶ Chittick, *The Self-Disclosure of God Principles of Ibn Arabi’s Cosmology*, xii.

⁷ Greg Soetomo, *Sains Dan Problem Ketuhanan*, 1st ed. (Yogyakarta: Kanisius, 1995), p. 24.

⁸ Soetomo, p. 24.

⁹ Harold H. Titus, *Persoalan-Persoalan Filsafat* (Jakarta: PT. Crescent Star, 1984),p. 17.



scientific paradigm, claims that the nature of modern cosmology is not true cosmology. It is caused by the modern cosmology concept that has no connection with the doctrine of revelations and metaphysics. Modern cosmology only bases itself on the material level which merely becomes one aspect. It limits a generalization of physics, chemistry, and astronomy with an empirical approach. Therefore, Nasr claims that real cosmology is traditional cosmology.¹⁰

Considering the flaw of modern cosmology above, there is no doubt that modern science gives many discourses in which Islam is used as a justifier for science. This impacted the emergence of many issues about Islam and modern science in the Muslim world including the Islamization of science or knowledge. In this paper, the researcher comes to offer the concept of cosmology in Islam -as regarded by Nasr 'traditional cosmology'- as one of the paradigm to construct the concept in Islamization of science specifically nature science.

No other branch of science has a more direct relationship with religious beliefs than cosmology- the science that deals with the origin and development of the Universe. Yet it is relationship that is characterized by a great deal of confusion. Cosmology, of course, was more philosophy than science during the period of the Greek and Islamic scientific traditions and even now, when a great deal of experimental data has come into existence that has a direct bearing on the question of the origin of the cosmos, it remains a theoretical field.¹¹

Cosmology is an interesting branch of science, perhaps the only one where thinkers often expound their 'views' freely, building on religious and philosophical principles at least as much as physic and astronomy. This is probably since for a long time, that is, until the past few decades, cosmology had very little solid data and was the most speculative branch of science.

¹⁰ Seyyed Hossein Nasr, "The Role of Traditional Sciences InThe Encounter of Religion and Science Oriental Perspective," *Journal Religious Studies*, 1, 20 (December 1984).

¹¹ Muzaffar Iqbal, *The Making of Islamic Science*, 2nd ed. (Selangor: Vinlin Press Sdn Bhd, 2009), p. 34.



The amount of cosmological data has increased exponentially in recent years, to the point where our knowledge of the age of the Universe has improved for '10 to 20 billion years' estimate that was commonly given to students a decade ago to 3-7 billion years (plus or minus 0.2 billion years) that was taught, since the Wilkinson Microwave Anisotropy Probe (WMAP) results of 2003.

Still, most if not all the books on cosmology that have been written by Arab authors in recent years present cosmology not as a branch of astronomy, but practically as a branch of Qur'anic exegesis.¹²

METHOD

This research is qualitative because the problems to be studied are not definite, holistic, complex, dynamic, and full of meaning. The data collection technique employed library research by collecting data, compiling data, analyzing data. Meanwhile, the approach used is a theological approach through theory and data sources available in various sources of literature.

COSMOLOGY IN ISLAM

Cosmology In The Qur'an

First, the researcher has to explain the Qur'an as the source of cosmological concept in Islam from what Seyyed Hossein Nasr wrote in his book "Islamic Science: An Illustrative Study as follows:

The Qur'an as the central theophany of the Islamic revelation which must be added the prophetic Hadith together is the fountainhead of all that is Islamic in whatever domain it might be. First of all principle, all science is considered by Muslims to be contained in The Qur'an, and there is an esoteric interpretation of the Holy Book which makes possible the unveiling of its mysteries and penetration into its inner meaning wherein reside the principles of all sciences. Secondly, The Qur'an and Hadith have created an atmosphere for the cultivation of the

¹² Nidhal Guessoum, *Islam's Quantum Question: Reconciling Muslim Tradition and Modern Science* (London: I. B. Tauris, 2011), p. 180.



sciences by emphasizing the virtue of pursuing all knowledge that is a confirmation of Divine Unity. Therefore, a whole metaphysic and cosmology have issued from the bosom of The Qur'an and hadith and have acted as the basis upon which all the Islamic sciences have been constructed.¹³

Then comes Muzaffar Iqbal explaining cosmos position in The Qur'an sight as follows:

The Qur'an treats the entire created order as a sign (*ayah*). This includes the cosmos and all that it contains. A sign is defined as pointing to something other than itself. Seen from the Qur'anic perspective, the cosmos and all that it contains are a sign which is created through simple common: Be (Q. 36:82). It doesn't tell the human what it was created or when, but it gives a very specific account of the creation of the cosmos which is not merely physical, made up of stars, planets, and other physical entities like modern cosmology views.¹⁴

In the case of modern cosmology, Reme Brague considers it has naturalized nature, in other words, it reduces the Universe only in physical particles.¹⁵ This is contradictive with what is Islamic cosmology derived from the Qur'an that the Qur'an signs the nonphysical cosmos, which consists of innumerable levels of existence, is far superior to the physical cosmos.

The Qur'an perspective on the creation of the physical cosmos can be summarized: the cosmos was created by God for a purpose. After creating the cosmos and all that it contains, God did not leave it to itself; in fact, the entire created order is perpetually sustained by God, without His sustenance it could not exist. This knowledge about

¹³ Seyyed Hossein Nasr, *Islamic Science: An Illustrative Study*, 1st ed. (Westerham: Westerham Press Ltd, 1976), p. 5.

¹⁴ Iqbal, *The Making of Islamic Science*, p. 54.

¹⁵ *Paradigma Sains Integratif Al-Farabi*, p. 139.



the phenomena of nature will always lead humans to the unity of Creator and Arranger when humans stand on his belief of God as Arranger and Keeper.¹⁶ Finally, that exists in the world will perish. This will be followed by resurrection and a new kind of life under an entirely new set of laws.¹⁷ This perspective is contradictive with what is realized in modern science that attempts to eliminate the existence of God, the creation of the Universe, and finality in its concept.

The creation of cosmos will be found in Q. 7:54, 25:59; the creation of the earth in Q. 41:9; God's setting in motion all the stars and planets (Q. 6:97), and another verse that contains about nature and mentioned three times more than *shari'ah* law (about 750 verses). They help humans to understand the work pattern of the Universe.¹⁸ Then the other verses sign cosmological doctrine: God adorned the sky with stars (Q. 67:5); He is the One who covers the day with the night and the night with the day (Q. 39:5).

Claiming Universe as God's sign is the essence of scientific research in The Qur'an perspective. This refers not only to the Universe itself but understanding the meaning behind the Universe. If the Universe symbolizes what must be symbolized, points or symbols of referred One, then this Universe- including human- refer to Allah SWT as the Only Creator. The relation between creation and The Creator just be understood by a human who always thinks and remembers his God. As written in Q. 3: 190.¹⁹

Here can be concluded that the scientific concept and view in the West is different from that in Islam. The West regards science as sensed nature phenomena. The Universe stands lonely. Even created

¹⁶ Ach. Maimun Syamsuddin, *Integrasi Multidimensi Agama Dan Sains: Analisis Sains Islam Al-Attas Dan Mehdi Golshani*, 1st ed. (Yogyakarta: IRCiSoD, 2012), p. 192.

¹⁷ Iqbal, *The Making of Islamic Science*, p. 54.

¹⁸ Budi Handrianto, *Islamisasi Sains: Sebuah Upaya Mengislamkan Sains Modern*, 2nd ed. (Jakarta: INSISTS, 2019), p. 52.

¹⁹ Handrianto, p. 53.

and exist by itself. They don't believe in God. If there, He isn't the contributor of Universe existence.²⁰

Besides the contextual concept of cosmology, The Qur'an presents its textual concept. It can be seen from the Qur'an's answer to the cosmological problem in the frame of the Universe Arranger.

Starting from Steven Weinberg's view through his article *The Three Minutes* that describe further about three minutes condition after the big bang. Here, he hypothesizes that the development of every element in the Universe originated from "the one", one spot without any space with limitless unity.²¹ The Qur'an answers this problem with the contemplation about Universe creation progress in Q. 21:30. In this *ayah*, The Qur'an signs that heaven and the earth were sewn together, then God rent them together and made every living thing from the water. This *ayah* also answers one scientific problem that if more power happened to chain the atomic nucleus, it has would affect helium domination in the Universe then hydrogen would not found anymore. As we know, without hydrogen we will not find any water, and without water, the life of creation will not exist. This problem leads us to the existence of a rigorous Creator who arranges this basic provision rigorously. Then, we can consider that this cosmological problem gives us a postulate about The Creator.²²

Although The Qur'an does not explain how or when the cosmos was created, it does invite its readers to study the physical world. The invitation to observe the physical cosmos is often accompanied by an emphatic reminder that observable order and regularities are a sign of the presence of the one and only Creator.²³

Cosmology In Muslim Scholars View

²⁰ Handrianto, p. 54.

²¹ Soetomo, *Sains Dan Problem Ketuhanan*, p. 104.

²² Soetomo, p. 107.

²³ Iqbal, *The Making of Islamic Science*, p. 55.



In the pre-Islam era, scholars and philosophers describe the substance of nature referring to only one aspect. For example, Pythagoras describe nature as the numeral world; Plato describes it as transcendence forms; Aristotle describes it as material; Euclid concludes nature based on space and time axioms; Archimedes apply mathematic in the Universe, and Diophantus introduces algebra as Universe's explanatory tool.

Because nature in Islam involves two aspects, physic, and non-physic, so Islamic cosmology or traditional cosmology has some aspects like quantitative, qualitative, and symbolic aspects. It means that cosmological knowledge not only uses qualitative-mathematic language but also uses qualitative-symbolic explanation. This qualitative-symbolic language supposes the relation between various Universe's existence, even in the non-physical world or visual world, and the harmony between heaven and earth.²⁴

Cosmos is regarded as one of inseparable reality- constantly moving, living, organizing; materially or spiritually together. According to Howard S. Turner, one of the cosmological characteristics in Islam, specifically in astronomy, apart from revealing physic nature and heaven structure, is the impact and relation between sky objects and phenomena of earth people's life. It is usually named astrology, especially Muslim astrologists depend on their interpretation of the harmonic procedure of metaphysic under the relation to the heaven configuration change and its meaning for daily human life.²⁵

Al-Farabi Cosmological Doctrine and His Integrative Science

Abu Nasr Muhammad bin Muhammad bin Tarkhan bin Al-Uzalagh Al-Farabi (Al-Farabi) was a Muslim philosopher known by Second Teacher. He describes his cosmological principle through his book "*al-Madinah al-Fadhilah*" and "*al-Siyasat al-Madaniyyah*". His cosmological principle is inseparable from the metaphysical object, such as ratio, soul, and angel. The metaphysical object was the

²⁴ *Paradigma Sains Integratif Al-Farabi*, p. 137.

²⁵ 138.



foundation of physical nature creation. Metaphysical being of Al-Farabi, ontologically divided into two divisions: first, non-physical being that doesn't exist in physical nature, such as second cause and active ratio; second, non-physical being that exists in physic, such as soul, shape, and material. Metaphysic beings differ from physical beings, such as sky objects, animals, humans, plants, mineral goods, and four elements, and God as the being encompassing both, metaphysic and physic nature.²⁶

According to Al-Farabi, The First (*Al-Awwal*) was the origin of everything. It means that created things, even created by human will or without it, always depend on The First Cause. In the progress, The First Cause emanates the second cause. The creation of the second cause was affected by the thinking process of The First Cause about Himself. Al-Farabi names the second cause with the first intellect. The first intellect has two perspectives, first, thinking on himself, second, thinking on The First Cause. When the first intellect thinks on him, it causes the creation of first heaven (*al-sama' al-ula*); and when it thinks of The First Cause, it causes the emersion of the second intellect. This thinking process continue until the tenth intellect was created. These ten intellects construct the world on the moon known as the solar system. They are *al-sama' al-ula* (the first heaven), *al-kawakib al-tsabitah* (Bintang-bintang yang Tetap), *zuhal* (Saturn), *al-Musyitari* (Jupiter), *al-marrikh* (Mars), *al-syams* (Matahari), *al-zuhrah* (Venus), *al'atarid* (Mercury), and *al-qamar* (month).²⁷

Al-Farabi' integrative view – in integrating religion and science – is based on the cosmological principle that confirms the harmony between microcosmic (human being) and macrocosmic (Universe). He begins his integration view from *Tawhid* as an intrinsic source of integration, such Islam never regards dichotomy, divorce, and the disintegration between religion and non-religion, or between religion and science. Al-Farabi explored and applied *Tawhid* to explain the relation of various disciplines and the reality of knowledge through his

²⁶ 139.

²⁷ 142.



work. In his book *al-Jam'*, he tries to synthesize Plato's metaphysical thought and Aristotle's materialistic thought.²⁸

Through his work "*Ihsha' al-'Ulum*", al-Farabi wants to show that religion and science, religion and philosophy are unity. The whole idea about integrating religion and science explanatory presented in his other work "*al-Madinah al-Fadhilah*" explains the relationship between metaphysic and physic, mathematic and ethics, philosophy and religion, and Universe structure and people.²⁹

Al-Farabi views that science and philosophy is a concept based on its reality and truth, then religion or faith is confession and justification to that truth. It can be concluded methodologically that the way to understand God according to him is through many ways: first, researching Universe. By researching Universe, humans know that Universe was created, not stand by itself. This method is known as nature philosophy. Second, contemplation and analysis about the essence of beings, such as analysis toward actual being and potential being. The actual being exists by himself, without the beginning and the end. He was the origin of everything and had no cause for His existence. As for potential being needs the other existence to have existed.³⁰

Based on above explanation, it's clear that his argumentations and proves confirm the relation between science and religion. According to him, studying physic can't be separated from the world behind physic itself or from who create physical nature, likewise studying metaphysic, mathematic and physic will affect to manner quality of the subject. It means that the more subject has an integrated view of science and religion, his manner will be better and more qualitative.³¹ Science derived from Islamic cosmology explain the position of human as microcosmic is the inseparable object of the

²⁸ 227.

²⁹ 228.

³⁰ 235.

³¹ 236.



Universe as macrocosmic. Because, this science has the unbounded cosmological concept that limits just the outer aspect of the Universe, but compasses its inner aspect. Finally, the main destination of this concept is directing and increasing human spirituality to its peak. Generally, this dimension was lost from modern scientific research, due to modern science's focus on the outer aspect of the Universe.³²

Al-Biruni Cosmological Doctrine and His Method to Study Nature

A comprehensive study of the cosmological doctrines of Abu Raihan Muhammad Ibn Ahmad al-Biruni, undoubtedly one of the most learned of Muslim scholars and scientists, is a doubly difficult task because, on the one hand, in those of his works which are still in existence no attempt is made to deal with this subject thoroughly and systematically, and on the other, the philosophical works which have written, in which he probably treated this subject more fully, are no longer extant.³³ It is known that al-Biruni had studied philosophy deeply and was well versed in it, and was especially interested in the anti-Aristotelian philosophy of such philosophers as Muhammad ibn Zakariya ar-Razi. The attitude of al-Biruni toward Greek philosophy in its Aristotelian vein is far from friendly.³⁴

Hidden in the writing of al-Biruni the conception of nature as the principle of activity, as that which brings about change in the cosmos. There is, consequently, not only a creative power of Nature that brings form into being but also an "economy" and plan. Nature is neither "dead matter" possessing motion, nor "primary matter", nor the *hyle*.³⁵ On the contrary, the *hyle* is the medium by which the forces of nature

³² 237.

³³ Seyyed Hossein Nasr, *An Introduction to Islamic Cosmological Doctrines* (Great Britain: Thames and Hudson Ltd, 1978), p. 107.

³⁴ Nasr, p. 109.

³⁵ the middle term between matter and the spiritual divine ideas that are above matter



act on the matter.³⁶

The idea of “economy” in Nature –considered not simply anthropomorphically but about the Divine plan- is closely allied to teleology; for if there were no purpose in things it would be meaningless to speak of waste or utility. Al-Biruni is well aware of this relationship and presents the belief in the “economy” of Nature in conjunction with that of the purposefulness of all things in the Universe. The faculties of each creature are made for a particular purpose to fit within the harmony of the total scheme of Nature. The “economy of Nature” implies that in al-Biruni words, “there is no waste or deficiency in His Work.”³⁷ This concept differs profoundly from the idea of “simplicity” and “economy” found in the philosophical systems of some seventeenth and eighteenth-century European thinkers because he has no intention of substituting human reason for Divine Wisdom. Neither human need nor purely human ideals of perfection determine the harmony, design, and purpose of the Universe.

Nature, therefore, is a power that forms and orders things according to Divine plan and without any waste.³⁸ The perfection and “economy” of the cosmos, however, is not to be judged by human standards at all. It is the Divine Wisdom which rules and orders the Universe and gives form to creatures, often in a manner that demonstrates the transcendence of Divine Wisdom and Beauty above any human criteria of purposefulness and harmony. Man discovers the harmony and beauty of Nature not by projecting his limited perspective upon the cosmos but by realizing his weakness and submitting to the Wisdom of the Creator.³⁹

Al-Biruni was a master observation, not only in astronomy, but also in geology, geography, and the study of organic phenomena. Al-

³⁶ Nasr, *An Introduction to Islamic Cosmological Doctrines*, p. 122.

³⁷ Nasr, p. 123.

³⁸ see Q. 3:190

³⁹ Nasr, *An Introduction to Islamic Cosmological Doctrines*, p. 125.



Biruni, as an Islamic scholar, selects observation and experimentation, reason and reflection, as well as Sacred Scripture and ancient sources to reach the knowledge of the Universe. The answers received from Nature depend always upon the questions put to her as well as the way the questions are asked. Moreover, the “facts” found by observation and experimentation possess meaning only within the total framework which for al-Biruni in the Islamic world view.⁴⁰ As a scholar and compiler, he made studies which upon nearly every field of medieval learning, all of which he approaches as a Muslim. He defends the virtues of acquiring knowledge in all domains as the duty of Muslims. For example, concerning the physical sciences, he criticizes those who cover up their ignorance by appealing to God’s wisdom and who make no effort to learn about the beauty of Nature through its study.⁴¹

When discussing a problem regarding the details of some particular aspect of Nature, he always appeals to Nature itself as it functions in its way rather than as it behaves when directed and placed under artificial conditions. It’s contradictive with modern science that appeals to the practical importance with jargon “*knowledge is power*” as stated before by Francis Bacon.⁴²

For al-Biruni, the study of creation as the handiwork of God is a natural and noble activity of man. Human reason, by the fact that it has its center in the Intellect, leads unimpededly from the finite to the Infinite. All of the Intellect’s activity, for al-Biruni, acquire a “sacred” aspect because all learning which relates a domain to its principle partakes of this integrating and unitive function that belongs to The Intellect. This can be stated that no separation between “sacred” and “profane” learning. Whatever he studies, whether it be historical or physical sciences, takes on a religious character. Particularly, the study of the visible world as the “signs” and creation of the Invisible, and of

⁴⁰ Nasr, p. 125.

⁴¹ Nasr, p. 173.

⁴² Syamsuddin, *Integrasi Multidimensi Agama Dan Sains: Analisis Sains Islam Al-Attas Dan Mehdi Golshani*, p. 318.



Nature as the creative power ordained by God to govern all things in the world, are for al-Biruni characteristic features of the perspective of Islam. There is no legitimate domain outside of the spirit of Islam, least of all the domain of the manifestations of Nature, because the essence of this spirit is to integrate all particulars into the Universal, all divided knowledge into the unitive knowledge, or *ma'rifah*, which contains in principle the science of all things.⁴³ Finally, we can conclude that the cosmos in which al-Biruni lived and breathed is the handiwork of God in which all true science leads ultimately to the Creator and possesses truth which is guaranteed only when it is sanctioned by Him.

Islamic Cosmology on Nasr and His Science of Nature Paradigm

Seyyed Hossein Nasr, one who complains the crisis arose by modern science. His desire to shift the modern science paradigm begins from approaching a paradigm that has been formulated previously by Plato. Because according to Plato, the paradigm is the Origin of Divine, namely as the basis of the heavenly (celestial archetype) manifested, in reality, the historical life of mankind. Thus, the paradigm of science offered by Nasr is a traditional cosmology, namely the nature of philosophy that is rooted in traditional teaching, including the Islamic revelation.⁴⁴

The Islamic revelation for Nasr, like all major manifestations of the Divine Logos, not only produced a religion in the sense of an ethical and social code but also transformed a segment of the cosmos and the minds of those who have lived within that cosmic sector. The phenomena which formed the subject matter of the Islamic sciences, as well as the minds of men who studied these phenomena, have always been determined by a particular spiritual 'style' and transformed by a special type of grace (*barakah*) issuing directly from the Qur'anic

⁴³ Nasr, *An Introduction to Islamic Cosmological Doctrines*, p. 173.

⁴⁴ Muhammad Fiqih Cholidi, "Seyyed Hossein Nasr on Islam and Science" (University of Darussalam Gontor, 2017), 86, UNIDA Gontor Library.



revelation.⁴⁵

Here, Nasr state that Islamic cosmology is directly related to the principles of the Islamic revelation and to the metaphysics which issues forth from the esoteric message of the Qur'an and the inner teachings of the Prophet which are its complement. It has nothing to do with what passes for cosmology today. Islamic cosmology aims at providing a vision of the cosmos which enables man to pierce through the visible world to the higher state of existence and creating a science of the cosmic domain which acts as a ladder to allow the man to mount to the 'roof of the cosmos'⁴⁶ and even beyond it to behold Metacosmic Reality which transcends all the planes of cosmic manifestation. That is why his scientific paradigm, named *Scientia Sacra*, reaches the sense of knowing this universe for self-transcendence, so that wisdom could be obtained.⁴⁷ The Origin or Principle of the Universe is at once Being, consciousness, and bliss (*wujud*, *wujdan*, and *wajd* in Arabic), and these qualities flow in the arteries of the cosmos precisely, because the cosmos is a manifestation of the Principle.⁴⁸

Islamic cosmology for Nasr plays the role assigned to it within Islamic civilization. It naturally has made use of numerous forms of symbolism and has had recourse to many different means through which the end in view could be achieved. It could not be otherwise seen that Islam had to create a worldwide civilization and integrate within its fold people of different psychological and mental constitutions. Those are what aimed at all forms of cosmology, namely to transform the cosmos and its parts into an 'icon' which can be contemplated and a mirror in which the One can be revealed within the matrix of multiplicity

⁴⁵ Nasr, *Islamic Science: An Illustrative Study*, p. 3.

⁴⁶ the well-known phrase associated with the works of Rumi

⁴⁷ Nasr, "The Role of Traditional Sciences InThe Encounter of Religion and Science Oriental Perspective."

⁴⁸ Nasr, *Islamic Science: An Illustrative Study*, p. 28.



itself.⁴⁹ For Nasr, cosmos is at once continuous and discontinuous concerning its Origin, the Origin which is Pure Being and ultimately the Absolute and Infinite Reality which stands beyond even Being. As Being, the Origin is like the sun of which all existents in the cosmos are rays. But the Origin is also Substance for which the whole of the Universe is but a series of accidents, and essence of which all cosmic forms are but reflections and theophanies.⁵⁰

In viewing nature, Nasr mentions an element that scientists shared in common, which is being the unicity of Nature which all of the sciences sought to demonstrate and upon which they are all based. He uses the idea of Unity (*al-tawhid*) as the important concept in Islam, wherein Islam this concept overshadows all others and remains at every level of Islamic civilization, the most basic principle upon which all else depends. For Nasr, the relation between the Unity of the Divine Principle and the consequent unicity of Nature can be revealed using many “ways of knowing” possessed by The Muslims to formulate sciences based on the idea of the unicity of Nature which is itself derived from the twin source of Revelation and intellectual intuition. Nasr continued that the Muslims have to employ many methods in the various sciences, from observation and ratiocination to contemplation and illumination, but the goal toward which these methods were aimed⁵¹ came from the Revelation which determines from “above” the particular cosmological sciences cultivated in a tradition.⁵² It has significance because the physical reality reflects it through symbols.⁵³

In the last, Nasr concludes the ultimate aim of Islamic cosmological doctrine toward his concept of science of nature. It is that

⁴⁹ Nasr, 31.

⁵⁰ Nasr, 28.

⁵¹ the aim is the demonstration of the interrelatedness of all things.

⁵² Nasr, *An Introduction to Islamic Cosmological Doctrines*, 4.

⁵³ Rif'at Husnul Ma'afi and Muhammad Fiqih Cholidi, “Seyyed Hossein Nasr on Islam and Science,” *Journal Yaqzhan*, 1, 5 (June 2019): p. 145.



the doctrine of the unicity of Nature which is based upon that of Unity and which thus relies on the essence and spirit of the form of Revelation in Islam is the ultimate aim of all the sciences of Nature, and the degree to which a science succeeds in expressing this unicity the criterion by which the success and validity of science are judged.⁵⁴

Muzaffar Iqbal: Making Science by Islamic Cosmology

Muzaffar Iqbal has begun the making of Islamic science from the Islamic scientific tradition and its relationship with Islam which is based on the Qur'anic worldview. He depends this making on viewing a variety of perspectives ranging from the sociological to the historical and from the metaphysical to the scientific. Iqbal was moved to make the Islamic science because the enormous amount of theoretical work published by scholars working in the field of science and Christianity has established a certain model that seems to have gained general acceptability.⁵⁵

One of the most instructive aspects of Islamic tradition for Iqbal is that there is no known scientist or religious scholar between the eighth and seventeenth centuries who felt the need to explicitly describe the relationship between Islam and science by writing a book on a subject. Whereas Islam has the concept of *Tawhid* to connect integrally one branch of knowledge with all other branches of knowledge. This concept for Iqbal is the most possible feature of Islam to discuss Islamic science where in Islam nature is not a self-subsisting entity that can be studied in isolation from its all-embracing view of God, humanity, and the cosmological setting in which human history is unfolding.⁵⁶ The phrase Islam and science for Iqbal, does not connect two separate entities, but it is used here as a copula.

First, Iqbal ensures that cosmology was more philosophy than science during the period of the Greek and Islamic scientific traditions

⁵⁴ Nasr, *An Introduction to Islamic Cosmological Doctrines*, p. 5.

⁵⁵ Iqbal, *The Making of Islamic Science*, vii.

⁵⁶ Iqbal, x.



and Islamic scientific tradition and even know, while a great deal of experimental data has come into existence that has a direct bearing on the question of the origin of the cosmos, it remains theoretical field.

In understanding Islamic cosmology, Iqbal refers to the Qur'an, because according to him, Islamic cosmological beliefs are rooted in the Qur'an itself. But, he found the main question about how these cosmological verses of the Qur'an were understood by exegetes, philosophers, and scientists during the period of consideration (the eighth to sixteenth centuries). Iqbal assured that his the debates arose from the tensions generated by the arrival of Aristotelian cosmology in the Islamic tradition, which in turn, contributed to the making of certain cosmological doctrines.⁵⁷ The cosmological concept in the Qur'an for him is its invitation to humans to observe the physical cosmos which is this invitation accompanied by an emphatic reminder that observable order and regularities are a sign of the presence of the One and only Creator. The order observable in the physical cosmos is a testimony to Divine omnipotence, power, and wisdom.⁵⁸

In the making of Islamic science, Iqbal emphasized this cosmology that derived from the Qur'an as the core reason for the development of various sciences in Islam.⁵⁹ Iqbal refers to the 'Radiant Cosmography' (*al-hay'a as-saniya*) as a science that appeared from the earliest days of the Prophet and his Companions; it was derived from Qur'anic verses and constructed by way of exegetical exercises. He struggles to show that this approach to cosmology originated to become the counterweight to the Aristotelian cosmology that came into Islamic thought in the translation movement. Furthermore, he mentions that the Qur'anic view of the cosmos is that it stands as a sign (*ayah*) and a witness to the One who fashioned it for purpose and fixed duration, likewise Ibn al-Arabi who uses the term (*dalil*) indicator to refer to this aspect of the cosmos. His descriptions of the relationship

⁵⁷ Iqbal, 34.

⁵⁸ Iqbal, 35.

⁵⁹ Guessoum, *Islam's Quantum Question*, p. 189.



between God, the cosmos, and humanity lead us to an understanding of the cosmos, and humanity leads us to an understanding of the cosmos that is rooted in the central reality of its existence, order, and functioning derived from “the Breath of the All-Merciful.”⁶⁰ Those are that concerned in modern cosmology which limits the understanding of the physical cosmos with no links to the spiritual order.⁶¹

CONCLUSION

As one of the fundamental concepts in science, cosmology which is derived from Islamic teaching gives views to understand nature and its cosmic order. The Qur’an, as a Divine Revelation and source of Islamic teaching, has been existed in answering the real concept of nature and how it appeared. It reveals the existence and presence of the One as the Origin of everything in the universe. He, as the Creator, isn’t disconnected from the universe and sustains this universe immortally. What we see in this universe reflect Him through symbol and signs with the unicity of it which all of the sciences sought to demonstrate. The universe itself is the handiwork of God and integrates into Him. All of creation and being in this world are created with a purpose and didn’t come by itself, as what modern scientist thinks.

We are as Muslim scientists ought to behold the above conception and paradigm in nature and cosmos study. The aim of this study must be corrected before beginning to deeply penetrate the cosmic reality and nature. This universe as the sign (*ayah*) from God must be understood as His invitation to reveal them by observation materially and contemplation metaphysically. It helps us to understand the empirical data resulting from observation and the reality of the Absolut resulting from contemplation. Thus we can reach the reality of God and nature together.

⁶⁰ Iqbal, *The Making of Islamic Science*, p. 115.

⁶¹ Iqbal, 114.



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