ABSTRACT

Qur’an is the book of Allah sent down to the Prophet Muhammad (S.A.W) in a clear Arabic language. It serves as a final message to the universe and a code of conduct, be it spiritual, social, and moral aspects. It is the primordial source of scientific knowledge and guidance to the past, present and future generations of human beings. Therefore, it is said that Islamic science decline as a result of various forces and hesitate attempts of the contemporary Muslims to continue on the paths of the previous Muslim scientists. Regrettably, today scientific knowledge was transferred from the Muslims to the Western people even though the knowledge was therein the Qur’an. Hence, Muslims have to use their intellects to figure out the mystery and miracles that contain in the Glorious Qur’an. It is believed that Qur’an contains the knowledge of natural sciences, medicine, history, sociology, politics, economics, religion and other fields of social sciences. Almighty Allah revealed the Qur’an for human beings to know how to worship him and to enjoy their temporary staying for the benefit of afterlife. In the Qur’an, in numerous places, Allah instructs mankind to reflect, to think, to ponder on the meaning of the Qur’an. This paper targets to provide the ways and means to restore the study of natural sciences in contemporary Muslims societies in the light of the Qur’anic guidance. It is to awakening the Muslim society to incline to know the teachings of the Glorious Qur’an. This paper is based on qualitative approach. The method of documentary used in data collection. On the other hand, it employs the usage of content analysis and inductive in data analysis. The findings reveal that natural sciences in the light of the Qur’anic verses can be found in nature, history and the universe in general.

Keywords: Muslim societies, Natural science, and Qur’anic guidance.
1.0 INTRODUCTION

Muslims and even some of the non-Muslims intellectuals believed that Qur’ān is the reservoir of sciences. Therefore, figuring Qur’ānic sciences is the major task that nevertheless most of the contemporary scholars have neglected. Accordingly, Muslims are everyday reciting the Qur’ān in their compulsory daily prayers, but pondering on what it contains is the major problem. Hence, it is significant to note that understanding the meaning of Qur’ānic verses is of great importance, and in fact reward is multiplying to whoever recites it. The hearts of believers have only been securing calm in the remembrance of Allah. To understand this statement, Almighty Allah says “Those who believed (in the Oneness of Allah-Islamic Monotheism), and whose hearts find rest in the remembrance of Allah: Verily, in the remembrance of Allah do hearts find rest.”¹ Moreover, it might be added that Qur’ān is a great medicine to physical and spiritual diseases. However, whosoever takes Qur’ān as his guidance would never lose in this life and the next to come. It is discovered that Qur’ān encourages man to use his intellect to study the universe in order to realize the greatness and oneness of the Almighty Allah. Muslim scientists believed that Qur’ān is not a book of science but a book of signs Ayat which more than six thousand (6000) verses containing facts, science and symbols. More than one thousand (1000) of theses verses talking about what we call today, the modern science.² Islamic religion is the ultimate religion that provides man with all the guidance in his endeavours. Thus, it is significant to note that, if there is any religion that invites man to the study and understanding of the heavens, it is Islam. “An understanding of the discipline of Astronomy is essential for the appreciation of the religion of Islam. No other religion uses or relies on the heavens and the motion of the moon and sun for timekeeping and calendars as Islam does. Allah created this tremendous Universe that we live in and we are invited to reflect upon it, to understand it so that we may be able to practise our religion with conviction based on reason to the best of our abilities. By God’s laws, the laws of Physics, we are glued to the planet earth yet Almighty God granted us eyes, intellect and knowledge that we may see far in excess of our

¹ Qur’ān, Surah, Al-Ra’d, 13: 28.
ordinary reach—surely in these things are signs of the omnipotence of our Creator”.¹

The Concept of Natural Science

Understanding what does natural science mean is of highest importance in this paper. Thus, natural sciences are the sciences that are collectively involved in the study of the physical world and its phenomena, including biology, physics, chemistry, and geology, but excluding social sciences, abstract or theoretical sciences, such as mathematics, and applied sciences². Similarly, natural sciences are the study of “Embryology, Astronomy: Heavens, Orbits, Sun, Moon, and alteration of day and night as well as Geology, Botany, and zoology.”³

Furthermore, Islamic science means the natural or exact sciences that originated by the Islamic civilization. Arabic was the main scientific language used, but not necessarily the native language of the scientists, who might have been Persian, Turkish or of other origins. Although the term Islamic science and Arabic science are modern historical terms within the context of Islamic civilization, this science is Islamic in the sense that it suited the new and growing needs of the Islamic civilization; was available entirely in Arabic, which had replaced Syriac; and familiar to an increasing number of Muslim translators, students and scientists.⁴

Qur’anic Verses on Natural Sciences

Considering the foregoing, it is clearly depicted that natural science encompassed different branches of sciences. Nonetheless, what would be the real fact of its subject is the physical world and what has been surrounded it. Therefore, it should be noted that the Glorious Qur’an emphasizes in numerous places that the universe can be and in fact should be the subject of study, for the universe was created in truth.⁵ To substantiate this statement, Almighty Allah says: “He

³ Bashir Souallhi, “concept of knowledge from the Western and Islamic perspectives” in Islam knowledge and civilization, by Munawar etal (UIA: IIUM Press), 27.
⁵ Hossein Nasr & Iqbal, Islam, Science, Muslims, and Technology (Kuala Lumpur: Islamic Book Trust, 2010), 44.
had created the heavens and the earth with truth (bil’-haqq).”¹ In a similar verse, Allah says: “We created not the heavens and the earth and all that is between them except in truth².”

Commenting on the first verse, al-Maududi says:
That is to say, ”The whole system of the Earth and the heavens is a witness to the truth of the doctrine of Tauhid and to the negation of shirks. You may look at anything in the universe and consider the system from any point of view you like, one will find proof of this fact that it is being run by one God and not by many gods. Then how is it that you believe in shirk when there is no proof whatsoever of this in the universe³?

However, in another place, Allah says:

“And on earth there are signs [of God’s existence, visible] to all who are endowed with inner certainty⁴, “Just as [there are signs thereof] within your own selves: can you not, then, see”⁵? And in heaven is [the source of] your sustenance [on earth]⁶ and [of] all that you are promised [for your life after death].⁷

Given this understanding, it is important to note that recognising the signs of Allah in nature is only benefitting those who believed in His Oneness. Thus, Almighty Allah commanded His servants to study the physical nature of the heaven and earth, thereupon, says: “Say: "Behold all that is in the heavens and the earth," but neither Ayat (proofs, evidences, verses, lessons, signs, revelations, etc.) nor warner benefit those who believe not.”⁸ Similarly, Allah says: “Do they not look into the realm of the heavens and the earth and everything that Allah

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¹ Qur’an, ch. 16: 3.
² Qur’an, ch. 15: 85
⁴ Qur’anic Translation by Muhammad Asad (Gibriltar: Dar al-anDalus, 1980), Surah al-Zariyat, 51: 20-22
⁵ Ibid.
⁶ According to Asad, both physical (rain) and spiritual (truth and guidance)
⁷ Ibid.
⁸ Qur’anic Translation by Muhsin Khan & Hilali, Qur’an, Surah Yunus10: 101
has created and [think] that perhaps their appointed time has come near? So in what statement hereafter will they believe”\(^1\)

Moreover, in the structure of the heavens, there are natural signs of Allah, but not to be recognized except those who have deeply ponder on its provision and believe that whoever sets this is the ultimate Creator of all beings. To understand this, Allah says:

Allah is He Who raised the heavens without any pillars that you can see. Then, He raised above (Istawa’) the ‘Arsh Throne. He has subjected the sun and the moon, each running (its course) for a term appointed. He manages and regulates all affairs; He explains the Ayat (signs and symbols) in detail that you may believe with certainty in the meeting with your Lord.\(^2\)

Commenting on this verse, Ibn Khathir stated that “Allah mentions His perfect ability and infinite authority, since it is He Who has raised the heavens without pillars by His permission and order. He, by His leave, order and power, has elevated the heavens high above the earth, distant and far away from reach. The heaven nearest to the present world encompasses the earth from all directions, and is also high above it from every direction. The distance between the first heaven and the earth is five hundred years from every direction, and its thickness is also five hundred years. The second heaven surrounds the first heaven from every direction, encompassing everything that the latter carries, with a thickness also of five hundred years and a distance between them of five hundred years. The same is also true about the third, the fourth, the fifth, the sixth and the seventh heavens”.\(^3\)

From the foregoing, the discussion has clearly illustrated the proof of the existence of signs of Allah in the universe, and man when he observes the physical world he will find that there is no one who provided all what are physically available on earth, except Allah who is the Creator and Provider of everything in this world. Although, man has been endowed with the faculty of reasoning only to implement the reality of what he studies in the Qur’an, he cannot go against the meaning of Qur’an with thinking that it is based on his discoveries. Once his findings on natural phenomena contradict the intent of Qur’an will not be

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3. Ibid.
accepted. Therefore, it is of great importance to borne in mind that reasoning never in anyway contradicted the Qur’an, but rather interpreting what the Qur’an prescribed. In this regard, man has the limit; it is forbidden for him to go beyond it. No matter how someone a scientist, he should try to set his findings within the scope of Islamic principles. It is only in this case that man can fully testify the Oneness and the Greatness of Allah the Most High. One has to believe that his knowledge is nothing but just a little of what Allah gave him in order to test his faith.

The knowledge of Nature in the Thought of Shaykh Abdullahi bin Foduye

Obviously, nature contains a number of things that Allah provided to human beings, but must of the things need to be carefully study in order to know the wisdom behind their existence. For example, Shaykh Abdullahi bin Foduye advised Muslim Ummah to have the knowledge of nature. Therein, he emphasized that “Allah created first the nature of heat from the movement of existence. He then created the nature of cold from the stillness of existence; then he mixed them. By His power out of heat was born dryness and solidification and from cold humidity. They became four singular natures (essence) in one singular spiritual body. Heat made humidity to evaporate and from them Allah created the essence and nature of life and the celestial bodies.”

Moreover, Abdullah has further observed that “from cold descended solidification and from them He (Almighty Allah) created the essence of death and the terrestrial bodies. He poured the celestial bodies over the terrestrial and heat mixed cold, humidity with solidification and the four elements were born

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1 He was a younger brother of Shaykh Uthman bin Foduye the greatest Islamic reformer of Bilad al-Sudan (West Africa). Actually, Abdullahi bin Foduye was born in the year 1766-7 CE. He was about twelve years younger to his brother, Shaykh Uthman bin Foduye. He has been described as a tall, fat and black. He was a man of active bodily habits, who was humane and tolerant in the context of his time.” see Ahmad Bello, Conduct and Activities of Early Muslims in the Establishment of Sokoto Caliphate (Sokoto, Nigeria: Usmanu Danfodiyo University Press Ltd, 2014), P. 46, in Hiskett’s Translation of “Shaykh Abdullahi bin Foduye’s Tazijn al-Waraqat”, 1963, P. 21. However, Abdullahi bin Foduye and his brother Uthman and their son, Muhammad Bello have deeply steeped in Islamic scholarship, whereupon, they produced a number of literatures on various fields of Islamic sciences including Islamic astronomy. Interestingly, they strived hard in changing the then traditional society of Hausaland into an organized Islamic society of what is now Northern part of the Federal Republic of Nigeria.

by the power of Allah in their orders. From the mixing of heat and humidity the element of air, from the mixing of cold with humidity the element of water and from the mixing of cold with solidification the element of sand which is the earth. He (Allah) then created from it the astral world, which is the first component, then the plants, followed by irrational animals and then by the rational animal-Man—who is the last component and is the object of this study of knowledge.¹

This comprehensive explanation of Abdullah illustrates the evolution of the universe in general. He clearly depicted various elements that have been composed to produce a new object. Therefore, the knowledge of nature is of highest importance, since all whatever is on earth has been provided for the benefit of human beings. Although, with the guidance of Allah, man may be able to discover new things at any moment, this is when utilizes his intellect in the way and manner that contradicts not the teachings of Islam. Man has to know that Allah is the Creator of whoever called himself scientist. Thus, Almighty Allah is the one who gave him such knowledge and wisdom to figure out what he can figure out. Accordingly, without Allah’s guidance, no matter how the vast knowledge acquired, he cannot discover anything. Finally, Allah is the Great of the Greatest and His knowledge encompassed everything in this world. The Qur’an stated this categorically, for example Allah says:

… He knows what happens to them (His creatures) in this world, and what will happen to them in the hereafter. And the will never compass anything of His Knowledge except that which He wills.²

The Ways and Means to Vigorously Study the Nature in the Light of Qur’anic Verses

Based on the available evidences in the Glorious Qur’an, contemporary Muslims can study the natural sciences in the following ways:

1- In history, by using our intellects and senses. Thus, the signs of Allah can be found in history when man observes and experiences the history of the past generations and the nature of their lives in a political, social, moral, and economic setting. For example, Almighty Allah encouraged mankind to travel and experiment the physical world and its different phenomena in order to understand the different signs that testify His Mighty and His Oneness. In this regard, Allah says:

¹ Ibid.
² Qur’an, Surah, al-Baqarah, 2: 255.
Have they not travelled through the land, and have they hearts wherewith to understand and ears wherewith to hear? Verily, it is not the eyes that grow blind, but it is the hearts which are in the breasts that grow blind.¹

In view of the above verse, Mehdi Golshani highlighted that the first parts of these verse refer to observation and experimentation and the second part to the use of the faculty of reasoning. Thus, experimental work is an indispensable means for the understanding of nature, but, contrary to what some schools of thought claim, not all of our information about nature comes directly from sensations. If we confine ourselves to sensations and do not use our intellect, we are no better than animals.² He therefore, supported his argument with the following Qur’anic verse: And surely, We have created many of the Jinns and mankind for Hell. They have hearts wherewith they understand not, they have eyes wherewith they see not, and they have ears wherewith they hear not (the truth). They are like cattle, nay even more astray; those! They are the heedless ones.³

This verse consciously suggests that once man has not use his intellect to understand the truth of the physical nature of this world; and fails to ponder about its Creator he may become like animals who were not endowed with the faculty of reasoning. Therefore, reasoning is of great importance in Islam, but must be within the premise of Islamic principles as stated above. In another place, Almighty Allah inspired the mankind to travel over the land in order to reflect how Allah begins the creation of the universe. The verse reads: Say: "Travel in the land and see how (Allah) originated creation, and then Allah will bring forth (resurrect) the creation of the Hereafter (i.e. resurrection after death). Verily, Allah is Able to do all things."⁴

¹ Qur’an, Surah al-Hajj, 22: 46.
³ Qur’an, Surah al-Araf, 7: 179.
⁴ Qur’an, Surah al-Ankabut, 29: 20.
To understand and appreciate the role of history in discovering the physical nature of the universe, Allah says:

Indeed in their stories, there is a lesson for men of understanding. It (the Quran) is not a forged statement but a confirmation of the Allah’s existing Books [the Taurat (Torah), the Injeel (Gospel) and other Scriptures of Allah] and a detailed explanation of everything and a guide and a Mercy for the people who believe.\(^1\)

This verse indicates that civilization comes from history. This is because with the help of the available information about past generations and the way they have manufactured various instruments for the benefit of their live, the contemporary society can build on and improve more to produce better than what they did. This Qur’anic verse testified that Qur’an is still alive because is narrating the story of the past for the contemporary Muslims to emulate and apply the good lessons in their daily lives.

Similarly, in numerous verses in the Qur’En, man is directed to the phenomena of nature and asked and even ordered to study them. “There is fact a very rich Qur’anic vocabulary relating to the study of the phenomena of nature. Such verbs as yarË, yafqahÈn, yatadhakarÈn, ya’qilÈn, and ya’lamÈn are used in different verses with different meanings, alluding to the level and depth of understanding the phenomena of nature.”\(^2\) There is implicit in the Qur’an a hierarchy in studying and understanding nature. For example, Ziauddin observed that the first Qur’anic word revealed to Prophet Muhammad (pbuh) is “Read”, according to him “it refers among other forms of readings, to reading the signs of God or the Systematic study of nature. It is a basic tenet of Muslim belief that the Material world is full of signs of God; and these signs can only be interpreted through rational and objective inquiry. Almost one third of the Qur’an is devoted to the praise of scientific knowledge, objective inquiry and serious study of the material world.”\(^3\)

Eventually, by observing the above mentioned ways, the natural sciences can be vigorously studied in contemporary Muslim societies. But the most important

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\(^1\) Qur’an, Surah Yusuf, 12: 111.


things is the Muslim should bear in their mind that studying all kinds of natural phenomena is *Ibadah*, if one purifies his intention for Allah sake. In order to understand this point clearly, Sardar considers science as ‘a form of worship which has a spiritual and social function. He further reiterated that ‘We therefore need to develop mechanisms by which Islamic science, as is dictated by the notion of ‘ilm, is moved to the centre of Muslim cultural, social and economic life. In other words, Islamic science, as a pursuit of objective knowledge and as ‘*ibadah* (worship), occupies the same place in Muslim everyday concerns as prayer, fasting, and other forms of worship’. He adds, a bit more realistically, ‘However, given the current status of Muslim societies, this is a tall order.’”

Finally, from the above explanation of Sarda, it may conclude that studying Islamic sciences is an act of *Ibadah* which if Muslim societies stand sincerely in order to pursue the natural sciences, God will definitely guide them and enlarge their wisdom to find out his signs on natural phenomena. It is also an interesting to note that Sarda’s explanation served as an encouragement to Muslim societies to study the natural sciences. Therefore, it is only through this ways that the study of natural sciences in contemporary Muslim societies will be restoring vigorously.

2- Another important way to study the natural sciences is through deep observing the universe. Reference in this assertion is Allah’s saying: “Verily! In the creation of the heavens and the earth, and in the alternation of night and day, there are indeed signs for men of understanding.”

Thus, only men of understanding can realize the greatness of Allah and the universe has been subjected to them in order to find means for their living on earth. This verse indicated the importance of the knowledge of Islamic astronomy. By reflecting the creation of the earth and heaven and alteration of night and day, mankind would realize when and how to discharge their religious obligations.

In a similar way, it is discovered that the moon and the sun are of vital importance in the daily life of every Muslims. By the moon, Muslims determine the beginning and the end of the months in their lunar calendar. By the sun the Muslims calculate the times for prayers and fasting. It is also

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by means of Astronomy the Muslims can determine the precise direction of Qiblah, to face the Ka‘bah in Makkah, during prayers\(^1\).

However, for the importance of determining the timekeeping, the exact times of the five daily prayers are based on the position of the sun in the sky: the times of the daylight prayers are determined by the length of shadows, while the times of prayers when the sun is not above the local horizon are established on the basis of twilight phenomena. The morning prayer begins at dawn and ends before sunrise; the noon prayer starts at noon, after the sun crosses the local meridian and the shadow of a vertical object reaches its minimum; the next prayer starts in the afternoon, when the length of the shadow of any object is equal to the sum of its midday minimum shadow and the length of the object casting the shadow; the next prayer starts after the afternoon prayer and ends before sunset; and the final prayer starts when the afterglow disappears and should end before midnight. Although it is not difficult to estimate these prayer times empirically, to determine them accurately one needs to acquire a good knowledge of the local coordinate system and the day-to-day changes in the apparent position of the sun in the sky\(^2\).

In determining the direction of the Qibla, it is of great importance to recall the history. Hence, during the first thirteen years of the rise of Islam, Muslims faced Jerusalem while praying. However, seventeen months after the Hijra—the migration of the Prophet Muhammad from Mecca to Medina—the orientation of prayers (Qibla) changed so as to be towards the Kaaba in Mecca. Since Mecca is located south of Medina, finding the Qibla in Medina was not difficult. However, once the Islamic territories expanded, finding the right Qibla became a challenging problem in spherical geometry. The problem was to find the direction of the great circle passing through two points on the globe. Over the centuries, Muslim astronomers and mathematicians developed methods to solve this problem based on spherical trigonometry, and produced tables and even sophisticated instruments to find the orientation of Mecca from different locations\(^3\).

The foregoing findings of scientist show the possibilities of discovering many galaxies by continuing conducting research on astronomy. This is more


\(^2\) 6 June, 2015. “http://www2.astronomicalheritage.net/index.php/show-theme?idtheme=15”. Note, the contents of this page are based upon text in the ICOMOS–IAU Thematic Study. Original text © Clive Ruggles, Michel Cotte and the contributing authors.

\(^3\) Ibid.
especially when Muslims strive hard in the light of Qur’anic verses and views of the Muslim scientists as well as that of the Mufassirun, many things may be discovered regarding the knowledge of Islamic Astronomy. Since Allah gives man the ability to think, so is only left to him to exercise his own faculty of reasoning to understand the universe.

3- Through physical observation of oneself: Natural science can be found when one looks at his own structure, would realize that Allah has given him certain features that he did not give to others. That is why Almighty Allah created human beings on different shapes and in different categories. Some are taller than others, likewise, some are blacks and others are white or mixed as well. In some cases some have red skins among other things. This shows nothing but the signs of Almighty in his creator. This is according to the physical structure of man, but according to the internal features, man, since before his presence in this world, many things happen which might have further testified the Greatness of Allah. The science of anatomy here is indeed evidence to the Magnificence of Allah Who has no assistant or supporter in creating or doing whatever he wishes. To understand this statement Allah says:

Then We made the Nutfah into a clot (a piece of thick coagulated blood), then We made the clot into a little lump of flesh, then We made out of that little lump of flesh bones, then We clothed the bones with flesh, and then We brought it forth as another creation. So blessed be Allah, the Best of creators.\(^1\)

For understanding the above verse, Ibn Khathir declared that the verse is evidently displayed the sign of Allah in the progressive creation of Man from clay then from Nutfah and thereafter. He therefore asserted that Allah tells us how He initially created man from an extract of Tin. This was Adam, peace be upon him, whom Allah created from sounding clay of altered black smooth mud. Ibn Jarir said, "Adam was called Tin because he was created from it.” Qatadah said, "Adam was created from Tin." This is the more apparent meaning and is closer to the context, for Adam, upon him be peace, was created from a sticky Tin, which is a sounding clay of altered black smooth mud, and that is created from dust.\(^2\)

\(^1\) Qur’an, Surah, al-Muminin, 23: 14.
\(^2\) Ibn Khathir,
CONCLUSION
The aforementioned discussion had played a significant role in providing the
detailed explanations on the ways and means to restore the vigorous study of
natural sciences in contemporary Muslim societies. Also, it is well understood
that interest in natural phenomena is one of the leading factors in achieving this
goal, because lack of interest is among the major factors that led to the decline of
the study of natural sciences in the Muslim countries. Therefore, contemporary
Muslims have to apply all the ways and means in their studies in order to
discharge their religious responsibilities in the society. This can only be achieved
through constant reading and reflecting on the meaning of the Qur’anic verses.
It is believed that nothing has been left out in the matters of Qur’an. The task of
finding solutions to the challenges of contemporary Muslim world depends on
the seriousness of Muslim Ummah to vigorously study the physical nature of the
universe.

It is also suggested that contemporary Muslim societies should understand that
‘aql (reasoning) is an instrument that Allah gave man to acquire knowledge. In
doing so, Muslims do not relax to observe and experience the physical world in
order to discover the natural sciences. More importantly, Muslims need to do
much more than what the previous generation of Muslim scientists did in
studying the natural sciences.

Finally, “Muslims need to realize that there is no quick fixes science, and
scientific spirit, cannot be brought or transferred. It must emerge from within a
society and scientific activity must be made meaningful to the needs and
requirements of a people. There is no substitute for rolling one’s sleeves and going
to the laboratory. Only by touching and transforming the lives of ordinary
Muslims can science develop as a thriving enterprise”.

5.0 REFERENCES
A., A. (2009). ”Decline and Fall of Islamic Scientific Tradtion (1500-1900)” in
Islamic Science and the Contemporary World: Islamic Science in the
Contemporary Education, ed. By Baharuddin Ahmad. Malaysia: (ISTAC,
IIUM Press, 2009), 21.


