## The Quran, Science and the Scientific Vision: Between Past, Present and Future

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There are three components in the makeup of human nature. First of these are the hereditary traits that Man inherits from his genitors, the second are his roots and environment, and the third is his culture. Genetic traits are less important since their role is limited to creating a soundly minded person. Studies and research have shown that ordinary humans are born with an average sound mind and can perform all basic functions. The other two elements (i.e. man's roots, environment and culture) play an important role in his work and activities.

The knowledge angle in Man, as another manifestation of his nature, reflects the culture and education he was exposed to. If we look at modern times, we will find that Muslims, despite the diversity of their colors, races, countries, languages, doctrines and behavioral particularities have all come to agreement on one aspect: their lack of interest in science and their underdevelopment in this area. This phenomenon is visible among Muslims around the world, especially those living in the Indian subcontinent and its surroundings, a state of matters that calls for stepping up the efforts to resolve this critical issue with no further wasting of time. The regression of Muslims in all matters scientific is the result of significant inadequacies in education and in the culture they have acquired over the years.

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There is however an important question to ask: What do we mean by culture and education? If we are referring to the secular culture dispensed and promoted today at modern educational institutions, and if we were to we consider it as incomplete, our young people would not have been left lagging behind in science by the other graduates of these modern educational institutions. If we refer to the Islamic culture taught at traditional religious schools, and if we contend that it is inadequate, sciences would not have prospered among Muslims between the 6<sup>th</sup> and 12<sup>th</sup> centuries. Muslim scientists would not have been able to render such tremendous services to humanity in these fields and to pave the way for modern science. We need to delve into past eras to identify the causes behind the very existence of today's state of matters, and to know how to address the underlying problems and how to resolve them.

There were times in human history when people thought culture to hold a purely religious connotation. Man was spurred to acquire such religious culture that was believed to grant him access to everything else he needed in life and guarantee the prerequisites of his material and spiritual success as an individual and as a community. We should know that there are two sources of knowledge:

The first one is revelation from God Almighty, and the second one is the quest for understanding the miracles and manifestations of the universe. Prophets were given the first source while researchers were given the second one. Revelation was the only source of learning and knowledge in the early stages of human history. The messages, commandments and teachings of the Almighty reached Man through the channel of prophets and messengers and constituted the one and only means of education and culture. Allah (SWT) mentioned this approach to learning and knowledge in several places in His book. He taught Noah (peace be upon him) how to fashion the ark, saying:

[So We inspired him (with this message): "Construct the Ark within Our sight and under Our guidance."] (Al-Muminoum, verse 27).

The Almighty also said about Joseph (peace be upon him):

[When Joseph attained his full manhood We gave him power and knowledge: thus do We reward those who do right.] (Yussuf, verse 27).



[He said: "Before any food comes (in due course) to feed either of you I will surely reveal to you the truth and meaning of this ere it come to pass: that is part of the (Duty) which my Lord hath taught me. I have (I assure you) abandoned the ways of a people that believe not in Allah and that (even) deny the Hereafter."] (Yussuf, verse 37)

If we consider the limited rules and means that Man had in those times, the situation becomes clearer in our minds. Allah (SWT) clarified the other means and sources of learning and knowledge when the world's population grew and human life requirements expanded with the passage of time. New sciences and arts came into existence thanks to the endeavors of researchers and scholars. Imam al-Ghazali, may Allah have mercy on him, says that the emergence of an effective intellect is only possible through the purity of beliefs and religious faith, and that in consequence, the primary teachings to be imparted must be in line with the religious tenets and principles. Yet, he was also opposed to the limitations imposed on education and suggested that sewing, farming and woodwork be included in the school curricula he proposed, being mindful of the prerequisites of that age.

When Muslims reached and settled in India, they first established religious schools to ensure the survival and continuity of their religion. Only religious books were taught at these schools and there was no mention in their curricula of logic, philosophy, mathematics or such sciences until the 13<sup>th</sup> century AD. Yet, these same subjects were being taught in the Islamic countries of those days as we learnt above from Imam al-Ghazali. Thus, the teaching of mundane material was gradually introduced into curricula.

Education and culture in India did not fall under government tutelage during the times of Muslim sultans and there was no centralized system. Until that time, education was free and outside the control of Muslim rulers and kings in general. The educational process and the creation of schools were the fruits of individual endeavors in general. At first, mosques in all villages served as schools, and Quranic schools were built next to mosques to provide six years of elementary education to children. The teacher was appointed by a rich philanthropist or organization to officiate at these schools where the children of the poor children were also taught. This is how the schooling of Muslims in India began, and Islamic education in India continued to follow this model



under the Mongol Empire and rules that preceded it, namely as the fruit of individual efforts. Still, these Quranic schools and educational institutions were showered with valuable gifts from rulers and knowledge lovers. The Mongol ruler Jalaluddin Mohammad Akbar was a great lover of learning and an ardent advocate of education. For the first time, his Government took the initiative of creating a special educational authority whereby Muslim and Hindu children were allowed to study side by side with no discrimination. Though the curricula were different, the students shared classes such as mathematics, science and others. Under the Mongol reign, and ardent interest was taken in education in science and industry fields, and even more so in medicine which drew the admiration of all and benefited to Muslims and Hindus alike.

A new educational trend was observed towards the end of the Muslim rule over India. Worthy of mention for example were the educational activities undertaken by some Muslim rulers in Hyderabad. A Faculty of Oriental Sciences was established in Hyderabad under the name of Dar al-'Ulum (1853-54 AD). This constituted a first step towards public education and Arabic, Farsi, Marathi, Telugu<sup>(1)</sup> and English were taught there. The acquisition of these languages enabled the teaching of classical literature. Studying was not only free of charge there, but students were also awarded grants as incentives. In 1859, a school was established in each province with Farsi as the medium of instruction and another school using the local language. The curriculum of these schools included mathematics, history and geography as well as languages. Their benefits extended to all people without any distinction on grounds of religion, race or color. In 1887, a modern school was established following the European syllabus and catered to both Muslim and Hindu children.

Having addressed our homeland India, we should move on to the era known as the golden age of Muslims, a time when Islamic sciences reached their pinnacle. In his book *Introduction to the History of Science*, the famous historian George Sarton admitted that if the period between the 7<sup>th</sup> and 12<sup>th</sup> centuries were to be divided into sections of fifty years each and if each part were to be attributed to a prominent scholar, all of these time segments

<sup>(1)</sup> Marathi and Telugu are national languages in India.



would be attributed to Muslim scholars. George Sarton went on to say that it was Muslims who fulfilled all the needs of humanity and that they were the greatest philosophers, the best mathematicians, and the greatest historians of their time. Robert Brifalt wrote that sciences did not exist before Islam and that Muslims took immense interest in medicine which flourished in their hands. He added that before the advent of Islam, medicine was actually more charlatanism than science.<sup>(2)</sup>

One of the greatest historical achievements of Muslim scholars was the interest they took in experimentation, observation and deduction. This had not been observed in any consistent way in the world before Islam. Muslims sensitized the entire world to the importance of this. Robert Brifalt wrote that the Greeks codified, laid down principles and clarified them in their own language, but empirically-based deduction was against Greek disposition. Science is based on experiments and observations, and Arabs introduced the Europeans to these methods, asserting that there is no doubt that present time sciences are among the greatest achievements of Islamic culture. George Sarton corroborated this notion<sup>(3)</sup>, saying that one of the greatest achievements of the Middle Ages was establishing experimentation, which approach was introduced by Muslims and remained in use until the 12<sup>th</sup> century AD.

From the dawn of Islam, Muslims have taken special interest in learning and knowledge. The Companions (may Allah be pleased with them) were fond of learning and this deep passion was fostered in them by the Quran and the Prophet (PBUH). Muslims obeyed the commands of the Quran, and managed to acquire science and arts in a short time, even making many useful additions to them. They also ruled over most parts of the world, a rule that the Europeans could not vanquish for centuries despite their strenuous efforts.

The Indian author Maulana Abul Kalam Azad draws a comparison between Europe and the Islamic world in medieval times in his book, Ghubare-Khatir (*Sallies of Mind*)<sup>(4)</sup> saying that the Europeans indulged in the religious faith

<sup>(4)</sup> Maulana Abul Kalam Azad: "*Sallies of Mind*". The Arabic translation by Jalal Said Al-Hafnawi, the National Center for Translation, Cairo, 2016..



<sup>(2)</sup> The Making of Humanity, London, 1983.

<sup>(3)</sup> Ibid.

to the point of madness, while Muslims were the people of knowledge and science. Europeans tried to fight Muslims using prayers as their weapons while Muslims fought with war machines and battle tools. The Europeans relied on God only, and Muslims relied on Allah (SWT) but also on the instruments, machines and weaponry that Allah created. Europeans believed in spiritual power and Muslims believed in spiritual and material might. Europeans expected miracles while Muslims expected results. Miracles did not materialize but the results of hard work were tangible and the face-off culminated in the Islamic conquests and the defeat of the Europeans.

In this book, Maulana Abul Kalam Azad spoke about the Crusades of the 12<sup>th</sup> century. At that time, Muslims matered the use of mangonels to launch fireballs at their enemies. These war machines burned down the headquarters of the Frankish forces during the 5<sup>th</sup> Crusade. Historians say that the Franks were so terrified that their commander, Lord Walter, advised them that in the event the Muslims threw fireballs at them, they should kneel down and pray to Jesus Christ to save them from that calamity. Maulana Azad said the Frank beliefs were nothing but illusion and their prayers were of no avail as they suffered the most terrible defeat.

New sciences and scientific inventions played an important part in the Muslims' triumph over their enemies. Yet, for some internal and external factors (which will be addressed later), Muslims abandoned the quest for knowledge during those times and became similar to the Europeans between the 7<sup>th</sup> and 14<sup>th</sup> centuries. They began to place their faith in prayers only and neglected science and adherence to it. Maulana Azad referred to this intellectual deviation when he described the Russian invasion of Bukhara:

"When the Russians besieged the city of Bukhara early in the 19<sup>th</sup> century, Bukhara's governor ordered his people to concentrate on the collective prayer known as Khatme Khwajaghan in all schools and mosques. As the Russian cannons were destroying the city's fortifications on one side, Bukhara's residents were busy at the other end chanting the mantra: "Yamuqalliba al-Qulub, yamuhawwila al-ahwal" (Oh Lord, changer of hearts and turner of situations!). The result was a battle where bombs were used on one side and the Khatme Khwajaghan was used on the other. There is no doubt that supplications and prayers are useful to those with determination



and willpower, but for the lazy they simply become a tool of idleness and of immobilization."<sup>(5)</sup>

The history of Islamic civilization and urbanization can be divided into two phases. The first one covers from the 7<sup>th</sup> to the 14<sup>th</sup> centuries AD, while the second one stretches from the 14<sup>th</sup> century to present times. It is easy to observe that the state of Muslims in the two eras differs widely with regard to science. Muslims were advanced in science during the first phase as Europe wallowed in ignorance, superstitions and mistrust. Observing the second phase, we find that the situation changed. By that time, most of Muslims had moved far away from sciences and were drowning in ignorance, corrupt ideologies and shirk while Europe was shining thanks to Islamic sciences. Speaking about the first phase of Islamic civilization, the famous author Donald Kimble said that during the Islamic era of scientific excellence, Europe was living in darkness, torn apart by conflicts and injustice and subjected to the religious supplications and superstitions that were rife among people.<sup>(6)</sup>

The second aspect that sets the first and the second phases apart is that Muslim sciences and arts in the first phase were rich, wide-ranging and comprehensive, and scientists were not only skilled in natural sciences but also in religious ones. For example, Jabir Ibn Hayyan learned religious sciences from Imam Jaafar al-Sadiq in al-Madinah before he became involved in scientific research. It is possible that his deep knowledge of Allah's book steered him towards the path of scientific research. Abu Bakr Zakaria al-Razi and Abu Ali Ibn Sina were pioneers in medicine along with their proficiency in religious and philosophical sciences. Yacoub Ibn Ishaq excelled in theology along with musical, natural, optical and mathematical sciences.

Charles Gillespie carried out a valuable study on Muslims in the first phase and drew up a list of polymaths who contributed to the advancement of science between the 7<sup>th</sup> and 15<sup>th</sup> centuries AD and who laid down the foundations of the present age scientific renaissance. He mentioned in this list the names of one hundred and thirty scholars of whom one hundred and five hailed from Muslim countries, ten were from Europe, but most had received their

<sup>(6)</sup> Arabian Medicine and its Influence on the Middle Ages, London, 1926.



<sup>(5)</sup> Ibid.

education at Andalusian universities (University of Cordoba, the University of Granada and others). It appeared that almost 90% of all scientists were from the Islamic world and the same percentage was noted in the fields of invention and scientific literature.

Let us now review the current situation, or the second phase of Islamic history. According to a 1981 study, no Muslim country is listed among the 25 countries with the most published scientific books each year. In 1996, less than 1% of the authors of scientific literature in the Islamic world contributed with their scientific writings in the scientific periodicals and journals published around the world. In the first phase, when Muslims constituted 15% of the world's population, their contribution to scientific activities reached 90%. Today, Muslims account for 22% of the world's population, yet their contribution to science is estimated at less than 1%. At the heyday of the Islamic civilization, Baghdad had two hundred bookshops that sold books on subjects such as religion, astronomy, natural sciences, mathematics, chemistry, medicine and so on. At that time, people also took great care of the private libraries in their homes, organized scientific salons, and reflected on the new discoveries and sciences, studying them in the light of the Holy Quran. Today, the works of Abu Bakr Zakaria al-Razi, Jaber Ibn Hayyan and Ya'gub Ibn Ishag al-Kindi are rarely found in the library of any Islamic institution, or in a public or private library.

Maulana Abu al-Hassan Ali al-Nadawi says: "It is a historical fact and a lesson for people because Muslims, after having rendered such immense services to mankind in science, they lost their scientific and research path and clung instead to customs and traditions, lagging behind the West in science and industry." Edward Attiya says describing the situation of Muslims today: "Muslims have lost the ability of reflection and creativity and knowledge has become for them a mere exercise in the memorization of old books." But this is not all. Muslim scholars have begun to write annotations for ancient books, annotated those annotations, and then considered these as scientific services. They squandered the abilities and faculties bestowed on them by God Almighty on superstitions, criticism and non-essential issues instead of putting them to good use in scientific research.

Let us now review the factors that led to the Muslims' ascension and then to their current regression so we can determine how to remove these factors



once we understand them. Man undertakes an action for two reasons: either he is pursuing money, prestige or similar goals, or is moved by passion, desire and duty. There is no doubt that the Muslims' connection to science and arts revolved around these two reasons. The Holv Quran was the first reason that prompted the Muslims to search, investigate and study the universe after Allah's Messenger (PBUH) was sent. The Quran provided a powerful impetus for Muslims to ponder their existence and the universe. Muslims had the honor of being companions to the Prophet (PBUH) and they sought inspiration from the Quran and considered it as their guiding light and shining beacon. The situation gradually changed after the death of the Messenger (PBUH) and then deteriorated further after the rule of the caliph 'Uthman Ibn Affane (may Allah be pleased with him). The ranks of the Muslims broke and the desire for power and rule grew and discrimination became widespread among people. Around this time, the process of collecting and codifying the hadiths of the Messenger (PBUH) began. Factions evolved around differences about the veracity of hadiths and their chains of narrations and these *figh* divergences and debates sparked hostilities among Muslims. On the other hand, the Islamic rule was steadily expanding and new countries were joining the lands of Islam. Some converted to Islam willingly having being touched by the light of guidance, others converted to protect their interests and to be in the good graces of the Muslim rulers. The intellectuals and thinkers of the parties that converted to Islam after their defeat and who were busy investigating the factors behind the might of Muslims and for the ways of destabilizing them, concluded that the Quran was the source of power for Muslims. Muslims excelled in all spheres of life thanks to the Holy Quran. Their enemies understood that no change could possibly be brought to the Quran and decided to adopt another tactic. They tried to drive the Muslims away from their Quran and fill their thoughts with other matters. The fruits of this strategy were soon noted. The attention of Muslims to the Quran was no longer as assiduous as it should be. Muslims transferred their research and study endeavors to less worthy matters and the teachings of Islam began to take many colors and shades. Muslims received new books that contained wiles and diversions and where they found ways to integrate their customs and traditions into Islam. Islam became a simple means of guaranteeing good life in the Hereafter without departing from the customs and traditions inherited from ancestors.



In this fathomless abyss disappeared the new society that had been created under the shining light of the Quran, and Muslims became feeble in intellect and action under the plots of Islam's enemies. Muslims were preoccupied with reading verses and memorizing the Holy Quran, but forgot to ponder and reflect on Allah's miracles which are visible throughout the universe. Knowledge sources dried up and stagnation and regression replaced them. The window of reasoning and analogy was closed off and the door was instead opened widely to transmission and imitation. Imam al-Ghazali was conscious of the plots hatched against Islam and Muslims, yet most Muslims did not heed his writings and his argument that the advocate of pure imitation and total rejection of reasoning was an ignorant. In his book The Incoherence of the Philosophers, Imam al-Ghazali criticizes the opponents of scientific or cosmic facts: "He who thinks that it is his religious duty to disbelieve such things is really unjust to religion, and weakens its cause. For these things have been established by astronomical and mathematical evidence which leaves no room for doubt." He goes on to say: "If you tell a man, who has studied these things so that he has sifted all the data relating to them, and is, therefore, in a position to forecast when a lunar or a solar eclipse will take place: whether it will be total or partial; and how long it will last, that these things are contrary to religion, your assertion will shake his faith in religion, not in these things because these matters are governed by mathematics."

Imam al-Ghazali gave a comprehensive definition of science in his book *Ihyaa 'Ulum Ad-Dine* (The Revival of the Religious Sciences) and strongly criticized the approach taken by Muslims in his time:

"Sciences whose knowledge is deemed fard kifayah comprise all sciences which are indispensable for the welfare of this world such as: medicine which is necessary for the life of the body, arithmetic for daily transactions and the division of legacies and inheritances, as well as others besides. These are the sciences which, because of their absence, a community would be reduced to narrow straits. But should one who can practice them rise in that community, it would suffice and the obligation to acquire their knowledge would cease to be binding upon the rest of the community. No one should be astonished when we say that medicine as well as arithmetic is of the sciences which are fard kifayah."<sup>(7)</sup>

<sup>(7)</sup> Abu Hamid al-Ghazali: *Ihyaa 'Ulum ad-Dine*. Chapter 2 on Praiseworthy and Blameworthy Learnings, their forms and rules.



The second factor that contributed to the spread of scientific research among Muslims was that most Muslim rulers were enthusiastic about knowledge and learning. However, when disputes arose between Muslim rulers, they began to lose their power and neglected science and research. Added to this was the fact that some rulers were averse to any criticism against them or their doctrines, which created an environment where freedom of thought had receded. Furthermore, because of wars, the environment was not suitable for engaging in science.

The injustices of people against each other worsened and the disposition of rulers changed. They mostly began to violate the ordinances of Allah, so much so that scholars who were true to themselves were forced to either disobey the rulers or withdraw from worldly life. The debate around Greek philosophy began during the rule of al-Mamoun. After the Tatar invasions, Muslims were shocked and found comfort in Stoicism and the despair, deprivation and fatalism it was founded on. The Tatars spread this state among Muslims and it became easy to rule a submissive people who opted of stoic endurance. In this state of despair, Muslims found serenity in sanctuaries and zawayas and the number of geniuses dwindled among them. Maulana Abu al-Hassan al-Nadawi says in this regard:

"Most scholars and thinkers turned to metaphysics and paid little if no attention to natural sciences and beneficial arts. For centuries, they directed all their endeavors toward sciences and studies that were totally unrelated to religion and the world. They did not engage in any of the sciences and experiments that could influence the harnessing of cosmic natural forces or bring about the material and spiritual supremacy of Islam across the world."<sup>(8)</sup>

As a result, the state of Muslims became similar to that of Europeans around the time the Roman Empire fell apart. Europeans embraced Christianity for the sake of spirituality only and religion was kept separate from science. Christians steered clear of religious sciences (or new sciences) and declared as heresies the works of Euclid, Plato, Galileo and others. They burned the libraries that housed these books, including the famous Bibliotheca

<sup>(8)</sup> Abul Hassan Ali al-Nadawi: Assira' bayna al-Fikra al-Islamiyyawa al-Fikra al-Gharbiyya fi al-Aqtar al-Islamiyya.Dar Al-Qalam, Kuwait, 1983.



Alexandrina which was burned down by the Romans in the 5<sup>th</sup> century AD. Such was the state of Muslims when they fell into the hands of hypocrites and oppressors and wandered away from the Quran and from useful secular sciences. Maulana Abul Kalam Azad says about the deterioration of Muslims: "*Knowledge was restricted to the spiritual and religious spheres which had been stagnant before. The new sciences were considered contradictory to Islam. In 1857, the Library of the Dahlawi College was looted and English and scientific books were destroyed. The tools of science were shattered being considered as Satanic machines. The looters carried Arabic and Persian books with them and sold them cheaply. Because of their aversion to science, Muslims became the weakest of all peoples in the early 20<sup>th</sup> century, economically and militarily. In 1918, the European forces seized Al-Quds. The Supreme Commander of these forces (General Allenby) declared that: 'The wars of the crusaders are now complete. The battle was a great moral victory for the British Empire,' as if the Muslims had been defeated for eternity."* 

Science was divided into religious and secular sciences to suit the designs of the enemies. People were focused on the teaching of tafsir, Hadith, jurisprudence, Sufism, the mysteries of Charia and philosophy, and neglected the new sciences as worldly sciences, confident that the pursuit of such sciences benefits only those who desire material life and believe in this world only. They believed that it was impossible to mix religious with secular sciences. But is that really the case? Let us analyze this aspect. We need to understand the definition of science in its specific sense, and of knowledge in its more general sense. Many mistakenly believe that sciences are limited to scientific subjects such as geography, economy, language etc., which is not the case. Science is a system of knowledge covering general truths or the operation of general laws especially as obtained and tested through scientific method. This definition of science is provided by the famous English Webster dictionary. Let us now look at the general meaning of knowledge in dictionaries. It is total cognition and perception of the truth of reality and certainty (Cf. for the Arabic definitions: Al-Zubaidi's Tajal-'Aruss and Al-Bustani's Muheet al-Muheet). A man of knowledge is said to be one who had grasped knowledge of the truth of something. It also means knowledge of something that distinguishes him from others (Magayees al-Lugha by Ibn Fares). It appears that the concept of knowledge and science are one. Therefore, the synonym of 'science' is



knowledge in the English-Arabic dictionary *al-Mawrid*. For the same reason, you will find that Arabs use the term «faculty of science» in reference to the section where one studies science. In the Holy Quran, knowledge is what is seen with the eye and heard with the ear and felt by the heart (the heart meaning here the mind). Allah (SWT) says in *Surat* of *al-Israa*: [*And pursue not that of which thou hast no knowledge; for every act of hearing or of seeing or of (feeling in) the heart will be enquired into (on the Day of Reckoning)*.] (*Al-Israa*, verse 36).

In the introduction to his book *Tarikh Falasifat al-Islam fi al-Mashreq wa al-Maghreb*, Mohamed Lutfi says: "The Book of Revelations sent to the most eloquent of all Arabs was not only the codification of religion but also a work of reference for about three hundred branches of science in Charia, language, history, literature, nature, Philosophy, and others. Most of these sciences originated from the Quran itself and were inferred by scholars from its scriptures. Many of them were established to serve the Quran. This type of science is called a «medium» or a «channel»"<sup>(9)</sup>. Sheikh Tantawi Jawhari said in the introduction of his *tafsir' Al Jawaher fi Tafseer al-Quran al-Karim*: "Let this book be a strong impetus for the study of the higher and the nether worlds. Let this Ummah give birth to those who will surpass the Franks in agriculture, medicine, mineralogy, arithmetic, engineering, astronomy and other sciences and industries. And why not when the Quran contains more than seven hundred and fifty verses on knowledge and learning?"<sup>(10)</sup>

Now, let us ask ourselves this question: Why did Allah and the Messenger (PBUH) exhort Man to seek knowledge? If Allah commanded something, it can only have benefits for Man's religion and worldly life. For example, ablutions and prayer carry the benefits of cleanness and physical exercise. When a person prays, his mind is preoccupied with the praise of Allah for His guidance, leading to stronger piety and better mental and psychological health. The pious person draws closer to Allah during prayers and thus

<sup>(10)</sup> Tantawi Jawhari: *Al-Jawaher fi Tafsir al-Quran al-Karim*, vol 1, p. 3. Publications of al-Maktaba al-Islamiyya Library, Cairo, second edition, 1350 AH.



<sup>(9)</sup> Mohamed Lutfi Jum'a: TarikhFalasifat al-Islam fi al-Mashreqwa al-Maghreb, p. 14, Hindawi Foundation for Education and Culture, Cairo.

praying helps Man to draw religious and material benefits. And such is the case with all of Allah's other commands.

Man continued to be guided by prophets who are messengers from the Almighty. The cycle of prophecy was sealed by the Prophet (PBUH). Allah revealed His Book to him and thus brought religion to a full circle. There is an important benefit to note: Satan wished to continue misguiding Adam's progeny until the Day of Reckoning and asked Allah to allow him time for that, and Allah granted him such time. Thus, Satan will continue to drive Man astray until the resurrection. Who then will guide Man and how would this guidance be? The Holy Quran will guide the Islamic Ummah and all peoples until the Day of Judgment and science is the key to this work. Science is a powerful medium between the Creator and the created, and through knowledge we take cognizance of things, their composition and their attributes. We see in the creation of the Almighty the greatness of the Creator and minds are astounded at the perfection of the measures and the proportions of creatures. When we look at the history of knowledge and scientific discoveries, we find that the more knowledge and understanding Man acquires, the more he is faced by mystifying and overwhelming mysteries. Man became even more intrigued when he observed cell formation through the lenses of his microscope, and so on so forth as the mysteries of the universe continue to unfold before Man. If the scientist is a believer in God, he would discover the manifestations of Allah's powers in the universe, and his faith and trust in the Almighty would increase through that knowledge. The scientist who does not believe in God and is not guided by the light of the Quran will be immersed in the quest for material benefits. For such reasons, Allah commanded the study of His laws and the manifestations of His power in the universe. It is reported that the Prophet (PBUH) said: "Scholars are the heirs of the prophets and the prophets do not leave behind a dinar or a dirham but rather, only [leave behind] knowledge, and whoever acquires it, has, in fact, acquired an abundant portion." (Al-Tirmidi and Abu Dawoud).

The above was inspired from the Holy Quran. Allah (SWT) says: [Say, "It is He who has produced you and made for you hearing and vision and hearts; little are you grateful."] (Al-Mulk, verse 23). Man studies the miracles of Allah (SWT) that abound in the universe through sight, hearing, and heart (in the sense of mind). The best manifestation of gratitude for the



gift of these faculties is to use them for what Allah intended them for since they will be accountable before the Almighty. Allah says: [Say, "Observe what is in the heavens and earth. But of no avail will be signs or warners to a people who do not believe." (Yunus, verse 101). The act of observing refers in language to seeing, contemplating, thinking and pondering. We therefore need to deeply and diligently study the universe. For example, since Allah (SWT) commanded Muslims to pray, they must take great care of the conditions of praying, such as purity of clothing, of place, ablutions, and the performance of these prayers according to the correct ritual. Allah also ordered us to meditate and reflect on the universe. We must therefore roam the universe, invent fast vessels to travel and other means and machines that would support this contemplation exercise and the study of all things. Allah (SWT) says: [And how many a sign within the heavens and earth do they pass over while they, therefrom, are turning away. And most of them believe not in Allah except while they associate others with Him.] (Yussuf, verses 105-106). Many aspects are mentioned in this verse. One of these refers to the people who do not ponder the miracles of the heavens and the earth and their oblivious passage besides these miracles. If man does not draw lessons from Allah's divine verses and does not ponder them, he would not believe in Allah's absolute power in the universe, and may thus open himself up to association of other deities with Allah, thus become deserving of Allah's punishment as warned in the Divine Book: [Do they not look into the realm of the heavens and the earth and everything that Allah has created and [think] that perhaps their appointed time has come near? So in what statement hereafter will they believe?] (Al-A'raf, verse 185).

The word «verse» was used in the Holy Quran with two meanings. One is a reference to the verses of the Quran, and the second is the miraculous manifestations abounding in the universe. Allah urged Man to study the manifestations of miracles scattered in the universe. The number of verses detailing the rules of praying, fasting, zakat, pilgrimage, divorce, etc. in the Holy Quran are one hundred and fifty verses, while the verses relating to knowledge are seven hundred and fifty-six verses. This is not intended to belittle the importance of religious provisions, but to say that the pillars of Islam alone such as praying, fasting, *zakat*, pilgrimage and others do not stand for the totality of religion, and that we must engage in the study of



the universe as commanded by the Almighty to unravel its mysteries and for people to follow the path of guidance.

The Quran mentioned knowledge and urged for its pursuits in these two verses: [*Do you not see that Allah sends down rain from the sky, and We produce thereby fruits of varying colors? And in the mountains are tracts, white and red of varying shades and [some] extremely black. And among people and moving creatures and grazing livestock are various colors similarly. Only those fear Allah, from among His servants, who have knowledge. Indeed, Allah is Exalted in Might and Forgiving.] (<i>Fatir*, verses 27-28). There are two important elements in these two verses. Firstly, there is a secret in the different colors of the universe, which we find in genetics and geology. Secondly, only men of knowledge truly fear Allah. Thirdly, worshipers come in different classes, some may have no knowledge, but scientists and people of knowledge have the greatest fear of Allah because of this very knowledge of Allah.

*Kufr* or denying the existence of Allah takes two ways: Firstly: verbal denial and secondly denial through actions. For example, a child may verbally reject an order from his father, but sometimes he does not express this denial in words, yet he does no obey his father's order. That is how we have become today. We took some teachings of the Holy Quran, and ignored other commands. Allah says: [So do you believe in part of the Scripture and disbelieve in part? Then what is the recompense for those who do that among you except disgrace in worldly life; and on the Day of Resurrection they will be sent back to the severest of punishment. And Allah is not unaware of what you do.] (*Al-Baqara*, verse 85). In another verse, Allah says: [O you who have believed, enter into Islam completely [and perfectly].] (*Al-Baqara*, verse 208).

Ponder this: are we not weak and vulnerable in these times because we embraced some of the Quran but ignored the rest? Success is hidden in the commands we shirked. We have banned the study of the universe, and our educational institutions have abandoned these sciences claiming they are non-religious. Allah says: [And [warn of] the Day when We will gather from every nation a company of those who deny Our signs, and they will be [driven] in rows. Until, when they arrive [at the place of Judgment], He will say,



"Did you deny My signs while you encompassed them not in knowledge, or what [was it that] you were doing?"] (An-Naml, verses 83-84). Though this verse carries pieces of wisdom about pondering the universe and nature, we divided science into the religious and the secular. This was a plot hatched by the enemies of religion and the dismissal of religious tenets as referred to by the Quran: [And they will continue to fight you until they turn you back from your religion if they are able. And whoever of you reverts from his religion [to disbelief] and dies while he is a disbeliever - for those, their deeds have become worthless in this world and the Hereafter, and those are the companions of the Fire, they will abide therein eternally.] (Al-Bagara, verse 217).

The problem is that when we shunned religion, we also shunned science and the disposition to learning and knowledge. Today, we are similar to the blind since we read Allah's verses but fail to understand them or to perceive the manifestations of His might in the universe.

Having reviewed this state of matters, we must engage in reflection on how we can change it. Dividing science into the religious and the secular has divided our scientific institutions. Religious sciences are not taught at modern institutions, and religious schools are unable to assimilate all sciences. The human being is only useful if he can have a religious culture along with his knowledge of modern sciences. The mind that evolves in the light of the Holy Quran has the human inclination and the Islamic spirit that prompts it to engage in charitable actions. Islamic teachings are not intended to teach the pillars of Islam, but rather to teach the system of life that the Holy Quran commanded.

It is clear from all the above that we must return to the Holy Quran in all cases. We need to understand the Quran and formulate our school curricula according to it. We must establish all inclusive scientific institutes to educate Muslim scholars. We must change mindsets that see spending money on mosques and **madrasas** as an ongoing charity and that spending this money instead on modern schools is a waste or a worldly pursuit and a quest for fame. The dissemination of any useful knowledge is a religious act and we must train Muslim scholars who are well versed in the modern sciences. We must build 'pilot schools' where particular attention will be paid to a "fully



integrated curriculum" that includes teaching the Holy Quran, translation and interpretation, languages as well as modern sciences. After graduating from these secondary schools, students would have the option to either study modern sciences or attend religious schools to master the sciences of *Hadith*, *Fiqh*, and Islamic Charia. Each student would thus acquire an education in the teachings of the Holy Quran and walk in their shade his entire life. These Quranic teachings will prompt students to observe experiment, analyze, research and reflect, or engage in what we call scientific thinking. A scholar who acquires his science through this approach will be able to project a true image of Islam before the world. It is time we admitted our mistakes, but without shedding tears for them or blaming others, because all of this would be to no avail. The Almighty commanded us to strive and work hard, so we must rise up and build a good and useful society in order to live respectably in this world and happy in our everyday life.

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