Science and the Quran

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Abstract

This paper examines the relationship between the Islamic Holy Book, the Quran, and modern science. It looks at the methodology of science, the purpose and history of the Quran and Islam, conflicts and agreements between Quranic verses and modern science, and approaches Muslims have used when referring to science while discussing their religion. Towards the end, the paper recommends an approach that is most likely to integrate scientific discoveries with Islamic faith, based on the lectures and book (2018) written by Hamza Tzortzis. Finally, various verses of the Quran will be cited in order to illustrate multiple Quranic themes and to relate those verses to scientific discoveries or theories.

Keywords: Quran, science, verses, approaches.

Science and the Quran

The idea that science and religion are in no way related has been a rather conventional misconception for both the religious and non-religious person; consider that, in a study conducted by researchers at Rice University, 32% of scientists in the U.K., one of the more secular countries, believe that there is a conflict between religion and science, and this percentage is 29% in the U.S. ("No, Not All Scientists are Atheists," 2015). According to Islamic belief, though, the Quran actually encourages Muslims to discover more about the world around them and seek knowledge; the Quran states in Chapter 20, verse 114: "... and say: 'My Lord! Increase me in knowledge.'" However, on the one hand, there are those that believe that for the Quran to be true, it must be in agreement with science, while, on the other hand, some discard science if it contradicts the statements of the Quran. The reality is that, while they can be intertwined, they are not interdependent on each other, which can be understood by considering how Muslims should treat the Quran's verses, how science is a flexible and ever-changing method, and how there are different approaches to science and the Quran.

The Quran contains many scientific points presented 1400 years ago that were not yet discovered, such as the formation of the fetus in the womb. However, it is important to note that the Quran is not a book of science; it is a book of signs, meant to render readers' minds more open by hinting them at the cosmos until they reach the conclusion that there is an Omnipotent Being responsible for it all. With that in mind, it is imperative not to use the Quran alone as a way of pushing Islamic belief, as the traditional approach to Islamic thought suggests. This 'traditional approach,' as author and a member of the Islamic Education and Research Academy (iERA) Hamza Tzortzis names it (iERA, 2018), became even more widespread once a book

titled ‘The Bible, the Qur’an and Science’ by Dr. Maurice Bucaille was published. In his book, Bucaille, who converted to Islam many years after publishing the book when he realized the condition of a mummy he found matched what had happened to the Pharaoh in the Quran, says that many points mentioned in the New Testament often contradict each other or conflict with modern science, while he states that the Quran is ‘totally in keeping with modern scientific knowledge’ (Bucaille, 2003, p. 82). Buacille’s book is what is believed to have been the milestone that prompted Muslims to push Islamic belief by showing the inherent correspondence between the Quran and modern science. Muslims, as did Buacille in his book, took a verse in the Quran, analyzed its meaning, and then stated that modern science agrees with this verse; therefore the Islamic Book is the word of an Omniscient Creator, as no man in the desert could have known such things 1400 years ago.

This method may be fascinating to Muslims who already have a solid creed, as they already have Islamic faith, and this ‘traditional approach’ only helps reinforce it. The problem with this method begins when it is used on those who do not have faith or any knowledge of Islamic fundamentalism. As such, the traditional approach is not entirely effective in converting people to Islam. Furthermore, as scientific research advanced further, researchers added insult to injury by analyzing and disproving the points brought up by those utilizing the traditional approach. Not only did these refutations further deter people from converting, but they also made those who were already Muslims leave Islam (iERA, 2018).

In response to this, author Hamza Tzortzis has presented an alternative solution in his lectures and book, titled ‘The Divine Reality: God, Islam and the Mirage of Atheism’ (Tzortzis 210). According to Tzortzis, this ‘new’, multilayered approach is not new at all, rather this is the

approach that the classical Islamic scholars had been using around 1400 years ago (iERA, 2018), and it addresses three main areas: the levels of human understanding of a certain era that enables the people living in it to form their own meanings for certain words in the Quran based on the level of scientific understanding at the time; the flexibility of the Arabic words in the Quran that could host all sorts of different meanings; and the Quran's ability to engage with audiences of any era, be that of the 8th century or 18th, and yet remain agreeable with those audiences despite different understandings. One main point of this argument for Muslims is that their Islamic creed says that whatever comes from Allah is the truth, while science, although a beautiful method of pursuing knowledge of the observable universe, is always changing, and so it should come as no surprise if science happens to contradict the words of the Quran, allowing Muslims to maintain a well-established creed in their religion (iERA, 2018). In order to understand these approaches in greater depth, it is important to understand the Quran and its purpose, as well as science, its methodology, and its main goals.

What is the Quran?

The word 'Quran' literally translates into 'the recitation,' and Muslims believe that the Quran is the word of the one true God, Allah. Muslims recite the Quran in prayer and when making supplications. The Quran states in Chapter 2, verses 2 through 5:

> This is the Book about which there is no doubt, a guidance for those conscious of Allah, who believe in the unseen, establish prayer, and spend out of what We have provided for them. And who believe in what has been revealed to you, [O Muhammad], and what was revealed before you, and of the Hereafter they are certain [in faith]. Those are upon [right] guidance from their Lord, and it is those who are successful.

Muslims believe that the Quran was first revealed nearly 1400 years ago to an Arabian man in Mecca, named Muhammed, who was troubled by the way his people worshipped idols and paintings, praising them and asking them for forgiveness. To ease his troubled mind, he headed to a cave in Jabal Al-Noor, or the Mountain of Noor, where the Angel Jibreel (Gabriel) descended. In summary, Jibreel told Muhammed that he was the final Messenger of God, destined to inform his people and all of mankind about Allah. Upon his descent to the cave, Jibreel recited the first verses to be revealed to Muhammed, in Chapter 96, verses 1 through 5: "Iqra'a [Recite] in the name of your Lord who created - Created man from a clinging substance. Iqra'a [Recite], and your Lord is the most Generous - Who taught by the pen, [He] taught man that which he knew not." The word 'Iqra'a' literally means 'read,' and one of the themes in the Quran is to read and learn more in pursuit of knowledge, asking scholars and knowledgeable people for information.

Notice that the verses in Chapters 96 were among the first to be revealed. The verses of the Quran, in fact, did not descend in order, nor did they descend all at once; according to Islamic history, verses came down in stages ("Stages of the Revelation of the Quran," 2015). Sometimes there were certain situations and affairs that occurred and, as such, specific verses were set down in relation to those situations or to settle those affairs. After the death of Prophet Muhammed, "the verses of the Quran were compiled into a written text, arranged in 114 *surah*s, generally in decreasing order of length, with each surah representing a chapter or division of the Book." ("Quran: The Word of God," 2019). Islamic rulers safeguarded the words of the Quran for centuries, preserving the original words, verses, and chapters even up until today. The Quranic scripture 1400 years ago, however, did look somewhat different than the scriptures that

are printed out today in that the older ones did not have Arabic diacritics. This is because Arabs did not need them because they were more knowledgeable about the Arabic language. However, as more foreign speakers converted to Islam, these diacritics were needed to differentiate between the letters. Nonetheless, the meaning and words themselves have not changed.

According to a lecture by Dr. Bilal Philips, the purpose of the Quran is to purify the thoughts of Muslims, a mercy for the believer, guidance for those who submit, and to judge and deal with our affairs (Philips, 2017). The point is that the Quran is meant to be a book of signs, not a book of science. The reason that there are specific verses that allude to the composition of Earth, nature, humanity, astronomy, and so on, is to cause the reader to think about the world around him or her, its structure, and how it could have came to be in the first place. These verses are meant to make the reader come to the conclusion that the Lord, who is mentioned so many times in the Quran, is the One who caused all phenomena to happen.

What is Science?

Science is very broad; it consists of various fields of study such as astronomy, biology, chemistry, physics, mathematics, and psychology. What makes these scientific fields similar is certainly not what their subject matter consists of, rather it "is a general approach to understanding the natural world." (Price et. al, 2017). Though science is difficult to define with complete precision, science is a methodology used to focus on and to comprehend the natural world by using testable ideas, evidence, and research while involving the scientific community, leading to further research, and benefiting from scientific behavior ("A Science Checklist," 2019).

There are many features of science and three are considered to be the most fundamental (Price et. al, 2017). The first of which is systematic empiricism, which refers to what we can conclude based on what we can or have observed. We are able to understand the natural world by looking around us and recording our observations, testing what we have observed, and making conclusions that are reasonable and based on our observations. The second fundamental feature is asking empirical questions, or reasonable questions, that can be answered using observations from the natural world. These questions can range from simple ones such as 'what color is the sky?' to more difficult ones such as 'what is the frequency of radio waves?' As long as observations and calculations provide answers to these questions, then they are empirical. The third feature is public knowledge, because scientific concepts cannot come to be if no one else is aware of them besides the concept's observer. Scientists today publish their works in articles or research papers, but their observations or work can be presented to a crowd of other scientists, checked in peer reviews, or written down in journals as well.

Notice the use of the words 'natural world' when discussing science and its features. Once again, science can only answer questions that people can directly or indirectly observe, record, or calculate. It cannot answer questions that are outside of the natural world, such as 'What is the meaning of life?' or 'Is there another life after death?' because they cannot be directly observed. However, just because science cannot observe a concept does not mean that concept is false. If that were the case, theories such as the existence of the ether or dark matter may not have come to be . Science's limit is that it simply cannot test metaphysical concepts.

Examples of the Quran and Science in Agreement

Scholars and scientists alike have searched for agreements between the verses of the Quran and recent scientific discoveries. Quranic verses contain points that seem to relate to various scientific fields and topics ranging from anatomy to cosmology. For example, the Quran states in Chapter 71, verses 15 to 16: "Did you see how Allah created seven heavens, one above the other, and made the moon a light and the sun a lamp?" There is a distinction between the light being emitted from the sun and the moon, such that the sun is compared to a 'lamp' which produces its own light, while the moon merely reflects the sun's light (Bucaille, 2014). The Quran also mentions that celestial bodies have their own individual orbits in the night sky, as said in Chapter 21, verse 33: "[God is] the one who created the night, the day, the sun and the moon. Each one is traveling in an orbit with its own motion." Still on the topic of astronomy, verse 47 of Chapter 51 of the Quran states: "I built the heaven with power and it is I, who am expanding it." According to NASA, the universe today is not only expanding, but it is also growing at a faster rate than it did in its infancy due to an unknown variable astronomers refer to as 'dark matter' ("Dark Energy, Dark Matter," 2019).

There are also Quranic verses that relate to the field of geology. One example is that modern science states that the mountains are not simply the parts that extend far above the ground; rather, there are mountainous 'roots' that extend far below the ground that are sometimes even larger than their visible counterparts (Bucaille, 2014). The Quran uses the word *awtad* in chapter 78, verse 7, which means 'stakes,' similar to the ones used to anchor a tent and are hammered below the soil.

Furthermore, some verses seem to reference biological facts and processes. For instance, the Quran, in trying to make the reader think about his or her blessings, describes how milk is

extracted and presented to us in relatively good detail, as mentioned in verse 66 of Chapter 16: "Verily, in cattle there is a lesson for you. I [God] give you drink from their [animals'] insides, coming from a conjunction between the digested contents [of the intestines] and the blood, milk pure and pleasant for those who drink it." According to Dr. Bucaille, the nutrients that flow through the bloodstream help nourish the mammary glands, which in turn helps them produce the milk's contents that are separate from the internal bodily fluids (Bucaille, 2014). Finally, a great deal of verses presented in the Quran allude to the process of embryology, described as:

. . .the maturational process from fertilized egg to term infant is ordered, proceeding according to a set schedule. The organism is first one cell (the zygote), which then divides, and this process is repeated over and over again. Initially these cells are undifferentiated; they have the potential to form any part of the developing body (Shapiro, 2015).

The process of embryo formation is adequately described in several verses in the Quran, all seeming to correspond with scientific information. Verse 2 of Chapter 76 says: "Verily, I created humankind from a small quantity of mingled fluids." These small quantities of fluid and the various 'mingled' components of the sperm are what initiate the process of fertilization. The fluid contains sperm, which travels up to the oviduct and fertilizes the egg. The egg-sperm combination becomes the zygote, which continues to travel down the oviduct until it reaches the uterus and clings onto it (Ghazal et. al, 2014). The Quran indirectly mentions this zygote in the uterus in Chapter 96, verse 2: "God fashions humans from a clinging entity." Many more verses in the Quran continue the description of fetal development.

These are only a select few of the verses that reference information that currently corresponds with recent scientific discoveries and developments.

Conflict Between Traditional Approach and History

The traditional Quranic approach, which uses verses in the Quran that agree with science in order to prove the truth of the Quran and Islam, stated that knowledge implied in the Quran was not discovered before its descendence in an attempt to show that only an 'Omniscient Being' could have brought down such information.

However, many pieces of information presented in Quranic verses have been somewhat discovered or understood by previous examples, which unveiled a flaw in the traditional approach. There are a few examples of this. First, in verse 25, Chapter 57 of the Quran, it says: "And We sent down iron," which is interpreted as the descent of iron ores from extraterrestrial bodies such as asteroids. However, the ancient Egyptians seemed to understand that extracted iron was not originally from this world, as there was evidence of the ancient civilization mining it from meteors and calling it 'iron from heaven.'

Another example is one that was mentioned previously; that of the mountains' 'roots,' or stakes. The Bible, which was revealed before the Quran, states in Jonah 2:6: "To the roots of the mountains I sank down; the earth beneath barred me in forever. But you brought my life up from the pit, O Lord my God." Before the revelation of the Quran, Christians believed that, according to the Bible, the mountains had invisible roots beneath the ground.

These examples illustrate a methodological flaw with the traditional approach, but they do not necessarily disprove any information presented in those aforementioned verses.

Islamic Approach to Science

The beauty of science is that it is a practice meant to increase human understanding of the surrounding cosmos. However, human resources are limited and, as such, it is difficult to

determine absolute truths in the functionality of the universe. This also implies that science is not static; it is ever changing, with new discoveries and theories reshaping the way scientists perceive even the most fundamental concepts. As of now, science is considered the best procedure for unveiling how and why specific phenomena occur. The religion of Islam does not deny science, rather, "for a sincere Muslim, science is a blessing that God has bestowed on mankind. Islam advocates a rational approach." (Yahya, 2013). The Prophet Muhammed (Peace be upon him) states in a *hadith,* or prophetic saying, that he "who takes a path upon which he seeks knowledge, then Allah makes a path to Paradise easy for him."

It is not recommended that Muslims treat scientific information as heresy, even if it suggests something that is contrary to Islamic belief. Instead, claims that do contradict Quranic verses should be seen as inevitable considering that understandings always change. However, in Islam, to have faith means to believe in Allah and His word that is manifested in the Quran. As such, a Muslim who decides that the Quran is false because it does not line up with scientific discoveries has incomplete faith.

In conclusion, science and Islam are interrelated but not interdependant; Islam recommends that its followers actively seek greater understanding of their religion and the world arround them, but the Quran's valdity does not depend on what science says, nor should science be shunned because it conflicts with Islamic teachings. For Muslims, the Quran should always be what is considered the truth (Tzortzis, 2018), and science is humanity's best attempt to comprehend natural phenomena.

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APA Formatting 5-9	Incorrect APA in-text citations, title page, abstract, and sources in references	Several problems with APA in-text citations, title page, abstract, and/or sources in references	Correct APA: *in-text citations (4pts) *title page & abstract (5 pts) *cites sources correctly in references (8 pts)
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References 5-9	Missing many of the required sources in references	Missing some required sources in references	Includes a reference list with: *At least 1 book *At least 2 reputable articles *At least 2 Islamic sources *At least 2 Internet sources *The Quran (8pts)
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