Science and Religion: Contradiction or Unity?

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The claim that religion and science are contradictory was put forward by John Draper[i] and Andrew Dickinson White[ii] in the nineteenth century. This contradiction is more emphasized by scientists such as Richard Dawkins, who aims to popularize science among the masses. On the other hand, many believers talk about the unity of religion and science. For example, Francis Collins is one of the theist genetics who simultaneously accept the theories of evolution and creation. In his book, *The Language of God*,[iii] he tries to unite science with religion by searching the traces of God in science. Moreover, the idea of unity between science and religion is a generally accepted opinion among the Muslims as well. Some Muslim scholars even refuse to reject evolution by claiming that the creation process in Quran should be interpreted metaphysically rather than literally.[iv] In this regard, on the one hand, we remember the Catholic Church persecuting Galileo Galilei and believers rejecting the theory of evolution and, on the other hand, the religious people trying to prove scientific references in religious holy books after each scientific discovery. While there is a debate over the alleged unity or contradiction between science and religion, some scholars argue that science and religion do not intersect with each other at all. For example, according to Stephen Jay Gould, these two areas do not contradict because there is no crossing point between the professional experiences of these two fields.[v]

In this article, I will try to demonstrate that all the differences and disputes over whether there is a link between religion and science or whether this relationship is contradictory is derived from different interpretations of “science” and “religion.” For this purpose, I will attempt to

show that *religious feelings* do not intersect with science within a certain framework; however, indeed, when their relationship goes beyond that framework, *religious feelings* contradict science. Also, I have to note that the term "religion" in this article refers to Abrahamic religions, and "science" is understood as natural sciences. The scientific status of social sciences and humanities is a controversial issue. Considering that the subject of social sciences and humanities is human or human-related events (e.g. historiography), it is quite difficult to come to an objective conclusion in these disciplines.

Religion is a worldview based on a belief in supernatural events. Believing in God (1), afterlife (2), miracles (3), creation (4) as well as accepting the holy religious books (Quran, Bible, and Torah) and worshiping without questioning the divine authority (5) are the shared *religious feelings* of Islam, Christianity, and Judaism. Those who choose one of the Abrahamic religions have at least one, some or all of these *religious feelings*. These religious beliefs can also be observed in different behavioral norms, rituals, and worships. Nevertheless, in this article, I will discuss the relationship of the abovementioned five *religious feelings* with science.

Belief in God and Afterlife

First of all, let us look at the concept of modern "science." In ancient times, all the scientific and religious topics were the subjects of philosophy, and the thinkers were also trying to understand the world as a whole. For them there was no difference among modern science, religion, and philosophy that we are currently aware of.[vi] However, in the nineteenth century, the positivist movement completely separated science from metaphysics and transformed the former into what we call a "modern science." As a result, science only answers the "how?" question, and we do not need to do philosophy and to believe in invisible beings in order to explain a rainfall, a river flow or a thunderstorm.[vii] Nevertheless, although

modern science explains the laws of nature, it does not explain the meaning of our lives, and science does not answer the "why?" question about ourselves. Even if the obvious evidence of abiogenesis (passage from living to living) is found today, it will not clarify whether the "first cause" exist. Then, people may always be in search of meaning and hence can continue to seek the divine power or the first cause. If humans' search for meaning will not end, then the likelihood concerning the existence of the "first cause" may continue. For the history shows that no matter how much we discover "how?" questions, "why?" questions always continue in our thinking. And these "why?" questions change with regards to our beliefs. For some people there is no first cause and everything is a coincidence while for some people everything is a product of intelligent design. From this point of view, belief or a disbelief of a scientist in God, that is, the first cause is neither contradictory, nor compatible with science. In other words, religious or non-religious views of a physicist do not prevent her from learning and accepting the laws of physics. For example, biochemist Michael Behe thinks that the evolutionary mechanisms we know today are not enough to explain some complex biochemical structures, and most likely, these structures are created by an intelligent superior being.[viii]

Yet, we can say that believing in the first cause does not necessarily demonstrate the existence of *religious feelings* – it is simply a belief in God. In many cases, people only believing in God categorize themselves as deists. Therefore, other than a belief in God, I also add a belief in afterlife – in heaven and hell – and praying to the framework of *religious feelings* that do not contradict science.

As there are different opinions about the existence of the first cause, there are also different opinions concerning the meaning, that is, the ultimate goal, of life. Our meanings of life are also determined by our different ideologies and dreams. The only difference is that when people believe in

afterlife, they transform the divine imperative into the ultimate goal; and when they do not believe in afterlife, they create various goals such as “being a good person,” “saving the world,” and “putting one’s name on history” and simply follow them. Even when people do not have great meanings to guide them throughout their lives, they enjoy from small things[ix] or they create illusions of meaning such as “money.”[x]

Here I am more interested in philosophical “why?” question, in other words, the reason behind our search for meaning. Why do we always ask “why?” and search for meaning? (See, I again asked a “why?” question). Is it coded in our genes or is it a social construct? If it is coded in our genes, then is it caused by a divine power or is it just a side effect of the evolution? This is a scientific, not a philosophical question. However, I think that it might be possible to find its answer with the help of science. The development of artificial intelligence in contemporary times is quite promising. If one day the artificial intelligence, which is created by human beings, search for a meaning, maybe we can find “how?” it happens and, in addition, “how?” it happens in humans. Then science will also respond to this philosophical question.

For now, whether this philosophical “why?” question, that is the search for meaning, is divine or not has no influence to science. Definitely there is a reason behind the motivation of those who have devoted their lives to the search for cancer. Maybe money, maybe a humanist idea, perhaps a desire to go to heaven or to be popular. If someone is able to engage with science through humanist ideology in order to save the humanity, she can also engage with science to get to heaven. Regardless of our answers to our “why?” question, the laws of nature do not change. Then, *religious feelings* and science are neither contradictory, nor compatible with each other within this framework. In accordance with the “non-overlapping magisterial,” a term coined by Stephen Jay Gould, religion and science are in search of different questions.

If *religious feelings* are merely one of the numerous meanings for an individual, she is free to decide whether she wants to use her *religious feelings* for science. For example, Egyptian scientist Ahmed Zewail and Turkish scientist Aziz Sancar, both received a Nobel Prize in Chemistry, said that they are Muslims and faithful believers. Even Ahmed Zewail writes in his book that he believes in heaven and he gives examples from his praying.[xi] Jewish neuroscientist and actress Mayim Bialik also mentioned in many of her speeches that she did not abandon her religion even though she was a scientist. On the contrary, she said that Judaism was spiritually helpful and enriched her inner world. Belgian Catholic priest Georges Lemaître, known as the "Father of the Great Explosion," was the person who influenced Albert Einstein with his idea of the expansion of the universe. As a mathematician and an astronomer, Lemaître reached to the conclusion that the universe was expanding. At that time, Einstein thought that the universe was static but Lemaître managed to change Einstein's view by his calculations. Finally, Einstein adopted this theory by adding "cosmological constant" to its equations.[xii]

Denying the Theory of Evolution and Believing in Miracles Without Questioning Them

However, in many cases *religious feelings* do not end with the aforementioned factors. Religious people believe in the theory of creation and miracles by denying the theory of evolution; and most importantly, they think that questioning is contradictory with religion. In these cases, religion contradicts the requirements of science and it became impossible for a religious person to engage with science. Let us look at the specific requirements of science. It is essential for any discovery or claim to meet these three basic requirements in order to be "scientific": it should be in harmony with the laws of nature (1), it should be falsifiable (2) as well as empirically tested (it should be possible to replicate its results) (3). If we try to evaluate the theory

of creation through these requirements, we see that this theory does not meet any of them. First of all, the theory of creation does not refer to the laws of nature and does not reveal the new laws of nature. Creationism is not falsifiable because it does not predict anything. Moreover, we cannot empirically test myths such as dividing the moon into half, walking on the surface of water, and dividing the sea into two parts. Even though there are many evidences in the examples of fossils in the evolutionary theory to contradict creationism, those who believe in the theory of creation deny these evidences and refer to another miracle by saying, "fossils are distributed throughout the Earth by the God in order to test our faith." Science, on the contrary, reveals the universal laws of nature that work the same way in every part of the universe. For example, the theory of gravitational force allows us to predict the falling speed of the object by knowing that the object is going to fall from a certain height. We can always test it empirically and if that does not justify our prediction, then that scientific law will be denied. This is falsifiability. That is, it can be replicated and denied if the prediction is not correct. But what about the theory of evolution – does it meet the requirements of science?

Philosopher Karl Popper, who introduced the Falsification Principle, first argued that although he did not deny the accuracy of the theory of evolution, the theory did not meet the requirements of science.[xiii] Despite the fact that the evolution only derives from natural events and has nothing to do with metaphysical supernatural phenomena, the evolution fails to reveal a universal law. We cannot say that if the giraffes were born in the north rather than in the south, their skins would be more pale. In short, we cannot predict a universal law of nature as we can in the theory of gravitation. The theory of evolution does not give us enough information to make a prediction and to define precise details about the appearances of any creature before we can see it.

Because it is impossible to make predictions, the theory of evolution is not falsifiable. According to Popper, natural selection, that is, the survival of the fittest is a tautology: If the fittest survives, what is the fittest? Answer: the surviving. Popper argued that if it is impossible to falsify a theory, it is pseudo-science. He included fields such as fortune telling, astrology, creationism along with psychology and evolution, which we consider sciences, into this category.[xiv] But afterwards, Popper withdrew his claim that evolution was a pseudo-science. The reason for this was that the theory of evolution was too complicated and, therefore, could not easily be predicted.[xv]

Currently, we can say the same things about psychology as well. The reason for the lack of accurate predictions in this area, namely the lack of falsifiability of the theory, is the possible effects of too many things on the process. For example, along with mutation, natural selection is also influenced by environment, emergencies, and other hundreds, perhaps even thousands factors. Similarly, both our psychology and behavior are influenced by our physiology, thousands of external factors as well as every moment of our lives. However, as a result of data collection and analysis, today these sciences begin to be more accurate. Of course, falsifiability and the discovery of universal laws have yet to be achieved. Nevertheless, unlike the metaphysical fields such as astrology, fortune telling, and creationism, theory of evolution and psychology continue to improve themselves.

One of the main requirements of science is asking questions. Although scientists before Popper had noted that science begin with observation, Popper, by denying this theory, showed that science first begin with understanding the problem. If someone tells you to “observe,” you will not know what to observe. Therefore, Popper wrote that you must first see the problem, and then you must observe and test theories about the solution of that problem.[xvi] In order to see the problem, one should try to understand the surrounding events, and even question

what has already been explained or presented as absolute truth.

At various times, religious people had been able to question, instead of accepting them as absolute truth, the subjects and claims that are mentioned in religious books. However, religious decisions, which banned people from questioning holy scriptures, caused negative consequences in science. For example, since the eighth century, Muslim scholars, influenced by the Greek philosophy, created "kalam" school (Islamic scholastic theology) and questioned nature, God, and Quran in order to rationally understand the world. However, in the twelfth century, Abu Hamid Al-Ghazali criticized those who were trying to rationally understand the world by opposing the followers of Aristotle in the Muslim world. Al-Ghazali thought that although many of these issues did not threaten the religion, some of them contradicted Islam. He especially emphasized that Avicenna's three theses that the world does not have time or date of creation (1), the God is unaware of each individual (2), and the spirit does not return to body after death (3) were contradictory to the commands of Islam and dangerous for Muslims. Today one of these three theses, that is the age of the Earth and the Universe, is the subject of science rather than philosophy. According to the latest calculations, the ages of the Universe and the Earth are 13.82 billion and 4.53 billion years old, respectively. However, at the end of his work called *The Incoherence of the Philosophers* (*Tahâfut al-falâsifa*), Al-Ghazali issued a fatwa that anybody accepting these three theses were *kafirs* (infidels) and they deserved to be punished by death. After this fatwa, nobody could question the God, the creation, and other religious issues in the Muslim world.[xvii]

One of those who had been in trouble for questioning the age of the Earth was the Jewish rabbi Natan Slifkin. He has conducted various studies and authored many books on religion and science. However, in his three books written between 2001 and 2004, his proposed ideas about the age of the Earth and

the mystical creatures mentioned in the holy Jewish scriptures contradicted the Torah. In 2005, a number of ultra-orthodox rabbis in Israel called for burning these books and Slifkin's three books were banned.[xviii] The same problem also occurred in the Christian world of Western Europe in the Middle Ages. Although Copernicus and Galileo both were devoted Catholics who had theological education, the Inquisition courts of the Catholic Church denied the scientific discoveries of these scientists and sometimes persecuted them on the grounds that their claim that the Earth was not the center of the universe contradicted the Bible.

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From the examples above, it can be seen that in places where religion is influential, science could not get out of the captivity of religion and develop independently. In the contemporary world, although many states are secular, some states still continue to be partially or completely governed by sharia laws. Let us look at the statistics of Muslim countries (member states of the Organization of Islamic Cooperation – OIC) to see its consequences. While 41 out of every thousand people are scientists and engineers worldwide, this figure is just 9 in Muslim countries. Among the approximately 1,800 universities in Muslim countries, only the academic staff of 312 universities have published their articles in academic journals.[xix] 37 out of 57 OIC member states are partially or completely governed by sharia laws while 20 member states, including Azerbaijan and Turkey, are secular states. Nevertheless, even in some secular countries, the institutionalized religion sometimes manages to influence the development of science. Especially in the post-secular period,[xx] although religion is separated from the state, it still plays a major role in science and education. Moreover, one of the interesting facts is that 45 out of 57 OCI member states (including some secular countries) adopted the Cairo Declaration on Human Rights in Islam, which regulates free speech according to sharia laws. The declaration states that

“everyone shall have the right to express his opinion freely in such manner as would not be contrary to the principles of the Shari’ah.”[xxi] In other words, freedom of speech, information, and enlightenment are restricted in accordance with the principles of sharia laws.

Liberalism is absolutely crucial for enlightenment.[xxii] According to Michael Polanyi, science should be free and independent. He describes science as a great puzzle in the center, which should remain open to anyone who wants to gather its pieces.[xxiii] However, those who want to deal with science must admit the terms of science and should not go beyond a certain framework of *religious feelings*. But this does not necessarily mean that one should absolutely be unbeliever in order to engage with science. Max Weber, the German sociologist and historian, appealed to teachers when he said try to keep science away from values. Teachers should teach how nature works. Weber, however, pointed out that one should not reach to science by only appealing to reason, but also to meaning. “That is the fate to which science is subjected; it is the very meaning of scientific work, to which it is devoted in a quite specific sense, as compared with other spheres of culture for which in general the same holds.”[xxiv] As it is important to remain unbiased when you are teaching, it is also important to search for meaning when you are studying.

In conclusion, we can say that natural sciences and *religious feelings* within a certain framework do not intersect with each other as different spheres in the free environment. Humans’ imperative or individual meanings like religion is not the subject of natural sciences but of philosophy, history, sociology, psychology, anthropology, and other fields that examine humans, their behavior and thoughts. *Religious feelings* within a certain framework, as an individual choice for meaning of life, are not barriers for humans to research nature in order to find answers. Both science and meaning are the products of human quest. Even though we ask different

questions and find different answers, the authors of both questions (how? and why?) are humans.

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[xx] In social sciences and humanities, the term “post-secularism” is used to describe the current period in which religion is becoming more popular and widespread as a result of the failure of secularization and modernization. This term is especially used by well-known philosophers such as Jürgen Habermas and Charles Taylor.

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