



Recognizing the Position and Validity of Science in Understanding Religion: The Perspectives of Syed Muhammad Naquib Al-Attas and Pervez Amirali Hoodbhoy

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Abstract

Recognizing the position and validity of science in understanding religion has led to very diverse algorithms in the Islamic world. It must be admitted that before the fourteenth century, there were no views on the confrontation of or separation of the realm of science and religion. Although after the nineteenth century, the advent of modernist discourse in the Islamic world's cultural, social, and political programs and methods set the grounds for a dialectic path on the connection between religion and science. In this regard, Muslim thinkers have given distinct responses to Western modernization, such as agreeing, rejecting, or transforming this claim according to Islamic attitudes. This article seeks to conduct a theoretical interpretation and investigation of the foundations and arguments of two Muslim thinkers, Syed Muhammad Naquib Al-Attas and Pervez Amirali Hoodbhoy with "functionalism" and "symbolism" approaches to science. These two thinkers have paid special attention to religion, science, and modern technology, while they have different fundamental views on the relationship between science and religion.

Keywords: functionalism, Pervez Amirali Hoodbhoy, science, Syed Muhammad Naquib Al-Attas, symbolism

A. Introduction

When science came into being, it grew in a religious environment, because the study of nature was considered a kind of prayer by scientists of the new science. However, over time, scientific-empirical thinking prevailed over the entire human realm, and the rapid development of science reinforced the idea in the practical and theoretical aspects that the only valid method for achieving the truth is the scientific-empirical method. In the eighteenth and nineteenth centuries, scientism was introduced, which believed that science could explain everything and that there was no need for God (Golshani, 2021). It was during this period that the empiricist debate emerged, arguing that metaphysical concepts should be removed from any physical theory because they have no roots in sensory experience. Thus, the groundwork was laid for the emergence of the schools of positivism and Darwinism in the nineteenth century and Freudianism and rational positivism in the twentieth century, when religion lost its place in scientific circles. It shall be noted that the common feature of all these schools is that priority is given to sensory experience and metaphysics is rejected. In the second half of the nineteenth century, religion faded and isolated from scientific circles more and more, which has continued until now. In the past few decades, however, some thinkers have endeavored to revive religion and its relation to science such as Mehdi Golshani, Ziauddin Sardar, and Ismail Raji Al Faruqi.

Today, scientists recognize that science has many limitations and that paying attention to science only leads to the loss of human values. On the other hand, in the Islamic view, the criterion for the desirability of a science is its usefulness, and the criterion for its usefulness is to lead man to God and to please him. Any science that has this quality is praiseworthy and its acquisition is worship. It was with this insight that Muslim scholars acquired science in the early centuries AH (Golshani, 2019). Therefore, it can be said that in the Islamic world, the issue of conflict or the distinction between science and religion has not been raised much because there is no conflict between narrative and rational teachings with scientific data. In the past, Islamic seminaries and the religious schools themselves have made research on both religious sciences and scientific issues, and religious scholars have acted as the link between science and religion. The serious debate over the conflict between science and religion in Islam dates back to about two hundred years ago when Islamic countries started communications with European and Western countries. Since then, we have witnessed different reactions regarding the acceptance of Western science by the Islamic world (Hassani et al., 2007).

Scholars have tried to provide different divisions in the interaction between science and religion in recent decades, each providing multiple classifications. For instance, Ian Graeme Barbour listed four interactions including dialogue, independence, conflict, and integration. Ted Peters, acknowledged the existence of eight interactions: scientism, scientific imperialism, ecclesiastical authoritarianism, scientific creationism, the two-language theory, hypothetical consonance, ethical overlap, and new age spirituality (Barbour, 1983). Haught believes that there are at least four distinct ways in which science and religion can interact: conflict, distinction, intersection, and affirmation. Haught says: we can have a quadruple classification: (i) The conflict view, suggests that science and religion

are opposed to each other and incompatible with each other. (ii) The independence view, suggests that there is no relationship between science and religion and they are two independent topics. (iii) The complementary view, suggests that science and religion have different practices, but intersect with each other in some cases and have some commonalities. (iv) The approving view, is divided into two groups: one group believes that religion deeply supports all scientific activity, and the other group considers scientific activities to support religion (Haught, 2003).

Palmer believes that "We cannot separate science and technology from the Western worldview because they are at its core. It is also through these two elements that the perspective of its global power in the world is emphasized" (Palmer, 2004). Thus, Western culture has a profound effect on Western science and forms the Western worldview. According to this approach, it can be acknowledged that the values and beliefs that are the essence of the Western worldview are the results of Western culture and social education that can in no way be said to be universal and objective. Throughout history, there were prominent people in the nineteenth and twentieth centuries that, by introducing Islamic sources and through stages, helped to express Islamic thought and philosophy and confronted Western ideas, including Seyyed Jamal al-Din al-Afghani, Muhammad Abduh, Syed Ahmad Khan, and Muhammad Iqbal. This debate continues with contemporary thinkers seeking to define and explain the relationship between Islam, modernity, and the Western sciences. Here we are trying to build an Islamic worldview and a new Islamic society consisting of Islam and modern science.

B. Literature Review

The important and controversial topic of the relationship between science and religion is discussed by religious science explaining models, provoking numerous comments and theories by Muslim scholars, including currents of thought for and against the idea of religious science and its necessity and possibility and how to achieve it. This study is to analyze the intellectual confrontation of two representatives of Muslim thinkers (Pervez Amirali Hoodbhoy and Muhammad Naquib Al-Attas) and examine their different discourses on modern science in Islam. The two theories used in this article are the theories of "functionalism" and "symbolism". The functionalism view is similar to that of the German philosopher and mathematician Gottlob Frege. He distinguished between "reference" and "meaning or sense." In his intellectual system, sensory data obtained from the experience of the outside world cause the creation of mental images and concepts in humans. Therefore, if we say a word or phrase has meaning, we must prove that it corresponds to the mental imagery derived from sensory data (Frege, 1966). Functionalism relates to "reference" and "action" as well as to an idea or theory that says how useful, efficient, and usable that idea is, for example, it can be used to solve engineering problems. The term sign and consequently symbol was first used by Charles Sanders Peirce (1839-1914), an American pragmatist philosopher, entered the scientific literature of modern times and was used in various sciences with his threefold classification of signs. Peirce classifies "signs" into three

well-known categories of Icon, Index, and Symbol. So, according to his approach, language is a system of symbolic signs (Almeder, 1980).

Symbolism is related to "meaning" or "sense" and the natural image that this theory creates in the mind. Therefore, these two attitudes are considered to provide thinking and action (Nickerson, 2021). This article tries to present and study both the theory that opposes the possibility of realizing religious science and the view that agrees with it. To this end, we explain the views of two Muslim thinkers: Syed Muhammad Naquib Al-Attas and Pervez Amirali Hoodbhoy. Given the contemporary debates about Islam, science, and modernity, and the culmination of these debates in the 21st century, there is a need to analyze the thoughts of contemporary Muslim thinkers who are trying to find solutions to these problems in the Islamic world.

The important and controversial topic of the relationship between science and religion is discussed by religious science explaining models, provoking numerous comments and theories by Muslim scholars, including currents of thought for and against the idea of religious science and its necessity and possibility and how to achieve it. The importance of research in this issue includes two factors. The first factor is to show that throughout history, religion and philosophy have had a close relationship with science, and the discussion of science and religion from conflict to dialogue is very important and shows the main source of intellectual identity of thinkers and intellectuals in this regard. The second paramount factor is Muslim thinkers who have played a vital role in mediating the relationship between religious beliefs and scientific beliefs. The Muslim thinkers whose works and discourses have been selected for study are mainly part of the significant current of thought, all of whom have played a role in paving the way for the emergence of some important themes at various stages in the present era. Although many views have been expressed in this regard, these two Muslim thinkers have been selected because their theories have the necessary maturity to explain this relationship. They have tried to present these relationships in their theoretical framework. These theories are then evaluated. The people whose views are analyzed in this article are Syed Muhammad Naquib Al-Attas, and Pervez Hoodbhoy, The main questions of this article are, "what are the similarities and differences between Al-Attas and Hoodboy's views on the relationship between science and religion? Secondly, which of the two Muslim thinkers advocates functionalism and symbolism?" "Third, which approach is better to examine the relationship between science and religion, functionalism or symbolism?"

C. Research Methodology

All the works of two religious thinkers concerning science and religion have been studied, then according to the purpose and research questions, the texts have been extracted and compared with each other, and finally, the selected texts based on the typology of science and religion from linguistics and analysis Qualitative content is examined.

D. Findings

In this section, the views of two Muslim thinkers on the relationship between science and religion are discussed.

1. Muhammad Naquib Al-Attas

Syed Muhammad Naquib Al-Attas (1931) was born in Indonesia. He is an expert in the fields of metaphysics, philosophy, literature, history, and linguistics. He has written many books on Islamic tradition, culture, language, Malaysian literature, Sufism, and philosophy. During the years 1952-1955, he studied at the Royal Military Academy Sandhurst in London, when he became acquainted with the writings of Abd al-Rahman Jami and was greatly influenced by this Persian poet. He then went to the Institute of Islamic Studies, McGill University, Canada, and wrote his dissertation on the thoughts of the Malay theologian Nural-Din al-Raniri a 17th- century Malaysian mystic. He was considered a fanatical legislator and completely against Hamzah Fansuri's Sufi views (Al-Attas, 1986). After receiving his master's degree, he went to the London School of Oriental and African Studies in England to continue his Ph.D. studies and wrote his doctoral dissertation on the Sufi thoughts of another Malay mystic, Hamzah Fansuri. Then, he traveled to Africa, the Middle East, and other centers of Islamic civilization, where he was influenced by Islamic heritage.

Al-Attas is one of the thinkers who has theorized about the relationship between Western science and religious views. He seeks an Islamic response to "secular science" that focuses mainly on the philosophy of Islam and Sufism, especially in Malaysian society. He is well-known in the Islamic world, for his writings on Islam, and his comparison with western thought. He has been called ambitious and extroverted, but it must be admitted that he is a thoughtful thinker immersed in his deep thoughts but trying to express them. In his book "Islam and Secularism" he tries to follow human problems from the beginning of secularism in the seventeenth century and his main attack is on the secularists. His critique also addresses modern science and technology in the West, which have made it worldly. Al-Attas, like Weber, considers Western modernization a "disenchantment of nature" in his analysis, which he attributes to secularism in the West. Al-Attas's view is affected by Max Weber. According to Max Weber, what makes modern Western industrial capitalism unique is the "rationalization" that has invaded all human relations. The destiny of our time is determined by rationalization and intellectualization, as well as by disenchantment of the world (Weber, 1958).

By separating nature from the sacred world, Westerners no longer see nature as symbolic, but as capital, a tool that should simply be used and enjoyed; and by relying on man and secular knowledge, it transforms power and freedom into divinity. Therefore, according to Al-Attas, secular science is to some extent to blame, because it has led man to give divinity to himself, and this has caused a man to consider himself the standard of right and wrong, and to present a wrong judgment of right and wrong (Al-Attas, 1978).

Al-Attas has been somewhat critical of science for the reasons mentioned. He is particularly critical of astronomy, which proposed the theory of "making human worldly" at the beginning of the Copernican Revolution. According to his writings, "During the

development of science in the Western world, the secularization of nature was the result of the Copernican revolution, which also reduced human value by decentralizing the earth. This ultimately led to the deprivation of man of the importance of the universe. Man became materialistic and denied the supernatural. Perhaps the greater importance of secularism in the development of Western science can be traced to the revolution created by Descartes in the seventeenth century which somehow liberated nature to serve secular science and placed the world in human hands to do whatever he wanted and created a dichotomy between soul and body. Western philosophy is logically based on secularization" (Al-Attas, 1978).

Al-Attas also blames philosophy because its progress has not been unaffected by secular sciences. He cites Kant in his book "Critique of Pure Reason" and says "Metaphysical knowledge is beyond human knowledge and understanding". Kant was much influenced by Newton and sought to legitimize and defend Newtonian physics to such an extent that he created a response in the field of human knowledge to the philosophy of skepticism and pessimism of David Hume (Russell, 1988). After Kant in the 18th century, metaphysics was seen as an unnecessary and unrealistic guide to the truth that had to be rejected by the thinking man. On the other hand, they could not prove the divine philosophy materially and realize its existence. This idea was the inevitable result of the secularization of science and philosophy in the West, which not only contradicted Christianity but also paved the way for Western men to oppose historical facts (Al-Attas, 1978). Continuing to recognize the problems of the West, he concluded that the world does not need Western ideas and that the philosophy of Islam is the way to liberate humanity.

Al-Attas's views are quite different from those of Marx, who believed that Asia was an imitator and follower of Western modernity. Al-Attas says "Western man is always proud of his culture and civilization as the forerunner of human civilization. As a result, we are always behind them and we will reach the same results in the future" (Al-Attas, 1978). Here he means Asian countries reaching the same self-alienation that Westerners suffer today. The path he proposes is to rebuild the faith, culture, and Islamic lifestyle to break the chains of slavery, Christianity, or the modern West. Unlike the West and Christianity, Islam creates a good balance between "reality" and "symbol." It is "reality" that determines the distance between nature, politics, and values (Al-Attas, 1978). Al-Attas considers himself far from "modernity" because he considers it a danger to "God". In Islam, nature is a sign of God. Al-Attas states that:

The Quran's description of man and nature as divine signs is complete in its own right. Nature has an infinite meaning and concept and should be respected because of its symbolic relationship with God Almighty. Man must treat nature properly and humanely, and an inner connection must be established between him and nature. Since God Almighty has entrusted the domination of nature, which belongs to Himself, to man as a trust, man must take care of nature and use nature legally, and must not act towards the annihilation, destruction, and disruption of nature. If we consider nature as a book, then we should read it and understand the meanings of the words (divine signs) to understand it and its ultimate goal, which is to understand

the infinite wisdom and rationality of its author and the ultimate goal of creation. We must convert the divine commands, invitations, and instructions into law to make useful and rational use of the divine blessings, and at the same time appreciate the divine blessings and seek forgiveness from the author of this divine book (God Almighty) because we cannot appreciate it properly and rationally (Al-Attas, 1989).

Al-Attas states that 'secular science does not provide real and true knowledge to man, and this science is a fusion of concepts such as the duality of reality and truth, the duality of mind and body, or the gap between rationalism and empiricism and humanism and the like'. He believes that knowledge is not neutral but is the result of a philosophical, religious, and cultural attitude, and Western sciences are based on their philosophy, which desecrates nature, understands only the surface of nature, and has nothing to do with the purposes of nature. According to the West, nature is a series of objects that are independent of each other and have nothing to do with each other, which is incompatible with the religious view of nature and beings (Al-Attas, 1978). Therefore, it appears necessary for science to become religious and separate from its Western meaning. Islamization of sciences hence means: "Knowing the real and worthy place of things in the order of creation such that it leads to knowing the real place of God in the order of the world and existence" (Al-Attas, 1978).

Therefore, to achieve the Islamization of science, it is necessary to consider two stages. First, to free science from humanistic concepts and the domination of what is secular. Second, by using Islamic thinking, re-formulate modern science, and free science from its Western elements. Therefore, the Islamization of science requires the separation of sciences from the dualism of reality and truth, mind and body, or the gap between rationalism and empiricism, or humanism and worldly ideology. This cognitive nucleus must be at the center, and other sciences, namely the natural, human, and applied sciences, must be around and depend on it (Al-Attas, 1978). The important issue for Al-Attas is that the Islamization of science requires using a language that is not foreign to religious culture because words may have a meaning in religious culture and another in Western culture while using these words with each of the concepts changes the path of science and knowledge in different ways. In his opinion, removing Western concepts from science is necessary to make science religious. "Our situation today is because we are influenced by the secular civilization and our speech has become as if we speak a foreign language because the secular world of the West has changed the meaning of words. For example, in many Islamic societies when Revelation is discussed people think it means inspiration, while the two have different meanings" (Al-Attas, 1978).

According to him, Western science is based on the autonomy of nature, that is, it considers phenomena to be pluralistic, independent, and inherently real, which are not dependent on a truth beyond them, and there is no aspect of real unity between them. Considering there is no relation between these, there will be no purpose to them. According to such a view, things in nature are without a purpose and there is no relationship between them. From a religious point of view, however, nature and the whole world are signs of God, and all things of plurality have a real and single reality due to which they have an existential

order and network (Al-Attas, 1989). On the other hand, in the religious view, nature and the world are like signs of God, and according to the above (that nature and its creatures are united in the religious view), the whole world has solid and varying meanings like the signs of God, each of which can be interpreted according to another. The interpretation here means reaching the explicit, prominent, and original meaning of everything through the process of reasoning. The natural world is another form of divine revelation that is similar to the Holy Quran itself. The understanding of these signs in the external world is based on a method of authentic interpretation and cryptic interpretation" (Al-Attas, 1978).

Therefore, it can be concluded that since nature is not a pluralistic non-unifying set, and all can be understood based on solid meanings, science is also divided into two categories of essential sciences (obligatory) and non-essential sciences (semi-obligatory). Hence, Muslims must learn essential sciences, and if one wants to engage in non-essential sciences, they must plan in such a way that essential sciences form their learning foundation. The second category (semi-obligatory) should be guided by the primary category (concrete obligation). Without the guidance of the primary category, the second category leads man to continuous and gloomy research for meaning and purpose trapped in constant, distracted, and discrete doubt (Iman, 2013). He then identifies the primary (Arabic language, the Quran, theology, philosophy, etc.) and secondary sciences (technology-related sciences). He considers empirical knowledge to be limited and believes that it does not fully represent the entire horizon of science. He is not trying to disprove the theoretical sciences and the method of research, but he believes that all this must be in the way of proving God. In his monograph "Islam and the Philosophy of Science" (Al-Attas 1989) he tried to explore the relationship between Islam and modern science; perhaps the "Islamization" of science is not enough in his view and the question of the nature of reality as perceived by both science and Islam has to be clarified. He believes that modern science cannot provide a complete picture of reality and only Islamic metaphysical and symbolic science can claim to provide a complete picture of science. He believes that we need a more open research method that is related to divine knowledge.

Is Al-Attas's view wise? Does this view have a positive effect on Muslims in particular and on humanity in general? If so, is it compatible with the authentic teachings of Islam? The answers to these questions are not simple and require another occasion for discussion. However, another Pakistani thinker named Pervez Hoodbhoy has dealt with the problems and realities of the Muslim community in a more realistic way, himself.

2. Pervez Amirali Hoodbhoy

Pervez Amirali Hoodbhoy was born on July 11, 1950, in Pakistan. He is a nuclear physicist and professor of physics at Lahore University of Management Sciences (LUMS). Hoodbhoy is a social activist and environmentalist who regularly writes on a wide range of social, cultural, and environmental issues. He is a supporter of the peaceful use of nuclear technology in Pakistan, the non-proliferation of nuclear weapons, and the disarmament of nuclear weapons. He is a fierce critic of Islamist militancy and fundamentalism and criticizes Al-Attas's view of science.

Having learned science from Professor Abdu Salam, he considers science to be a universal phenomenon and is reluctant to give labels such as "Islamic science" or "Christian science" and considers it inappropriate and perhaps incorrect. He considers science as an important and irreplaceable tool in freeing man from superstitions and serious mistakes. In an interview with him in connection with secularism, he noted that scientific-religious obsession may lead to a lack of progress in science among Muslims, which we have witnessed in recent years (Hoodbhoy, 2010). In response to the question of whether there is a science called "Islamic science", Hoodbhoy states:

In my opinion, this question can be easily answered. No, in the world of physics, there is no science called Islamic science, and trying to invent it is futile. Of course, this does not mean discrediting the religion of Islam, but as Seyyed Ahmad Khan believes, essentially the purpose of religion is to promote morality rather than to explain scientific facts (Hoodbhoy, 1999).

This does not mean that he does not accept religion or that religion and science are fundamentally contradictory, but that he recognizes both science and religion and sees today's attempts to link the two is incorrect. But what is his position on the relationship between Islam and modern science? He believes that Islam is not inherently opposed to science, but the intellectual position and beliefs of some Muslim thinkers in the past and present have conflicted with science. In his book, *Islam and Science: Religious Orthodoxy and the Battle for Rationality* (Hoodbhoy 1992) he examines the high status of science in Islam and believes that they have faced the suppression of religious extremists who opposed rationality and freedom of thought, and that religious dogmatism and the spirit of bigotry and short-sightedness were among the most important factors hindering progress (Hoodbhoy 1992).

The question that Hoodbhoy raises about the relationship between science and Islam and seeks to answer is: Does the religion of Islam have a harmonious relationship with the science of the natural world, or is there an irreconcilable conflict between a metaphysical system based on faith, and the demands of reason and empirical verification? In response to this question, he believes that reformist, modernist, and traditionalist Muslims have discussed a lot about the compatibility of Islam and science with each other. In these discussions, they have taken the necessary important points from the same vast repository of Islamic tradition, and have chosen examples and interpretations according to the text of the Quran that can bring them to the position they considered right from the beginning. The fundamental issue at the heart of this controversy is that science is a secular method and cannot be otherwise. The secular nature of science does not mean that it necessarily denies the existence of divinity, but it does mean that the affirmation of scientific facts is in no way at the disposal of and relies on extremist religious people. Observation, experimentation, and logic are the only criteria for determining whether something is right or wrong. Scientists can be religious, but science does not accept any law other than its own (Hoodbhoy 1992).

Hoodbhoy sees the revival of petrified thinking as a kind of psychological defensive reaction against the entry of modern science in various fields and says in this regard:

The fact that is forgotten today is that the heroes of medieval Islamic culture were threatened and persecuted not by unbelieving Christians or bloodthirsty Mongols, but by traditionalist, anti-science, and vindictive Muslim scholars. The war between secularism and religious madness was at its height when we witnessed the rise and flourishing of science in the Islamic world. Sometimes slowly and sometimes violently, it was the extremist theologians who posed the greatest danger to scientists who studied philosophy, mathematics, and logic. Most of these scientists needed the support of more secular caliphs to protect against the evil of those who considered their science blasphemous. (Hoodbhoy 1992)

Elsewhere, he sees the solution to the economic and scientific problems of the Islamic world as taking on a critical yet pragmatic interpretation consistent with Islamic teachings. In any case, he is not a complete admirer of Western science and does not consider science superior to criticism. He describes his different objections to the way science is practiced in Islam and the West as follows:

While science is needed for progress and enlightenment, we must know that science is not a substitute for religion and that there must be a place for morality. Science provides a good framework for calculation and invention but knows nothing about beauty, equality, and feeling. Having no emotion in this technological world, the stubborn pursuit of weapons of mass destruction, the destruction of nature in the name of progress, and the inequality resulting from unbalanced progress in human society are the results of a one-sided view of progress that introduces science instead of ethics. As we fight for logic, we must confront this ideology. A critical view of science must be taken in the West and a logical view in the East (Hoodbhoy 1992).

Hoodbhoy believes that there is only one universal science whose issues and characteristics are international and there is no such thing as Islamic science, as there is no Hindu, Jewish, Confucian, or Christian Science. According to Hoodbhoy, the way to save Muslims lies in adopting a "modernist" approach to science, technology, and Islam. Therefore, to meet such needs of Islamic societies, there is no need to change the necessities of Islam, but only to make it compatible with the needs of contemporary man to ensure the survival of the Islamic Ummah in the present age.

3. The Perspectives of Al-Attas and Hoodboy on the relationship between science and religion

Al-Attas and Hoodboy are both Muslims and believers in religion, as well as in modern science and technology, but there are fundamental differences in their approach to the relationship between religion, modern science, and technology. Al-Attas believes in the theory of Islamization of science to connect religion and modern science, but Hoodboy systematically accepts the principles of modernity and believes in secular science.

The “symbolism” and “functionalism” models, considered standards here, play a dual role at first glance, one related to belief and the other to action, and the problem arises when thinkers and scientists accept the applicability or scientificity of the models but do not accept their ideological or symbolic aspect. Empirical and practical knowledge can never be separated from religious thought and belief. In this article, we sought to provide an approach to the ontological unity of different fields of science and knowledge, which means that science and religion cannot be separated from each other and are complementary. Thus, Al-Attas's approach to science and religion is within the framework of the model of symbolism, and Hoodboy's approach is within the framework of the model of functionalism.

Table 1. Comparison of the views and opinions of two contemporary Muslim thinkers in the field of modern science and technology in Islam

The main axes	Syed Muhammad Naquib Al-Attas	Pervez Amirali Hoodbhoy
Approach to science and religion	Believe in the Islamization of science and divides science into two types: God-given science to find the path to happiness and acquired science to meet worldly needs	Believes in secular science and that the place of religion is essentially the promotion of morality, not the description of scientific facts
Approach to modern science and technology	He does not consider modern science as the culmination of human civilization and believes that due to the secular nature of modern science and technology, its materialistic requirements should be separated to fulfill the role of science in bringing man closer to God.	He has a very positive approach to this issue. He believes that the only way to resolve the backwardness of Islamic societies is to use modern science and replace the religious worldview with a scientific worldview.
Approach to the model	symbolism	Functionalism

E. Discussion

This study seeks to analyze the intellectual confrontation of two contemporary Muslim thinkers and examine their different discourses regarding modern science and technology in Islam. One of the main objectives of this research is to study the thoughts of these two thinkers based on the models of “functionalism” and “symbolism”, which represent both Western and Islamic views on science. Therefore, the fundamental question is whether it is possible to reconcile these two models? In Thomas Cohen’s¹ terminology, the symbolic aspect is the very metaphysical aspect of a phenomenon that gives rise to a particular worldview. This is seen in the history of astronomy. An example is the great controversy created by the expression of the Copernican revolution because not only had its scientific

¹ Thomas Cohen is one of the famous thinkers who have made extensive efforts in the fields of epistemology and especially philosophy of science.

applications including mathematical, geographical, and astronomical uses but also influenced the European-Christian worldview. This is one of its symbolic aspects. This distinction helps us to avoid confusion about the critical nature of science and to avoid confusion about scientific criticism. When comparing Islamic views and modern sciences, two major differences are observed. According to Al-Attas, man has two aspects, one spiritual and the other physical. Therefore, human cognition is of two types:

One is cognition from God that is given to man through the mediation of revelation, and the other is the reserve with which man can equip himself in the world to pursue scientific goals. Man's spiritual cognition is based on concrete obligation, which results in belief in God, from which a good man arises, and it is at this stage that the human body serves the soul, which leads to the worldly and otherworldly happiness of human beings. Thus, concrete obligation introduces to man the preconditions for the construction of man and human society in a guaranteed way. The second part of cognition, according to Al-Attas, refers to the cognition of knowledge (sciences) and is obtained through experiments, observation, and research, which is debating, argumentative, and deductive, and deals with things and matters of practical value related to the concept of semi-obligation. The primary type of knowledge has been made available to man by God Almighty through direct revelation, and the second is obtained by theoretical research and rational effort based on experiments on tangible and rational things. The primary refers to the cognition that is obtained about the objective and necessary facts to guide us, and the second is from the knowledge of the tangible and reasonable data obtained for it to be used by us and to help our understanding (Al-Attas, 1979). Al-Attas, therefore, divides science into two types: God-given science and acquired science, the former for finding the path to happiness and the latter for responding to worldly needs. The West, following René Descartes, introduced skepticism. It introduces doubt as a way to achieve certainty. René Descartes separated nature, matter, and body from God, soul, and spirit, and wanted to set humans free to choose their path, which led to the emergence of modern science and technology in the West. But such a separation that constitutes the nature and identity of Western civilization is forbidden in Islam, as Al-Attas acknowledged that man is composed of body, mind, and soul, and therefore Islamic education must elevate physical, spiritually, emotional, and intellectual aspects of man (Iman, Kalateh Sadati, 2013). To free man from this state of skepticism, Islamic methodological elements must be introduced and used to produce Islamic knowledge and wisdom. Al-Attas emphasizes the removal of the fundamental concepts and propositions of Western thought from Islamic cognition and thought. Next, we need to know (i) What is the purpose of science? (ii) What is its relationship with religious knowledge? Especially where religion is sometimes at odds with the natural sciences and scientific observations, we must first distinguish between aspects of symbolism and functionalism models in trying to formulate the correct scientific method, which even applies to religious theories. Most of the time, the contradiction arising between scientific understanding and religious understanding of the reality of natural affairs is due to the lack of proper explanation of the relationship and difference between the applications of symbolism and functionalism of theories. The question here is what is the true value of

science? This view can cast doubt on the legitimacy and formality of science. It is up to individuals to deduce the views of contemporary philosophers on scientific realism. Although some believe in a realist view of science, some philosophers prefer an anti-realist view. Realists believe that the goal of science is to provide a true and accurate description of the world. The theory is harmless because there is certainly no one who considers the purpose of science to be a false explanation of the world (Okasha, 2008). Contrary to the realists, anti-realists believe that the goal of science is to provide a correct description of a particular part of the world, the "observable" part. By the observable part of the world, they mean the ordinary everyday world. Such things can be perceived by human beings, directly and immediately, and therefore they are called observable (Okasha, 2008).

This difference will have a profound effect on our study, because a non-realist view of science while calling it science, will dissuade us from further exploring the ontological characteristics of the physical world. In the realist view, one theory usually replaces the previous theory, making it difficult to examine the previous theory, which was correct at that time, while now a new theory rejects the previous. By engaging with these hermeneutics of thought and rethinking, and by considering the relationship between language and the world, one can conclude that innumerable possible states are subsisting in the relationship between religion and science. Although pure linguistics is not proposed here as a tool for analysis, we can change the relationship between any two things by changing the language, as Wittgenstein did. All of Wittgenstein's teachings are rooted in his belief that language has a limitation imposed by its inherent structure (Pierce, 2008). He placed religion and morality beyond the boundaries of language because the two did not meet the requirements of "what can be said" and rejected the theory in his book *Philosophical Investigations* that emotion could be expressed through a language other than the language we describe the outside world with because such a language cannot meet the conditions that any language must attain (Pierce, 2008).

Let us return to the question of how the re-creation of science can solve the problem of the difference between the reality of science and religion. The relationship between science and religion can be solved with the analytical tools provided by Islamic and Western thinkers. From the Western point of view, we seek an external reality that is tangible, objective, and observable (truth and reality) which is different from the approach that seeks to discover verity. For example, in the positive approach, originality is with visible external reality, while in interpretive and critical approaches, originality is with verity, and that is why interpretive and critical approaches, have a more humane load and sometimes take on an ideological aspect because they seek to discover the verity about human issues (Iman, Kalateh Sadati, 2013). From the Islamic point of view, verity and truth are different in the sense that verity is linguistic and truth includes the essence of everything and is unchangeable and, contrary to reality, is not necessarily provable by scientific arguments and depends on the attitude of individuals. Truth refers to the true nature and reality refers to objective matters. Regarding the meaning of "truth", Al-Attas acknowledges that modern science and technology, even if they are supposed to be true, they are not created in a divine and spiritual context and do not consider natural phenomena as a divine symbol

and sign, are not worthy and therefore will not have honest knowledge (Al-Attas, 1979). Regarding truth and reality, Al-Attas also states that: The conformity between the mind and the object must be real, i.e., in addition to the conformity of mental propositions with reality, reality must also be in its proper place, and it is not enough just to be real: "This does not mean that truth is merely the conformity of propositions or judgments with real things, and that this equates real things with truth. Even if a sentence expresses a reality, this does not turn it necessarily into truth. Truth is not simply conforming to real things, because those real things may have been created by man and therefore not in their proper place. In this sense, real things can be false" (Al-Attas, 1979). However, according to Hoodbhoy's theory, which is based on Kant's theory, "truth" means "ultimate truth". Kant considers mathematical concepts following "reality", but believes that the reality of these things is just in mind and created by the mind. According to him, the outside world is not exactly comprehensible. Rather, external reality changes through our perceptual channels, so in practice, we perceive a manifestation of external reality, not reality itself. He considers philosophical issues to be completely worthless. This theory is a kind of sophistry and denial of science to reality and even requires the denial of external reality. He states that truth, as a reality in itself, is inaccessible to ordinary human capabilities (Hertz, 1956).

The difference between the verity of a theory and its empirical appropriateness is very fundamental in van Fraassen's view. Theories fall into two categories. One is about observable things, in which verity and empirical appropriateness are matched (Hertz, 1956). The other category is about non-observable things. Fraassen believes that, from a realist point of view, "observable" is an ambiguous concept. An ambiguous concept is one for which there are intermediate examples, which are not clear whether they refer to that concept. Fraassen points out that ambiguous concepts are very useful because they suggest real differences in the outside world. He believes that things like chairs are clearly observable and things like electrons are non-observable. For the reasons given by the realists, it turns out that there are intermediate examples. In these cases, we are not sure whether the object in question is observable or detectable, and if we want to set a boundary for them, that boundary becomes arbitrary. According to Fraassen, therefore, the ambiguity of the word "observable" does not pose a problem for the anti-realists, but merely makes them aware that he must be precise to a given extent when formulating his theory, and shall not seek more (Okasha, 2008).

Physicists such as Niels Bohr and Werner Heisenberg gained their credibility by first proposing the idea that general language was limited in describing physical phenomena and realities. According to these physicists, at a certain level of abstraction in science, especially in physics, ordinary linguistic tools will no longer be adequate, and we must resort to the non-visual language of mathematics to describe a phenomenon. So Heisenberg states that: "When this vague and unsystematic use of language leads to problems, physicists must resort to mathematics and make an unambiguous connection with empirical facts" (Heisenberg, 1958).

A similar issue is observed in Islam, as there are two types of verses in the Quran: Solid (verses whose meaning is quite clear) and varying (cases in which the meaning is ambiguous) (Khalsi Moghaddam & Ghasempour, 2020).

The first has clear and precise meanings and the second has polysemous concepts mixed with metaphorical and cryptic concepts. For instance, one of the principles of the methodology of religious science from Al-Attas's point of view is to use the method of interpretation in understanding natural and human phenomena. He emphasizes that natural phenomena, like the words of the Holy Quran, indicate intrinsic and deep meanings. To unveil esoteric layers of reality, in harmony with the Quranic system governing existence and nature, we must use the method of interpretation and reference varying meanings to solid ones (Al-Attas, 1978). The very fact that Islam recognizes "varying meanings" reflects the fact that the Quran recognizes the fact that there are various linguistic ways of describing truth. So this "contradiction between science and religion" may be partly because of that, at least in part of the interpretations; and the relationship between language and reality has created a limited communication structure that makes us see contradictions between the statements of religion and science and to make dubious comparisons. The theory indicating that there is a contradiction between reality and language also states the existence of both truths - the symbolic state of nature as seen in Al-Attas's ideas and the functionalist state of nature in Hoodbhoy's language - can both be correct interpretations of reality. They are true because we have gone beyond a literal finite theory of similarities between truth and language, and used a flexible theory - not via relativism - between language and reality to describe and interpret. It is a mistake to think that one hypothesis is completely true and the other is completely false. This is because we prefer recognizing a particular thought, not merely it being right or wrong. Therefore, if we consider technology as a criterion for judging reality, due to the nature of industrial society, we reject the symbolic option due to its low financial and monetary value because it is not beneficial, so the category of science, especially in Islam, becomes a largely moral issue from which even ontology cannot be independent.

F. Conclusion

According to the epistemological foundations of science and religion, they can complement and approve of each other. Because, only having the teachings of Islam will not remove the need for other sciences, while learning modern sciences cannot deprive us of Islam. So, the two must be put together to find a common ground for concepts and propositions of science and religion. Therefore, in Islam, theory and practice are intertwined and interdependent concepts and the model of symbolism and functionalism must be placed next to each other to provide the cause of human excellence. The disorder leads to the fact that in this case, the possibility of human excellence seems impossible, or more precisely difficult. Unlike all religions, especially Christianity, we find that Islam is a religion that invites everyone to learn science and makes it obligatory for all Muslims to seek it. The verses of the Quran, hadiths, and narrations invite people to acquire knowledge and glorify scientists of different sciences. Therefore, at the time of the flourishing of Islamic

civilization, there was no issue as the separation of science and religion, and the two, together, have caused this flourishing. Though it should be noted that the Islamic society will not progress as long as the Muslims attach refer only to the honors and achievements of the Middle Ages. They must redouble their efforts to reach the re-flourishing period of Islam today.

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