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**Three Approaches in Islamic Science:
Case Studies in Iran**

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Abstract

In this paper, some attempts in Iran in the realm of empirical religious (Islamic) sciences are discussed. Two approaches on Islamic science are formulated and discussed which are called inferential and complementary approaches. The inferential approach could be criticized on both religious and scientific sides. On the religious side, this approach does not seem defensible on the ground that religion has a particular function consisting of leading humans toward God. On the scientific side, this approach leads to the unacceptable result of changing religious statements into hypotheses. The complementary approach tries to compensate gaps of scientific theories by adding religious scientific points. The main problem with this approach is that it leads to providing incoherent wholes under the title of Islamic sciences.

Instead of these two approaches, an alternative view is suggested called the constructive approach. According to this view, an Islamic science requires that, 1) its teachings are regarded as underlying presuppositions of a scientific theory; 2) some hypotheses are suggested inspired by those teachings; 3) these hypotheses are examined and experimental evidence are sought; 4) supporting evidence could be collected; and 5) a systematic whole could be provided by the collected evidence.

Key Words: 1- Religious Sciences 2- Inferential Approach
3- Complementary Approach 4- Constructive Approach

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1. Introduction

Given that the phrase of 'religious science' is meaningful the question arises that which versions or interpretations of religious science are acceptable and which are not. In this article, two approaches of religious science will be discussed and criticized and in the final step, an alternative view will be suggested.

The scope of study here is limited to Iran. In this paper, some attempts in Iran in the realm of religious (Islamic) science are discussed. Underlying conceptions of religious science in these attempts are formulated and criticized. Even though the concentration of study is on Iranian views, the kind of these attempts is not limited to Iran on the ground that similar attempts could be seen throughout the Islamic world. Hence, the criticisms are not merely local, rather they meet the other attempts as well.

The two approaches in Islamic science which are going to be criticized will be termed as inferential and complementary approaches respectively. Then, an alternative view will be suggested which will be called establishment approach.

2. The Inferential Approach and Its Critique

The first kind of attempt in talking about Islamic science in Iran is termed here as the inferential approach. This approach is based on a particular conception of religion that might be termed as encyclopedic conception. According to this conception, religion includes all knowledge necessary for the humankind happiness. This is particularly the case about Islam being the final heavenly religion. In other words, it is held that the perfection of Islam as a religion requires it to include all truths about the universe. On this view, extracting and integrating the relevant scientific points from Islamic scriptures could shape a religious science, like Islamic psychology.

As far as the encyclopedic or inclusive characteristic of Islam is concerned, there are two, strong and weak, versions for it.¹

According to the weak version, which is mostly supported, it is not the case that every bit of true knowledge be present in the Islamic texts. Rather, what could be found in these texts are merely general principles of all branches of knowledge. Thus, formulating religious sciences requires us to take these general principles and infer the details through our studies in relation to the external

world. However, as far as principles and foundations of all sciences are concerned, it is held in this version that they are present in the Islamic texts and that is why we can claim that this version has also an encyclopedic presupposition of religion.

As mentioned above, of the two versions of inferential approach, the weak version is mostly supported than the strong version. Referring to the former, Javadi Amoli, among others, says: “The religion has not been viewless or neutral in relation to any one of general or particular sciences, rather in relation to each of them, it gives generalities and principles that could be the source of derivation of other derivatives.” (7, pp. 81-82) He refers to these generalities and principles as ‘comprehensive foundations’: “The religion...has taught comprehensive foundations of many experimental, industrial, military and the like sciences.” (ibid, p. 78)

What are called here as ‘comprehensive foundations’ constitute one part of religious sciences that could be found directly in the religious texts. The other part has an inferential characteristic. In this aspect, it is held that, relying on the comprehensive principles and foundations, we should infer derivatives and particular cases of any branch of knowledge. In this regard, Javadi Amoli says: “It must never be expected that the claim of medicine science being Islamic indicate that all its particular and general formulations be stated, likewise prayer and fasting, in the traditions. As the claim that science of jurisprudence is Islamic has never been meant in this way. This is because there are plenty of rational and reasonable points, as well as many terms of Principles of Jurisprudence, in this accumulated technique that non of them could be touched in the Quran and traditions.” (ibid, pp. 81-82)

A particular case of doing Islamic science according to the inferential approach could be seen in Hussaini’s *Introductory Study of Principle of Islamic Psychology* (5) and its concise version *Islamic Psychology for Students* (6).

Hussaini holds the inferential view in its weak version. As stated before, according to this version, the religion includes comprehensive principles of all sciences. Referring to this, he says: “Leaders of Islam have given principal leadings in case of sciences that concern the humankind and have left the details for the researchers of any discipline. As the science of Principles of

Jurisprudence has been formulated by appealing to the Quran, the tradition (theoretical and practical manners of the Prophet of Islam and the Islamic leaders peace be upon them), intellect, and consensus, Islamic psychology, Islamic economics, Islamic education, Islamic morality and other sciences concern to the humankind could also be formulated in the above-mentioned way.” (6, p. 7)

Hussaini has tried to formulate Islamic psychology in this way. Relying on Islamic texts, he has regarded the spirit as the subject matter of Islamic psychology. Subsequently, he has suggested a structure for human personality, including three parts, by appealing to the Islamic concepts of *Aql* (the intellect), *Fitrah* (the innate structure), and *Shahvah* (passions).

The inferential approach in religious science could be criticized on both religious and scientific sides. On the religious side, the encyclopedic conception does not seem defensible on the ground that religion has a particular function consisting of leading humans toward God. In other words, the perfection of religion is functional rather than being comprehensive to the effect that it includes all truths of the world whatsoever. In addition, this kind of comprehensive view on religion, requires some doubts on the divine wisdom in creating two different worlds of human intellect and the religion. God has created these two distinct worlds in a way that neither includes the other completely. This is not to claim that the intellect and the religion have no overlaps or common grounds. Rather, the claim is that the intellect and the religion have partial independence of each other and that neither of them could make us needless of the other. Thus, as far as the human needs are concerned, the intellect and the religion are complementary. Denying this partial independence of the intellect and the religion requires, on one side, to claim that the religion is sufficient to understand and solve all human problems without appealing to the intellect and, on the other side, to claim that the intellect can do the job of religion and make us needless of it.

Proponents of the encyclopedic view on religion claim that the Islamic texts have themselves indicated of the comprehensive perfection of the religion (8, p. 120). However, the proclaimed evidence is not persuasive. For instance, where the holy Quran states: “...nor anything green nor dry but (it is all) in a clear book.”

(1, 6: 59), it is not certain that the book referred to here is the Quran itself. Perhaps, that is why an indefinite article is used here; ‘a clear book’ rather than ‘the clear book’. And it is quite compatible with the Quranic vocabulary (e.g. 1, 10: 61) to think that what is referred to here as ‘a clear book’ concerns a level of the divine knowledge. In fact, the beginning of the above-mentioned verse persuade adequately the reader that what is concerned in the verse is the divine knowledge: “And with Him are the keys of the unseen treasures—non knows what is in the land and the sea...”.

What could be said about the cases where the Quran refers explicitly to itself: “...We have revealed the Book to you explaining everything clearly...”(1,16: 89)? The answer is that when the Quran states that its role is to guide the humankind toward God (1, 2: 2), it becomes evident that “explaining everything clearly” refers to everything performing the role of guiding the humankind toward God, rather than literally being everything whatsoever. And this is the meaning that some interpreters of the Quran have indicated.²

So far, the inferential approach is criticized with reference to its presuppositions on the nature of religion. The second aspect in this critique concerns the nature of science. On the scientific side, this approach confronts a paradox. On one hand, it must admit the dismissal of the hypothetical nature of experimental sciences. This is because what is thought to be the principles (the weak version) or details (the strong version) of the sciences must be accepted dogmatically as the contents of the Islamic texts. On the other hand, it must hold a hypothetical nature for the statements in the Islamic texts. This is because they are regarded as scientific claims that need to be verified by the instrument of sciences namely experiment.

In addition, what happens in the actual fact is that the direction of development of religious science in the inferential approach is retrospective rather than being prospective. A prospective direction leads to findings whereas a retrospective direction starts with findings. In other words, in the former state, confronting unknown phenomena, a science provides new findings. However, in the latter, starting with scientific findings, a “religious science” tries to provide traces for the findings in the religious texts. Thus, a retrospective direction in science is futile.

Furthermore, retrospective direction is at the exposure of providing an eclectic science in its bad shape. Starting with findings of the sciences, it would be inevitable to fuse statements of the Islamic texts with those of scientific theories. This kind of fusion could be seen, for instance, in Hussaini's (6) work on Islamic psychology mentioned above. What he refers to as the structure of personality in Islamic psychology is in fact an attempt to correspond some Islamic concepts with the structure of personality suggested by Freud. According to Hussaini, the three parts of personality in Islamic view are *Aqle* (intellect), *Fitrah* (innate structure), and *Shahvah* (passions). These three parts correspond respectively to what Freud termed as Ego, Superego, and Id. In the same manner as Freud referred to Id, Hussaini talks about the principle of pleasure as the dominant principle on *Shahvah*'s activities (ibid, p. 58) and its unconscious mechanisms (ibid, p. 59). The second step of correspondence is held between Freud's Superego and the Islamic concept of *Fitrah*: the principle of perfectionism is dominant in *Fitrah* (ibid, p.21), conscience is related to *Fitrah* (ibid, p. 26), and there is a basic conflict between it and *Shahva* (ibid, p. 56). Finally, the third step in correspondence refers to Intellect in relation to Freud's Ego. The dominant principle in Intellect is the principle of reality (ibid, p. 64), and the Intellect is neutral and not value-laden (ibid, p. 72).

3. The Complementary Approach and Its Critique

The second approach in religious science appeared in Iran could be called complementary approach. This is because the main strategy of this approach is that the existing Western sciences should be edified and completed. By edification it is meant that non-Islamic or anti-Islamic components of the existing theories should be put aside and instead Islamic components added to them.

This approach was implemented soon after the Islamic Revolution in Iran 25 years ago. Some branches of *Hawzeh* in Qum, particularly *Haqqani School* and *Cultural Foundation of Baqer Al-uloom*, started to study the existing scientific resources of universities in order to edify and complete them. These activities have been continued by an office for cooperation between *Hawzeh* and universities called *Daftar Hamkariye Hawzed va Daneshgah*.

The characteristics of this approach have been stated in the introduction of one of the books published by Daftar: “General characteristics of this book could be stated in what follow...b) Introducing Islamic points and concepts with necessary precision and scrutiny and to attempt to introduce the most evident and the most relevant points as the first step in the direction of enriching the existing psychology. c) To attempt to fill the existing gaps in modern psychology and to emancipate it from the tight materialistic frameworks and to introduce new discussions such as will and intellectual choice and to support rational methods and to use knowledge by presence beside pure experimental methods and to enrich some parts that have been considered important in the Islamic culture, such as moral growth and personality growth, and to show the limitations and shortcomings of the existing issues by means of critique.” (2, introduction)

As these statements show, an Islamic or Islamised science is provided by adding Islamic points to the existing theories in order to fill the gaps in their structures, and by criticizing and dismissing their false parts. In addition, it is suggested that religious texts could be used for providing new facts in a number of ways: a) wherever a non-experimental issue (such as spirit) is concerned, we can advance experimental studies by means of dealing with its experimental equivalents (such as bodily states equivalent to the spirit states); b) in cases of explicit statements on a particular phenomenon, we can directly use them as the subject of experimental or quasi-experimental studies; c) wherever scientific points are stated in an implicit way, given that our inference is clear, we can access to some findings by analyzing them; however, if our inference is not clear, then we need to study them by means of other methods [perhaps experimental] and in case of affirmation to accept them; d) finally, we can gather particular scientific points of religious texts and related them to suitable hypotheses to provide theories and to determine their truth or falsity by means of experimental methods. (ibid)

However, it seems that there are a number of problems with the complementary approach to religious science. Firstly, it ignores the systematic structures of scientific theories and their presuppositions, on one hand, and those of religious texts on the other. This systematic characteristic of theories and texts prevent us

from dismissing elements of a system and replacing them with elements from other systems without being trapped into providing incoherent systems. In this way, superficial similarities between two different systems are misleading. We might think that because of the similarity we have provided coherent systems, whereas this superficial coherence is shaky.

Take this example from the above-mentioned source: “Sometimes, appealing to rationalization, one tries to justify his bad action that has led to his anxiety and provide an acceptable interpretation for it. According to some verses of the Quran, the hypocrites and disbelievers sometimes seek refuge in justification. As Allah says: ‘And when it is said to them, Do not make mischief in the land, they say: We are but peace-makers.’... (Baqarah: 11) This point probably refers to a kind of defense mechanism. This is because the hypocrites’ confession to mischief making and harming society leads to their inner sadness and anxiety and they emancipate themselves from the trap of conscience punishment.” (ibid, pp. 479-480)

Given that defense mechanisms, including rationalization, is a part of Freud’s theory and is based on unconscious activities of personality, can we be sure that the Quranic verses presuppose this kind of unconsciousness? Presumably, the subsequent verse has made this interpretation plausible for the writers of the above-mentioned passage: “Now surely they themselves are the mischief makers, but they do not conceive.” (1, 2: 12) However, it should be noted that interpreting the phrase of “they do not conceive” as referring to unconscious rationalization is an attempt being done in the sphere of Freudian theory. Whereas, we might take the verse to indicate that they do not notice the consequences of their actions. Anyway, what concerns us here is only that ‘rationalization’ presupposes unconsciousness and it is not clear that the Quran has taken such a presupposition for granted. Thus, to mention that verse as a confirmation to defense mechanism of rationalization is to provide an incoherent mixture from points belonging to different systems.

A further problem with the complementary approach to religious science is to make comparisons with taking pains. In other words, this approach leads to overloading a Quranic verse or a tradition with irrelevant interpretations in order to make it compatible with a

successful point in a theory. Again, an example from the above-mentioned source: "Theory: means to gather dispersed information, to formulate and analyze them and to guess about the relations among the phenomena being studied and this is used more or less in all sciences. Access to theory by means of thinking and deepening the data could be inferred from some of [Islamic] traditions." (2, pp. 149-150) The tradition concerned is this: "Whoever thinks a lot on what he knows, he makes his knowledge stable and understands what he might not be able to understand." (من اكثر الفكر فيما يعلم اتقن علمه و فهم ما لم يكن يفهم) (ibid)

However, it is clear that this tradition says nothing about the role of theory in science. What it says is that thinking on what one knows, leads to deeper understanding compared to the previous understanding that one had. How and in what way the ambiguous word of 'understanding' in the tradition could lead us to note the complicated role of theory in science; points like 'theory-ladenness of facts'? One might be able to infer these things but at the expense of taking a lot of pains.

There is still another problem with the complementary approach that it leads to a bad defense from Islam. This happens when one puts a brief verse or tradition beside a huge amount of findings in a scientific theory to claim that Islam has also said something in that regard. An example could be seen in the above-mentioned source (2, p. 191 & p. 197) where detailed findings of genetics on DNA and the like are explained and then a brief reference is mentioned to the traditions indicating that some traits of parents transform to the children.

Finally, concerning the suggestion of doing experimental studies or providing theories based on what are stated in the religious texts this question arises: Why should we consider themes of Quranic verses or traditions as the subject of experimental studies? Does this mean that one should consider these themes as hypotheses whereas one believes in their truth? Or is it meant that these be supported by experiments? If so, could they be considered as real experiments required in sciences? This question becomes serious particularly when, referring to theories taken from religious texts, it is stated: "Of course, it should be reminded that if experimental research rejected such a theory, then the problem would have been

with the kind of formulation and constitution of the theory (rather than the verses and traditions gathered in it)." (ibid, p. 149)

4. An Alternative: The Constructive Approach

Having criticized the two approaches in religious science, we are going to present an alternative view as the constructive approach. A religious science is neither totally present in the religious texts to be inferred, nor is it in a half way present in them to be complementary to some of the existing theories. Rather, a religious science, where possible, should be constructed. According to this view, given that we can talk about Islamic sciences, they should be constructed in the same way as other scientific theories are constructed.

Underlying presuppositions of this view are of two kinds. So far as the science is concerned, a post-positivistic stance is presupposed. The most important characteristic of this stance is that the borders between science, on one hand, and metaphysics, values and culture, on the other, are so soft that mutual influences could occur between them.

The second kind of presupposition in this view concerns the nature of religion. It is assumed that Islam as a religion does not include whole scientific theories. Nevertheless, as its necessary components, it has teachings about the universe, human nature and so on. These teachings might have inspirations in constructing hypotheses and theories. These two kinds of presuppositions of the constructive view need to be explained further below.

5. Presuppositions Concerning the Nature of Science

One part of justifying religious science as a matter of construction refers to our conception of science. The conception presupposed here is mainly post-positivistic. The important characteristics of this conception are as follows.

Firstly, it is assumed that an integration is involved between theory and observation in the scientific endeavor (4). Contrary to the positivistic conception, scientific theory is not the result of accumulation of facts. Rather, given that pure observation does not occur, the role of theory becomes clear which, in turn, shows the importance of cultural and intellectual background of scientists. Opening up the relation between observation and theory, it

becomes possible to talk about religious science. This is because religion is one of the candidates for providing the context of scientific theorizing.

Secondly, it is assumed that a further integration is involved between science and values (11). Again, contrary to the positivistic conception, science is not regarded value-neutral, rather scientific endeavor is value-laden and, in a restricted sense, a biased activity. Given that some kind of biases could be and should be avoided for providing objectivity, there is another kind of bias that could not be avoided, rather it is what makes scientific activity possible. Again, it becomes plausible to talk about religious science and this indicates that, given the value system of religion, we can ask what kind of procedures or preferences for thinking follow.

Thirdly, it is assumed that the growth of science occurs through competition among theories and paradigms (9; 10). It follows that not only is it the case that there is no one and the same way for the progress of science, but also this progress requires a battle between rivals. As Paul Feyerabend (3) has stated in his famous slogan, "anything goes", this requires that one fights even with the dominant type of theorizing in science. This point opens up a further way for religious science, particularly because of the fact that the contemporary science has mostly an anti-religious or at least non-religious tendency in its progress.

Finally, it is assumed that there is a two-way relation between science and its metaphysical background. As far as the influence of science on its metaphysical background is concerned, some have talked about the falsification of this background by science.³ This characteristic of science might lead to a problem for religious science: Can we accept that the religious science might falsify its religious background?

This concern could be answered in this way. As Popper (12) and Watkins (15) have shown, strictly speaking, it is not the case that experimental aspect of science could falsify its metaphysical background. What could be falsified are scientific hypotheses rather than sciences presuppositions. What if it becomes clear that a metaphysical background has not fertility for providing good hypotheses for scientific work? In this case, at most it could be stated that the background is outmoded rather than falsified. Neither of these two states does lead to a real problem for religion.

In the former case, if our hypotheses are rejected by evidence what is falsified are 'our' hypotheses rather than their religious presuppositions because as presupposition, they are of a metaphysical kind that could not be falsified by experimental evidence. In the second state, where it becomes clear that religious backgrounds do not provide good hypotheses for science, what follows is that the religious backgrounds are not suitable for science development. However, as it will be explained in the next part, this does not show that religion as religion is undermined, rather what this shows is merely that religion as a background for science development is undermined. In fact, science development for religion is a side-effect rather than the main effect.

6. Presuppositions Concerning the Nature of Religion

The second kind of presuppositions of the establishment approach to religious science is related to the nature of religion. Religion is regarded here to have the particular function of guiding the human toward God. This indicates, on one hand, that religion does not deal with sciences in their diverse kinds and their concern about finding laws and applying them in the human life. On the other hand, there is also the indication that, for playing its particular function, religion gives particular teachings about the universe and the human. If religion deals with knowledge, it is dependent upon its particular function. In other words, religion's teachings about the universe and the human are so selective to make performing its particular function possible. In this way, religion does not claim the function of human intellect in discovering facts in the universe, rather, it devotes its ability to play its role in what the human intellect cannot take part, namely guiding the human toward God.

These two aspects in relation to religion show how religious science becomes possible according the establishment approach. In order to provide a religious science, we cannot hope to infer its details or even its general principles from the religious texts on the ground that religion does not take the position of human intellect in discovering facts. However, on the other hand, one cannot claim a priori that the particular teachings of religion about the universe and the human have not the potentiality for providing a background for developing sciences. But, as mentioned previously, one thing

should be clear for us in advance: If a religion cannot provide the suitable background for developing sciences, this by no means shows that the religion as religion, namely in performing its particular function, is useless.

7. Conclusion

Based on what has been said so far, in order to establish a religious science, we need to take these steps:

1) To regard the particular teachings of a religion about the universe and the human as underlying assumptions of a scientific theory;

2) to suggest scientific hypotheses about the phenomenon concerned under the inspiration of the religious teachings;

3) to examine these hypotheses experimentally and provide findings and evidence;

4) to organize and systematize the findings in a way that they take a theoretical structure;

5) to use the theoretical structure to explain and predict new phenomena in a prospective way.

Such a theory includes a science that could be called a religious science. It is called a science on the ground that it is supported by observational or experimental evidence. On the other hand, it is called religious because it is a science with influences taken from a religion; influences derived from the religious teachings regarded as assumptions of the science. It is worth noting that observational evidence supporting the scientific theory does not remove the color of this influence. Contrary to Reichenbach (13), the influence of assumptions could not be restricted to 'the context of discovery'; rather, exactly because of their presence in the context of discovery, they continue to be present in 'the context of justification'. Experience as the judge in the realm of science puts evidence as well as counter-evidence in front of a scientific theory, but by no means does it reject the influences derived from the assumptions.

Notes

1- According to the strong version, every bit of true knowledge is somehow present in the Islamic scriptures whether explicitly or implicitly and in a hidden way. What we need here for formulating Islamic sciences

is a deep and elegant interpretation of the Islamic texts. Even if we cannot have access to some knowledge in these texts, it is held that that knowledge is present somewhere in the substrata meanings of these texts and some day they might be known.

2- Referring to the same verse, Tabatabai (14), among others, states that the claim of the Quran as to explaining everything presupposes its main role of leading people toward God. That is to say, the Quran explains everything related to this role, rather than 'everything' in its literal meaning.

3- Lakatos (10), for instance, holds that a degenerative hard core within a scientific theory could be falsified in the long run.

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