Qu'ranic Foundation of Islamic Science

By Senad Mrahorovic

Introduction

Every aspect of the Islamic religion from intellectual and doctrinal to jurisprudential and practical domains has its origin in the Qur’ān or the Sunnah of the Prophet. The concept of Islamic science, which includes all of the highly significant and enormously rich intellectual and scientific enterprise that Muslims and non-Muslims living under the umbrella of the Islamic civilization have produced for the past fourteen centuries, is of no exception. Since the principles of Islam are all contained in the Qur’ān as the primary source of everything that is Islamic, and the Sunnah as the key interpretation of the former, the implementation of the said principles by the virtue of their origin could not have, but taken place within the framework of Islamic worldview or environment. Concerning the idea of knowledge in Islam, it might be said that from the starting point of the Qur’anic revelation, it was given an islamicized character by the very first verses of the Qur’ān: “Read in the name of your Lord”. An added value to its islamization is the fact that the first and foremost principle of Islam, namely the Shahādah, that is, Lā ilāha...
ill’Allāh, implies both certainty of knowledge and undeniable faith. In this essay, I will discuss the Qur’ān as the main source for the development of Islamic science.

Qur’ānic conception of knowledge
The notion of knowledge is deeply rooted in the vocabulary of the Qur’ānic revelation and it has been articulated in a number of different linguistic forms among which are the roots ‘ilm, fqh, ‘aql, bsr, qlb and their various derivatives respectively, that were frequently employed within the language of the Qur’ān. For example, the root ‘ilm with a number of its verbal derivations, appears in the Qur’ān about 750 times. Regardless of possible reasons behind the frequent usage of the notions related to knowledge, understanding, spiritual illumination and vision and other terms, it is certain that the Qur’ānic usage of them has brought the aspect of knowledge in Islam as an almost inseparable component of the Islamic faith. Indeed, the first part of the testimony of faith in Islam “is a statement of knowledge concerning Reality.” The knowledge in question refers to the awareness of God who created the entire cosmos and the whole chain of hierarchical beings contained within. In traditional Islamic thought, this knowledge is called ‘Ilm al-Tawhīd or in its more philosophical treatment al-‘Ilm al-Ilāhī, that is, the science of Divine Unity or metaphysics. ‘Ilm al-Tawhīd is regarded as the most praiseworthy and most beneficial knowledge towards which all other avenues of intellectual and scientific inquiries should lead to. In al-Ghazālī’s classification of sciences for instance, the science of Tawhīd appears at the head of the sections of both religious and intellectual divisions of sciences. In one of his many works, al-Ghazālī writes: “The Highest and noblest knowledge is the knowledge of God because all other forms of knowledge are sought for the sake of it and it is not sought for anything else.”

Another prominent intellectual figure from classical period of Islamic civilization, namely, Ibn ‘Arabī, like al-Ghazālī, has widely written in this domain of study. In his reflection on the importance of knowledge of Divine Unity, Ibn ‘Arabī has stated that “[t]he intelligent person should not seek any knowledge save that through which his essence is perfected and which is carried along with him wherever he may be taken. This is not but knowledge of God in respect of bestowal and witnessing.” Today, in a similar fashion Seyyed Hossein Nasr, a
leading contemporary authority on Islamic thought and philosophy has argued that the “real nature of intelligence is ultimately to come to realize that Lā ilāhe illa’Allāh, that is to come to know that in the end there is only one Absolute Reality. It is to realize the absolute nature of Allāh and the relativity of all else that is other than He”\(^8\). This knowledge of Tawḥīd in Islam is regarded as the supreme knowledge or the highest truth since it concerns the knowledge and truth of the Highest, that is, the Supreme Reality\(^9\).

Needless to say, the above-mentioned views and numerous other statements by Muslim scholars on the supremacy of \(^{'Ilm al-Tawḥīd}\) over other types of sciences are almost solely based on the Qur’ānic and Sunnatic treatments of the subject of knowledge and its related themes. In both these sources respectively, knowledge is often linked to faith or treated as a Muslim’s religious duty. A few instances from the Qur’ān and Hadīth may be sufficient to justify this: “Among His servants, only those who have knowledge (\(‘ulamā\)) are God-fearing” [Qur’ān, 35:28]; “God will raise in rank those of you who believe and who are given knowledge” [Qur’ān, 58:11]; “The seeking of knowledge is obligatory for every Muslim”[Ibn Mājah, 224].

In the case of various branches of Islamic science, the principle of Divine Unity has always dominated other aspects of knowledge. Despite numerous methods used to study different subjects, the aim of Muslim scholars and scientists has always been to underline the Unity of God and consequently the unicity of nature in which everything is being perceived as a symbol pointing to the Divine Principle as the Cause of all that exists in the created realm of reality. This is best explained by Seyyed Hossein Nasr in the following statement: “One might say that the aim of all the Islamic sciences – and, more generally speaking, of all medieval and ancient cosmological sciences – is to show the unity and interrelatedness of all that exist, so that, in contemplating the unity of the cosmos, man may be led to the unity of the Divine Principle, of which the unity of Nature is the image”\(^10\).

The relationship between knowledge and Islamic faith however, may well be illustrated by considering the first revealed portion of the Qur’ānic revelation and the symbolism and messages they portrayed. Having in mind the importance of knowledge in the Islamic intellectual tradition and its correlation with religious dogmas, it is not surprising that the starting point of the Islamic revelation is
almost exclusively concerned with knowledge and its source on the one hand, and the way of obtaining knowledge and its ultimate aim on the other hand. The first revealed verses of the Qur’ān, which form the opening part of the Sūrah al-‘Alaq (the chapter of the Clinging Clot), state the following: “Read! (Recite!) In the name of your Lord and Cherisher, Who created - Created man, out of a (mere) clot of congealed blood: Read! And your Lord is Most Bountiful, - He Who taught (the use of) the Pen, - Taught man that which he knew not” (Qur’ān, 96:1-5). This Qur’ānic text immediately projects the three main principles among others, concerning knowledge in the context of the relationship between God and humankind, namely, the recitation or bearing witness to the reality or truth in the name of God; Divine creation of a human as an intelligent being; and Divine teaching and illumination of human being. In the traditional Islamic perspective, each of the above principles reflects certain elements that are directly or indirectly connected to the Islamic character of science developed within the Islamic worldview.

Concerning the first principle, that is, *iqra’ b-‘i-smirabbika* or ‘Read (Recite) in the name of your Lord’, it is strongly indicated that the presence of the Divine in hearts and minds of Muslims is clearly demanded for every action or thought conducted by a Muslim, especially when it comes to seeking truth and discerning it from falsehood. The act carried out in this manner partakes in the sacred be it of a worldly or of a spiritual nature. From the simplest conduct to the noblest deed, from the basic education to the higher contemplation, a Muslim is thus able to sanctify or transcend his action, intellection and imagination by adhering to the message of the above verses or simply to the *shahādah* which, for its part implies, not only one’s verbal witness to the oneness of God and the messengerhood of the Prophet but also a certitude and intellectual recognition of the truth that it expresses. It is in this context according to Nasr, that the Prophetic hadīth that states: “Say *Lā ilāha ill’Allāh* and be delivered”, should be understood.

On the other hand, the imperative form of the verb *qara’a* by which the Islamic revelation has commenced is very significant for two main reasons. The first one is that the infinitive form of this verb, that is, *qur’ān* or recitation, is the very name of the Islamic revelation, while the second one is that in Islam a book (*al-kitāb*), yet another name of the Qur’ān, is the crystallization of the Divine...
revelation in human language as well as the ultimate container of the Divine Word\textsuperscript{14}. The Qur\’ān therefore is at once a recitation, a discernment and a book of Divine signs (āyāt) which besides its clear exoteric meaning also possesses the inner character or esoteric denotation hidden by veils of numerous layers of symbolism that is beautifully as well as miraculously expressed by the Divine Arabic dictation in the Qur\’ān. That is why the Qur\’ān is regarded, in the intellectual tradition of Islam, as the source of all knowledge. From the Islamic perspective, writes Nasr, “all knowledge is contained in essence in the Qur\’ān, the knowledge of all orders of reality. But this knowledge lies within the Qur\’ān in essence, or as a seed and in principle, not in formal detail”\textsuperscript{15}.

The second principle derived from the foregoing verses (alladhī khalaqa), is the Divine creation of the cosmos and all what it contains. It is precisely in the light of this principle that Muslim scholars and scientists have approached the world and its phenomena. As the sources of various kinds of knowledge vary, the created world of nature with its multiple levels of being represented an important source for the development of numerous sciences “physical and metaphysical; scientific to spiritual; qualitative to quantitative; practical and aesthetical”\textsuperscript{16}. Here it would be sufficient to mention that the countless facts, occurrences and sights contained in nature are regarded as signs (āyāt) pointing to the transcendental reality. In the same way, the verses of the Qur\’ān are called āyāt. Both types of āyāt are considered sacred simply because of their Divine origin and purpose of their manifestation in the created order of reality. The Qur\’ān states: “We shall show them our signs (āyātinā) upon the horizons and within themselves, until it be manifest unto them that it is the Truth” [Qur\’ān, 41:53]\textsuperscript{17}. Based on this almost equal meaning and the role shared between the natural and the Qur\’anic signs, some Muslim scholars have called natural phenomena as the al-Qur\’ān al-Takwīnī, compared to the al-Qur\’ān al-Tadwīnī which refers to the actual form of Islamic revelation\textsuperscript{18}.

As for the purpose of this Divine creation, the Qur\’ān has made it clear in the following verses: “I have only created Jinn\textsuperscript{19} and men that they may worship Me” [Qur\’ān, 51:56], or “In the creation of heavens and earth… there are indeed Sings for men of understanding” [Qur\’ān, 3: 190]. Here the verses clearly show the essential obligation of men and other creatures towards
their Creator and Sustainer, an obligation that in the case of human being can only be adequately achieved by the virtue of proper knowledge. Being Divine vicegerent on earth with the responsibility of his conducts towards himself and the entire creation therein, over which he was given the dominance, and ultimately towards God to whom he will finally return, man is created in the “best of stature” [Qur‘ān, 95:4]. He is the central being in this world to whom God has revealed the knowledge of all things, or to whom the Divine revelation was primarily addressed. This indeed implies that man is the only being endowed with the faculties of knowing not only the physical aspect of things, as it is the case with the modern scientific epistemology, but also and most importantly the metaphysical aspect of reality. The superiority of man among other created beings is marked by the words of the aforementioned second verse of the Sūrah al-‘Alaq: “khalaqa al-insāna min ‘alaq”, whereby he was given an honor and superiority over other created beings to be mentioned at the first place in the opening verses of the Qur‘ān.

This brings us to the third principle contained in the cited verses that is, the Divine teaching and enlightenment of man (‘allama al-insāna). The process however of this kind of teaching involves, besides the utilization of the mentioned faculties of knowing, the highest level of certainty in one’s faith in God, the unconditional devotion to Him and the total submission to His Will. As the traditional Islamic classifications of knowledge suggests, there are numerous methods of obtaining knowledge. Among these are mystic vision (mushāhadah) and illumination (mukāshafah), known in Sufi terminology as al-‘Ilm al-Hudūrī, that is, presentational knowledge. It is also called al-‘Ilm al-Ladunnī (Divinely taught or inspired knowledge) or simply al-ma’rifah (illuminative knowledge). Compare to attained knowledge or knowledge gained by cognitive senses, presentational knowledge is direct, metaphysical, intuitive and contemplative. For the traditional Islamic scholars, presentational knowledge is regarded as the highest level of knowledge and understanding of reality. In the Qur‘ānic vocabulary, it is identified with “haqq al-yaqīn” or truth of certainty. According to Ibn ‘Arabī, presentational knowledge is possible only by Divine Will and not by one’s own efforts. However, the key for this possibility of knowledge is being revealed in the Qur‘ānic verse: “Be wary of God, and God will teach you” [Qur‘ān, 2:282].
Development of Islamic Science

Since the essential teaching of Islam is to believe in and know the unity of God or Tawhīd, the rest of the Islamic economy of doctrines and practices is centered upon this truth. The issue of Islamic science may serve as the best example of how the different kinds of knowledge encompassed by the Islamic revelation have been intellectually perceived and as such practically implemented by generations of Muslim scholars and scientists. As the Qur’ān contains the fundamental principles of Islam that were perfectly elaborated and explained by the Prophet of Islam through his Sunnah (verbal and practical teachings of the Prophet)\textsuperscript{25}, the logical priority for the first few generations of Muslim scholars was to safeguard the sources of their religion, namely, the Qur’ān and the Sunnah. In due course they have embarked on the path which will lead them to the highest intellectual summits that were hardly reached by any civilization prior to Islam. Before any serious intellectual influence upon the rising civilization of Islam, a great deal of religious sciences alongside a number of linguistic and artistic disciplines were developed by way of studying and commenting the Qur’ān and the Sunnah. From various theological treatises, exegetical works, juridical argumentations to numerous sciences dealing with Hadith literature as well as Arabic language as the lingua sacra of Islam, the entire corpus of the Islamic literature was created by the end of the second century of Islamic era. The technical vocabulary used in these works as well as in the later periods of the intellectual history of Islam, was mainly constructed based on the Qur’anic and Prophetic terminologies. For example, the terms such as tawhīd, fiqh, hikmah, tafsīr, ta’wil and others were all taken directly from the Qur’ān to form later different branches of Islamic science\textsuperscript{26}.

These scholarly and scientific activities during the first two centuries of Islam, have formed the intellectual as well as epistemological basis for the further expansion of Islamic science. In the view of Alparslan Acıkgenc, this period was crucial for the emergence of three ‘mental frameworks’ as the fundamental conditions for the development of Islamic science, namely, the emergence of the Islamic worldview as the environment for the Islamic science, the emergence of the Islamic-knowledge structure within the Islamic worldview and the emergence of the Islamic scientific tradition. The first two frameworks are said to be
developed during the Prophet’s lifetime in Mecca and Madinah respectively, while the third framework developed as the result of the intellectual and practical implementation of the Qur’anic principles related to knowledge by the first generation of Muslim scholars headed by the Prophet himself. The early intellectual activities introduced directly by the Prophet of Islam under the guidance of the Qur’anic revelation was later expanded and transformed into a sophisticated system of knowledge which, with its own and unique methodology and epistemology, became the leading scientific tradition in the world for several centuries until the rise of the Western Renaissance.\(^\text{27}\). In other words, the Qur’anic insistence on the importance of knowledge and its close relationship with the principles of the Islamic religion as was illustrated using the first five verses of the Sūrah al-‘Alaq, has made the Islamic civilization not only the intellectual inheritor of ancient scientific traditions, a great part of which has been Islamized, and as such incorporated into the corpus of the Islamic intellectual tradition, but also a rich source for the intellectual and scientific revolution in Europe during the latter’s period of enlightenment.

**Bibliography**


Notes
2 See for example some of Rosenthal’s speculation in this regard, Ibid., pp. 19-28.
5 Osman Bakar, Ibid., pp. 207-210.
6 Al-Ghazālī, The Jewels of the Qur’ān, pp. 43, as cited by Osman Bakar, Ibid., pp. 197.
11 Among the names by which the Qur’ān addressed itself is al-Furqān or the discernment, [Qur’ān, 25:1]. The Qur’ān therefore is the criterion by which one is able to distinguish between truth and falsehood, good and evil, Absolute and relative or as the Qur’anic verse states: “These are the verses (āyāt) of the Book that makes things clear” [Qur’ān, 26:1].
13 “This is the Book; in it is guidance sure, without doubt, to those who fear God” [Qur’ān, 2:2].
14 Seyyed Hossein Nasr, Ideals and Realities of Islam, p. 32.
15 Ibid., p. 39.
16 Osman Bakar, Ibid., pp. 63.
17 With a slight modification this verse was cited from Seyyed Hossein Nasr, 1993, An Introduction to Islamic Cosmological Doctrines, New York: State University of New York Press, p. 6.
18 Professor Toshihiko Izutzu has stated that in terms of Divine intervention in human affairs, there is no difference between linguistic and non-linguistic signs, since both types represent Divine āyāt, Toshihiko Izutsu, 2002, God and Man in the Qur'an: Semantics of the Qur'anic Weltanschaung, Kuala Lumpur: Islamic Book Trust, pp. 142-143.
19 Jinn are beings “of fire” existing in the intermediary realm between the celestial and the physical realms, who are normally unperceived by unaided human vision.
20 “It is He Who has made the earth manageable for you, so traverse you through its tracks and enjoy of the Sustenance which He furnishes: but unto Him is the Resurrection” [Qur’ān, 67:15].
21 “And He taught Adam the nature of all things” [Qur’ān, 2:31].
23 Osman Bakar, Ibid., pp. 194-195, 204.
24 William C. Chittick, Ibid., p. 129.
26 Alparslan Açıkgenc in his excellent study of 1996, Islamic Science: Towards A Definition, Kuala Lumpur: International Institute of Islamic Thought and Civilization (ISTAC), has offered much extended list of the scholarly and scientific terms adopted from the Qur’ān during the first two centuries of Islam. See the section entitle “The Emergence of the Islamic Scientific Tradition” (10-200 A.H./632-800 A.D.) in the author’s cited work.