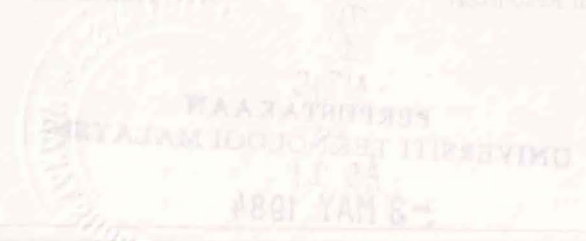


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1	Dr. Mehmet S. Aydin	Qur'anic Attitude Towards Scientific Spirit
2	Dr. Yusuf Gökçe	Towards the Actualization of Islamic Values in Scientific and Technological Development
3	Dr. Khalid Mohd. Salleh	Islamic Vision in Development Based on Science and Technology
4	Prof. S.M. Farooq Ali	Technological Development in Muslim Countries
5	Dr. Akel M.A. Qasbi	Islamic Teachings on Social Planning & Management
6	Prof. Dr. Khalid Subhani	The Role of International Islamic University in The Development of Islamic Education System
7	Dr. F.C. Elmaghrabi	Islamic Research in Islamic Countries
8	Dr. F. Elmaghrabi	Islamic Research in Islamic Countries



QUR'ANIC ATTITUDE TOWARDS SCIENTIFIC SPIRIT

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In what way, if any, and to what extend has the Qur'an influenced the minds of Muslims who have managed to contribute much to the rise and development of scientific spirit in the Muslim world? This is the main question that I will try to answer in this paper. So, the history of science and the actual achievements of Muslim scientists do not directly concern us here.

As we all know, before the revelation of the Qur'an the intellectual output of the Arabs consisted mainly of poetry and oratory. The level of scientific curiosity, let alone a working scientific spirit, was at its lowest, and it showed no sign of growth. However, soon after the death of Prophet Muhammad (s.a.w.) Muslims came out very successfully not only in widening their geographical territories but their intellectual horizons as well. They opened their minds to the achievements of the Greeks, Indians and Persians in science and philosophy. They intelligently evaluated and at a later stage assimilated those cultural elements that were in keeping with the teachings of the Qur'an. From the eight century onwards, Muslims reached with amazing speed at an intellectual level where science and philosophy lived their heyday. This is an obvious historical fact that needs no justification of any sort. Now, here again I would like to pose the following question: What was the spiritual power behind the achievements of the Muslim mind?

The prophet (s.a.w.) and his close associates had managed to set up a socio-political structure which was extremely just and human. This was not something unexpected. An idea — in this case the penetrating ideas of the Qur'an that shows its influence first on the psychological and then on the sociological levels. Philosophical and scientific developments require every student of history knows, a comparatively longer time and a certain amount of accumulation. It should be borne in mind that not only the *production* of original and lasting works but a clear *understanding*, a critical *evaluation* and *interpretation* of the outputs of bygone cultures require a healthy and mature frame of mind. That teachings of the Qur'an contributed significantly to the attainment of such a frame of mind is beyond any doubt. This can easily be seen in so many works by Muslim philosophers and men of science. I wish to take a few examples to substantiate the point. Ibn Rushd, the well-known Muslim philosopher, said in his *Fasl-Al-Maqal*¹ that the law (*Shari'*)

¹Ed. by G.F. Hourani, Leiden, 1959, p. 6.

invites — or even commands — us to use reason and thus reflect upon “the Kingdom of the heavens and the earth.”² This means that according to our philosopher, the law makes philosophic study obligatory.

The term “obligatoriness” gains a special dimension when we remember the fact that Ibn Rushd was also a great Muslim jurist. Out next example is in the field of science. In the introductory chapters of a great deal of books on astronomy, for instance, we see frequent references to the Qur’anic verses which again invite men to reflect on the movements of the moon, the sun and other stars.³ The famous Muslim astronomer al-Battani (d. 929) says in his *Zic as-Sabi*, for example, that the astronomical studies lead man to the deep reflection through which they realize the unity, Omnipotence and Wisdom of God.⁴ In the 13th century Yusuf as-Sabti said more or less the same thing. In the 18th century Haji Khalifa said the same about all other natural sciences.

We have to note that the Qur’anic influence does not only confine to the field of natural sciences. Muslim historians and geographers are not less keen on quoting the verses that are related to their respective subject-matter.⁵ One can see for instance, a direct relation between the Qur’an insistence on the study of the lives of ancient nations and the Muslims’ love for writing great books on history, as we witness in the work of, say, Ibn Miskawayh’s *Tecarib al-Umam* or Ibn Khaldun’s *Kitab al-Ibar*.

Allow me to ask one more question: Why were Muslim Philosophers and scientists so keen on quoting the Qur’anic verses? Were they afraid of the reactions of the sections of their community who were somewhat conservative and perhaps did not approve the study of what was usually called “the foreign sciences”? Or, were they trying to prove that there was no clash between the teachings of the Qur’an and the scientific results? There is much to be done before we can satisfactorily answer these questions. Many scientific and philosophical works are awaiting the disciplined attention of well

²Sura, VII, 185.

³Most frequently quoted verses are:

“In the alternation of night and day, and what God has created in the heavens and the earth — surely there are signs for a godfearing people.” (X, 7)

“And it is He who made the night and day for succession for whom he desires to remember or he desires to be thankful”. (XXV, 62)

“Surely in the creation of the heavens and earth and in the alternation of night and day there are signs for men possessed are minds who remember God..., and reflect upon the creation of the heavens and the earth: ‘Our Lord, Thou has not created this for vanity....’” (III, 187) Especially this last verse has always been accepted as a starting-point for the theologico-teleological thinking.

⁴Cf. Aydin Sayili, *The Observatory in Islam*, Ankara, 1960 (Introductory Chap.)

⁵Ibn al-Kifti, *Tarikh al-Hukama*, ed. by Lippert, Berlin, 1903, s. 228-229 (Quoted by Sayili, op. cit., s. 17).

trained scholars. Little has been done especially in respect of sociology of knowledge. Having this in mind, I would like to make the following suggestions.

Historically speaking, the defence of philosophy by an appeal to the authority of the Qur’an has, I believe, a strong defensive element. We know very well that quite a number of Muslim intellectuals were against the philosophy which interpreted some religious, i.e., Islamic teachings in the light of Grecohellenistic metaphysics. This made some Muslims suspect of the *falasifa*’s faithfulness to the principles enunciated by the Qur’an. I am of the opinion that this suspicion was not justified, but it was quite understandable nevertheless. The Philosophical outlook formulated by such eminent thinkers as al-Farabi and Ibnu Sina, and defended by their followers was not in keeping with the views of some great Muslim theologians who based their doctrines on the teachings of the Qur’an as they understood them. For example, the *falasifa*’s identification of Neoplatonic emanationism with the Qur’anic creations, their dualistic conception of man; and above all, their fairly static idea of Godhood, which was very close to Aristotle’s Unmoved over, received a deadening theological veto. Now, it would not be off the mark to suggest that Ibn Rushd’s defence of philosophy, to which we have already made an allusion, was formulated in the light of this veto.

It should be made clear, however, that science had a fairly different career and history in the Muslim world. To begin with, the Muslim scientists in those days did not pretend to formulate a general outlook as philosophers did. Science as a body of knowledge could not deal with such difficult theological questions as the nature and the existence of God, the life after death and so forth. Thus, one can easily say that the Muslim scientists, although did not have the same reputation as philosophers had, were always on safer grounds.

For a correct estimation of the philosophical and scientific outputs in the Muslim world, one ought to have a clear idea of the Qur’anic *weltanschauung* which effected the life of a Muslim in every aspect. It is obvious that the Qur’an asks for clear thinking not only in matters of faith, but in matters of fact as well. Needless to say that the Qur’an is not a work of science or philosophy; but it definitely has prepared what might be called a philosophical and scientific *conscience* or mentality which does not necessarily imply expert knowledge in any particular science of philosophy.

Now, this attitude or mood, which comes very close to what the Qur’an calls *reflection* is an undifferentiated whole. It includes man’s ethical, aesthetic, scientific and religious experiences. Looking at the matter from this broad angle, science can only be regarded as the expression of one phase of human endowment, so it cannot bring a total revelation or outlook upon the universes. There is much to be said about this undifferentiated whole which splits into various branches of experience through a process of differentiation. Even such process, however, is only partial as far as the experience of

one and the same person is concerned.

As every Muslim knows very well, that reflection upon the creation is one of the major themes of the Qur'an. In the verses that were revealed, first we are informed that Man and his whole universe are created by God who also taught Man what he did not know before.⁶ In the story of the creation of Adam, we read that Man was provided with the knowledge of the *names*, and with free-will.⁷ The fact that Man is a *knowing* creature and the world is *created* by a good, omnipresent and omnipotent God contributed much to the development of scientific spirit. I wish to substantiate this point in the following way.

To begin with, the idea of creation indicates that the world has a contingent character, i.e., it does not consist in the eternal any necessary truth; thus scientific knowledge does not rest upon a priory knowledge, although the Qur'an accepts the possibility of this type of knowledge as well. What characterizes the Qur'anic approach to the attainment of knowledge is its emphasis on empirical and inductive reasoning.

Secondly, the idea of creation implies that the world is in the hands of a good and omnipotent God. Therefore, the world is neither an illusion, as some idealist thinkers have suggested, nor the sources of evil, as some religions or quasireligious philosophies claimed. Moreover, the world is there, not to be worshipped, nor to be afraid of. It is something to be known conquered and used in the service of Man.

Thirdly, the Qur'an insists upon the importance of *evidence* and *argument* in the department of knowledge — a fact that has much to do with the first point, i.e., the Qur'anic emphasis on inductive type of reasoning. The Qur'an created a faith in reasons and in the order of nature, and claimed that the ultimate nature of things lies together in harmony which excludes mere arbitrariness. The faith is an indispensable condition for the growth of science. Again, by sharpening self-consciousness the Qur'an enables Man to relate himself freshly with reality by using what may be called a principle of alteration, which makes the self-knowledge and object-knowledge grow together. In other words, the Qur'anic reflection leads Man to a new *aperçu* of reality which is typical of all invention. The Qur'an draws our attention to the natural phenomena, and urges us to question, to observe and to reach at relevant conclusions. Without a questioning mind, Man cannot observe, and without observation reflection is but an arbitrary imagination.

In the process of reflection Man sees, understands, *appreciates* and even *loves*. Now, each of these terms names a different experience. The first two words, for example, have something to do with *theoretical* knowledge, where as the other two with *moral* and *aesthetic* experiences. All of these experiences crowned, according to the Qur'an, with *faith*, or at least ought to be crown-

ed, if Man desire to attain a knowledge of the totality of things where there is an interesting theological point to note: When the Qur'an calls Man to reflect upon himself, human history and nature, it brings all theistic arguments (teleological, cosmological, moral and aesthetic) together in an astonishingly appealing way. It is a pity that many later theologians seems to have failed to notice the organic unity of these experiences, and therefore elevated some arguments while ignoring others. However this is a point that we can pursue no further here.

It is sometimes said that when the Qur'an invites Man to reflect on matters of fact, it tries to persuade him to come to faith, and not to reach a scientific conclusion. There is nothing to worry about such objection, although to accept it as it stands would definitely lead to a narrow interpretation of the Qur'anic idea of reflection. The ultimate aim of the Qur'an is no doubt faith — a fact that distinguishes religion from science — but other steps that are used have merits for themselves. The ultimate stage can never minimize the importance of the former (if we can describe them in this way) steps through which it is realized.

Thus, I see no reason to accept the view that 'mere scientific spirit' is something and the spirit that leads ultimately to religious faith is something else. To begin with, I do not believe that there is such a thing as 'mere scientific spirit'. As we read in Thomas S. Kuhn's well-known *The Structure of Scientific Revolution* (1962), the historical development of science is much more complicated than it has been supposed so far. A scientist never starts from scratch. He learns many things from his teachers, from books and the like before he starts his scientific investigations. In other words, he already has a starting-point or a naive outlook if you like, 'naive', of course; from the standpoint of science. Now, looking at our problem from this general point of view, one cannot say that since the aim of the Qur'anic reflection is not science, and it did not contribute much to the development of scientific spirit.

As we have pointed out earlier on, that the Qur'an is not a work of science. It can be very misleading indeed to read some Qur'anic verses as if they imply, or state, this or that scientific theory. Even those cosmological verses which have the appearance of scientific statements cannot totally be treated as scientific statements, although this does not mean that they lack in cognitive value. The Qur'anic reflection takes the natural phenomena as 'signs' (*ayat*); thus the knowledge of 'signs' is also the knowledge of God, or to be more precise, the knowledge of the attributes of God. This is the reason why some modern Muslim thinkers such as Afgani, Abduh, Sayyid Ahmad Han and Iqbal thought that the study of nature is one way of worshipping Him, i.e., seeing, understanding, appreciating and loving His 'signs'. There is an oft-quoted tradition: "One hour's reflection on the work of the

⁶XCVI. 1-5.

⁷II, 28.

Creator is better than seventy years of prayer". Therefore, according to the spirit of the Qur'an, scientific knowledge is not in fact cannot be — a hindrance to faith. On the contrary it is a legitimate state in Man's search for faith.

The concept of 'sign', just like the concept of reflection which takes it as an object, has theoretical, moral, aesthetic and religious dimensions. This fact ought not to be interpreted in such a way as to give the impression that the Qur'an is against the process of differentiation through which an experience gains a partial or practical independence. For example, it may be unreasonable to think of the world of human body as a 'machine'. Science has gained much by looking at its objects in this way. In the last few centuries, however, scientists — at least many of them — seem to have forgotten the organic unity of reality. The utilitarian and instrumentalist conception of science has become so predominant that wisdom in its original sense seems to have gone into oblivion. This is bad for science as well as for other types of human experience. If instrumentalist and sheer practical conceptions become the lasting elements in Man's final outlook, science may turn to be a catastrophe for a well-balanced humanistic type of realization, which is fully supported by the teaching of the Qur'an. Science has its full meaning and value when it is incorporated into the structure of a complete humanistic mode of experience. Therefore, scientific education ought to be planned in the light of the organic unity of all departments of knowledge. Otherwise, science may not be more than a degrading and dehumanizing adventure.

However, the idea of realization of the organic unity through education should not pave the way for a misty atmosphere which always looms over Man's serious attempt to obtain knowledge. Especially the Muslim world is still in need of a scientific sobriety. But sobriety is something of an isolating science and expecting it to do what it is not supposed to do is something else. Science can never replace morality or religion. I sincerely hope that in the very future the Muslim world will establish some viable educational institution where it may be possible "to construct a system of ideas which bring the aesthetic, moral and religious interests into relation with those concepts of the world which have their origin in natural sciences."⁹ Such an aim will naturally be in keeping with the rationality enunciated by the Qur'an.

⁸See especially the third verse above (f.n. 3).

⁹See A.N. Whitehead, *Process and Reality*, (Cambridge 1929) p. 6.

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Abstract

To appropriately study the contribution of Islamic thought and technological development, extensive logical analysis is required, establish the relevance of Islamic's point of view to the process of civilization.

Development is a multi-faceted process. It is not only a technical process but also a social process. It is a process of applying scientific discovery and knowledge to the betterment of human activity. The concept of development, in Islamic view, is not only a technical process but also a social process. It is a process of applying scientific discovery and knowledge to the betterment of human activity. The concept of development, in Islamic view, is not only a technical process but also a social process. It is a process of applying scientific discovery and knowledge to the betterment of human activity.

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