

Part 1: Science and the Muslim Ummah

Islamic Conception of Knowledge

One of the distinctive features of Islam is its emphasis on knowledge. The Qur'an and the Islamic tradition (**Sunnah**) invite Muslims to seek and acquire knowledge and wisdom and to hold people of knowledge in high esteem. Some of the Qur'anic verses and relevant traditions will be mentioned in the course of our discussion.

At the outset we may recall a famous hadith of the Holy Prophet – upon whom be Allah's peace and benedictions – which has come down through various sources; it says:

طلب العلم فريضة على كل مسلم

“Acquisition of knowledge is incumbent on every Muslim.”¹

This tradition brought up the discussion as to what kind of knowledge a Muslim should necessarily acquire – an issue around which various opinions were offered in the past.

Abu Hamid al-Ghazali (d. 1111 A.D.), in his famous book **Ihya 'Ulum al-Din** (The Revival of Religious Sciences), mentions he had come across 20 different answers to the above question.² The theologians considered the learning of Islamic theology (*kalam*) was an obligation, while the jurists (*fuqaha'*) thought Islamic jurisprudence (*fiqh*) was implied in the prophetic tradition.

Al-Ghazali himself favoured the view in which the knowledge whose acquisition is a religious obligation is limited to what one must know for correct performance of the acts obligatory for a person within the framework of the Islamic Shari'ah.³ For instance, one whose occupation is animal husbandry should acquaint themselves with the rules concerning *zakat*. If one were a merchant doing business in a usurious environment, they ought to be aware of the religious injunction against usury (*riba*) so as to be able to effectively avoid it.

Al-Ghazali then proceeds to discuss sciences whose knowledge is *wajib kifa'i*⁴ (something which is obligatory for the whole society as long as the duty for fulfillment of a social need exists, but as soon as the duty is shouldered by enough number of individuals, others are automatically relieved of the obligation). Subsequently, he classifies all knowledge into “religious” and “non-religious” sciences. By “religious sciences” (*‘ulum al-shar‘*) he means the bulk of knowledge imparted through the prophetic teachings and the revelation. The rest constitute the “non-religious” sciences.

The non-religious sciences are further classified into “praiseworthy (*mahmud*), “permissible” (*mubah*) and “undesirable” ones (*mudhmum*). He puts history in the category of permissible sciences (*mubah*) and magic and sorcery in the category of the undesirable fields of “knowledge.” The “praiseworthy” sciences (*mahmud*), whose knowledge is necessary in the affairs of life are *wajib kafa’i*, the rest of them being additional merit to the learned who pursue them. He puts medicine, mathematics and crafts, whose sufficient knowledge is needed by society, in the category of sciences which are *wajib kifa’i*. Any further research into the detail and depth of problems of medical science or mathematics is put by al-Ghazali in the second category which involves merit for the scholar without entailing any manner of obligation.

Al-Ghazali classifies the religious sciences also into two groups: praiseworthy (*mahmud*) and undesirable (*madhmum*). By “undesirable religious sciences” he means those which are apparently oriented towards the Shari‘ah but actually deviate from its teachings. He sub-divides the “praiseworthy religious sciences” into four groups:

1. **Usul** (principles, i.e. the Qur’an, the *sunnah*, *ijma* or consensus and the traditions of the Prophet’s companions).
2. **Furu‘** (secondary or derived matters, i.e. problems of jurisprudence, ethics and mystical experience)
3. **Introductory studies** (Arabic grammar, syntax, etc.)
4. **Complementary studies** (recitation and interpretation of the Qur’an, study of the principles of jurisprudence, *‘ilm al-rijal* or biographical research about narrators of Islamic traditions, etc.)

Al-Ghazali considers the knowledge of the disciplines contained in the above four groups to be *wajib kafa’i*.

As to the extent to which one should learn the “praiseworthy” sciences, al-Ghazali’s view is in matters of theology such as knowledge of God, Divine qualities, acts and commands, one should try to learn as much as possible. However, as to religious topics whose knowledge is *wajib kifa’i*, one should learn as much as is sufficient. Here the summary of his views is one should not pursue learning of those sciences if there are already others devoting themselves to their study, and if one were to do so, they should refrain from spending all their lives for their learning, “for knowledge is vast and life is short. They are preliminaries and not the end in themselves.”⁵

As to theology (*kalam*), his opinion is only as much of it as is corroborated by the Qur'an and hadith is beneficial. Moreover, he says, "Now the heretics attempt to induce doubts (in the minds of unsophisticated believers), adequate knowledge of theology is necessary to confront them."

Regarding philosophy, al-Ghazali thinks it is distinguishable into four parts:[6](#)

1. Arithmetic and geometry, which are legitimate and permissible.
2. Logic, which is a part of theology.
3. Divinities, which discusses Divine Essence and Attributes and is also a part of theology.
4. Physics, which may be divided into two sections: One part which involves discussions opposed the Shari'ah and accordingly cannot even be considered a "science"; the other part discusses the qualities of bodies. The second part is similar to the science of medicine, although medicine is preferable to it. This section of physics is useless while medicine is useful.

Mulla Muhsin Fayd al-Kashani, in his book **Mahajjat al-Bayda**,[7](#) says, "It is a personal obligation (*wajib 'ayni*) of every Muslim to learn Islamic jurisprudence to the extent of their needs. Further, learning of **fiqh** to fulfil the need of other is **wajib kifa'i** for them."

Regarding philosophy, Kashani says,[8](#) "The components of philosophy are not the only ones distinguished by Abu Hamid (al-Ghazali) – upon who be God's mercy. Philosophy covers many other fields of religious and mundane matters (for example, astronomy, medicine and rhetoric etc.)...Whatever of these sciences which is about the Hereafter exists to the point of perfection in the Shari'ah and which is not useful for the Hereafter is not needed; moreover, it may even hinder the pursuit of the path of Allah. In the case of those portions which are effective for the knowledge of the Divine but are not elaborated by the Shari'ah (like astronomy), it is sufficient to be satisfied with the simple unelaborated discussions of the Shari'ah about such matters.[9](#)

In brief, in Kashani's opinion, anyone who wishes to learn these sciences should first acquaint himself with the religious sciences.

Sadr al-Din Shirazi (Mulla Sadra) in his commentary on **Usul al-Kafi** regards al-Ghazali's limitation of obligatory knowledge for a Muslim to the matters of ritual practice and legitimate dealings are unacceptable.[10](#) In his opinion, learning of religious sciences (such as **tawhid**, divine attributes and acts) and human sciences (such as dispositions of the soul, its delights and afflictions) are also obligatory for the majority of human beings.

Secondly, he believes it is not at all essential with what is obligatory (**wajib 'ayni**) for all to learn should apply identically in case of every individual and what is obligatory for one individual be regarded as being equally obligatory for another.

Here, it seems appropriate to mention a few points discussed by Sadr al-Din Shirazi in his commentary on Usul al-Kafi in relation to tradition:

طلب العلم فريضة على كل مسلم

“Acquisition of knowledge is incumbent on every Muslim.”

1. The word ‘ilm (knowledge or science), like the word “existence” (**wujud**) has a broad range of meanings which vary from viewpoints of strength or weakness, perfection or deficiency.¹¹ The word’s generic sense covers this whole spectrum of meanings in which it has been used in the prophetic tradition. This broad sense of the word ‘ilm is common to all its varied meanings.

Accordingly, the tradition intends to state at whatever stage of knowledge one may be, he should strive to make further advance. The Prophet means acquisition of knowledge is obligatory for all Muslims, scholars as well as ignorant people, beginners as well as learned scholars. Whatever stage of knowledge people may attain, they are still like children entering into adulthood, i.e. they should learn things which were not obligatory for them earlier.

2. The tradition implies a Muslim can never be relieved of their responsibility of acquiring knowledge.¹²

3. No field of knowledge or science is undesirable or detestable in itself, for knowledge is like light and so it is always desirable. The reason some of the sciences have been regarded as “undesirable” is because of the undesirable effects they produce.¹³

Here we do not intend to enter into a discussion about sciences whose learning is obligatory (**wajib ‘ayni**) for every responsible (mukallaf) Muslim individual. Rather, we propose to discuss those sciences whose knowledge is a **wajib kifa’i** for all Muslim Ummah. However, before we start to discuss the latter group it seems fruitful to mention briefly our view about the former group (i.e. wajib ‘ayni group). Our view in this matter is the same as that of ‘Allamah Fayd Kashani, as expressed in his book “**al-Wafi**”:

“The knowledge which is incumbent on every Muslim to acquire is the one which elevates a person’s position in the next world, and which brings him the knowledge of themselves, their Creator, prophets, messengers of God, elite of Islam, signs of God, doomsday, and whatever causes proximity of God or divergence from the Almighty’s way. The levels of acquisition of this knowledge differ from person to person in accordance with their talents, and even in the case of a particular person, the level of attainment changes with their evolution. Therefore, there is no limit to the acquisition of this type of knowledge, and no matter what level one reaches, it is still incumbent on them to attain a higher level (this of course depends on their capacity and patience, too).”

In the case of sciences which belong to the category of “**Wajib-Kifa’i**,” we find some of the views of Imam Ghazali and ‘Allamah Kashani disputable:

1. We do not approve of their classification of sciences into “religious” and “non-religious.” As the Martyr Professor Murteda Mutahhari has rightly pointed out, such classifications may entail the misconception in which the “non-religious” sciences are alien to Islam, and this seems incompatible with the universality of Islam – the religion which claims to bestow full felicity upon humankind. A religion which considers itself self-sufficing cannot estrange itself from the issues which play a vital role in securing welfare and independence for the Islamic society. According to the late Mutahhari:

“Islam comprehensiveness and finality as a religion demands every field of knowledge is beneficial for an Islamic society be regarded as part and parcel of the ‘religious sciences.’”¹⁴

Besides, we think the group of sciences belonging to the category of **wajib kifa'i** is much larger than what al-Ghazali would have us believe. Moreover, we think the parsimony he shows regarding those sciences which may be included in this category, does not harmonize with the teachings of the Qur'an and the Islamic **Sunnah**. Our reasons for not accepting such restrictions on learning are as follows:

1. In most of the Qur'anic verses and the Islamic traditions, the concept of **'ilm** (knowledge) appears in its absolutely general sense, as can be seen from examples given below:

قُلْ هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا يَعْلَمُونَ

“Say, “Are those who know and those who do not know alike?” (39:9)

عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ

(God) taught man what he knew not. (96:5)

وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ عَلَى الْمَلَائِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ هَؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ

And He taught Adam all the names, then showed them to the angels saying, “Tell me the names of these, if you are right.” (2:31)

وَفَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ

“...and above everyone possessed of knowledge is the All-knowing one.” (12:76)

وَمِنْكُمْ مَنْ يُرَدُّ إِلَى أَرْذَلِ الْعُمُرِ لِكَيْ لَا يَعْلَمَ بَعْدَ عِلْمٍ شَيْئًا

“...and of you is he who is brought back to the worst part of life, so after having knowledge he does not know anything...” (16:70)

The Prophet's tradition:

من سلك طريقا يطلب فيه علماً سهل الله له طريقا إلى الجنة

“Anyone who pursues a course in search of knowledge, God will ease his way to paradise.”¹⁵

2. Some Qur'anic verses and the Prophet's traditions are explicit in pointing out knowledge does not mean only learning the principles and laws of religion. As examples, we cite some of them here:

﴿٤﴾ وَلَقَدْ آتَيْنَا دَاوُودَ وَسُلَيْمَانَ عِلْمًا ۖ وَقَالَا الْحَمْدُ لِلَّهِ الَّذِي فَضَّلَنَا عَلَى كَثِيرٍ مِّنْ عِبَادِهِ الْمُؤْمِنِينَ وَوَرِثَ سُلَيْمَانُ دَاوُودَ ۖ وَقَالَ يَا أَيُّهَا النَّاسُ عُلِّمْنَا مَنطِقَ الطَّيْرِ وَأُوتِينَا مِنْ كُلِّ شَيْءٍ ۖ إِنَّ هَذَا لَهُوَ الْفَضْلُ الْمُبِينُ

a) **“And certainly We gave knowledge to Dawud and Suleiman, and they both said, ‘Praise be to Allah, who has made us to excel many of His believing servants. And Suleiman was Dawud’s heir, and he said, ‘Oh men, we have been taught the language of birds, and we have been given all things, most surely this is manifest grace.’” (27: 15 – 16)**

We see Solomon considers knowing the language of birds as a divine blessing or grace.

أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُّخْتَلِفًا أَلْوَانُهَا ۚ وَمِنَ الْجِبَالِ جُدَدٌ بَيْضٌ وَحُمْرٌ مُّخْتَلِفٌ أَلْوَانُهَا وَغَرَابِيبُ سُودٍ ۚ وَالنَّاسِ وَالْدَّوَابِّ وَالْأَنْعَامِ مُخْتَلِفٌ أَلْوَانُهُ كَذَلِكَ ۚ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ ۚ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ

b) **Do you not see God sends down water from the sky, then We bring forth with it fruits of various colours, and in the mountains are streaks, white, red and various colours and others intensely black? And of men and beasts and cattle are of various colours likewise, only those of His servants endowed with knowledge fear God. Surely, God is Almighty and Forgiving. (35: 27 – 28).**

Clearly the world ‘Ulama (possessor of knowledge) in the above verse refers to those who, being aware of the laws of nature and mysteries of creation, bow humbly to the grandeur and majesty of God.

وَمَا عَلَّمْنَاهُ الشِّعْرَ

c) **“And we have not taught him poetry.” (36:69)**

d) In the Qur'an there is a reference to Qaroun as saying:

قَالَ إِنَّمَا أُوتِيتُهُ عَلَىٰ عِلْمٍ عِنْدِي

He said, "I have been given this only on account of the knowledge I have." (28:78)

e) Traditions of the following kind:

اطلبوا العلم ولو بالصين ، فإن طلب العلم فريضة على كل مسلم

Seek knowledge by even going to China, for seeking knowledge is incumbent on every Muslim. [¹⁶](#)

اعلم الناس من جمع علم الناس إلى علمه...وأكثر الناس قيمة أكثرهم علماً وأقل الناس قيمة أقلهم علماً

"The most learned of men is the one who gathers knowledge from others on his own, the most worthy of men is the most knowing and the meanest is the most ignorant." [¹⁷](#)

"Wisdom is the believer's lost property, therefore, wherever he finds it, he deserves more than anyone else to have it." [¹⁸](#)

The above-mentioned traditions have been reported from the Holy Prophet (S) and narrations such as the following are reported from Imam 'Ali (A.S.):

الحكمة ضالة المؤمن فحيث وجدها فهو أحق بها

"Wisdom is the lost property of believers, and then seek it even if it be with polytheists, because you deserve to have it more than they do." [¹⁹](#)

خذا الحكمة ممن أتاك بها وانظر إلى ما قال ولا ننظر إلى من قال

"Grasp wisdom from whoever offers it to you; see **what** is said not **who** says it." [²⁰](#)

All these sayings indicate acquisition of knowledge is not confined to learning the principles and laws of religion, because it is quite obvious China in those days was not the centre of theological studies, but it was famous for its industry. Moreover, it is clear the laws and principles of Islam could not be learnt from atheists or polytheists.

2. Another reason for believing the "desirable" knowledge is confined to theological studies or the

Shari'ah laws dealing with permissible and forbidden is the invaluable heritage itself left by Muslim scholars of the first few centuries after Hijrah. It is also confirmed by contemporary historians in Muslim scholars have been the torch bearers of science for many centuries, and their works were used as textbooks in Europe for several hundred years.

In fact, a major reason why Muslim scholars assimilated the scientific heritage of other nations was they did not see any conflict between the goals of science and religion, and were convinced both religion and science aimed to demonstrate the unity of nature which in turn is an indication of the Unity of its Creator. It was for this very reason theology and rational and physical sciences made up a conjoint discipline to be taught in theological schools and mosques.

3. To set aside a group of sciences on the pre-text in which they do not have as much value as the religious studies is not correct. Because, whatever field of knowledge is conducive to preservation of the strength and vitality of an Islamic society, its knowledge is **wajib kifa'i** in the same fashion as scholarship in religious sciences has been pointed out as a **wajib kifa'i** for the Islamic society in the following verse of the Qur'an:

وَمَا كَانَ الْمُؤْمِنُونَ لِيَنْفِرُوا كَافَّةً ۚ فَلَوْلَا نَفَرَ مِنْ كُلِّ فِرْقَةٍ مِنْهُمْ طَائِفَةٌ لِيَتَفَقَّهُوا فِي الدِّينِ وَلِيُنذِرُوا قَوْمَهُمْ إِذَا رَجَعُوا إِلَيْهِمْ لَعَلَّهُمْ يَحْذَرُونَ

“It is not for the believers to go forth totally (to acquire scholarship in religion), but why should not a party of every section of them go forth, to become learned in religion, and to warn their people when they return to them which haply they may beware? (9: 122)

Hence, we may conclude the word ‘ilm as it occurs in the Qur'an and Sunnah appears in its generic sense rather than referring exclusively to religious studies. On this ground it can be said Islam has only dissuaded Muslims from pre-occupying themselves with any pursuit of such branches of knowledge whose harm is greater than their benefit (like magic and sorcery and games of chance used for gambling). The relevant sayings of the Prophet (s) may be noted:

خير العلم ما نفع

“The best fields of knowledge are those which bring benefit.”^{[21](#)}

اللهم انفعني بما علمتني وعلمني ما ينفعني وزدني علماً

Oh God, benefit me through knowledge which you have bestowed on me, teach me whatever would benefit me, and increase my knowledge.”^{[22](#)}

‘Ali (A.S.) is related as having said:

لا خير في علم لا ينفع

There is no good in knowledge which does not benefit.[23](#)

العلم أكثر من أن يُحاط به ، فخذوا من كل علم أحسنه

Knowledge is too immense in scope for anyone to be able to learn all of it. So learn from each science its useful parts.[24](#)

There is no division of opinion on the necessity of acquiring knowledge relevant to religious studies. Accordingly, we shall abstain from any further discussion of the subject.[25](#) Instead, it is worthwhile to concentrate on the question of necessity of learning other sciences in the view of the Qur’an and **Sunnah**. In this regard, there are a number of arguments which we shall take up immediately.

1. If knowledge of science is a pre-requisite to the attainment of Islamic goal as envisaged by the **Shari’ah**, its pursuit is an obligation (**wajib**) since it entails the preliminary condition for fulfillment of a duty prescribed by the **Shari’ah**. For example, the physical welfare of individuals in an Islamic society is necessary; hence, it is a **wajib kifa’i** for the Muslims to study medicine.

Some are of the opinion in which this context is the duty to learn any specific science depends on the need of the society for it. For example, in our day, in order to succeed in large-scale agriculture or commerce, specialized knowledge of these subjects is necessary. Accordingly, it is a **wajib kifa’i** for Muslims to specialize in these fields.

Evidently, if Muslims are to restrict their learnings to what has already been established in other countries, in other words, to be satisfied with the minimum of their scientific requirements, they will never be able to bear the non-Muslim world in scientific progress.

2. The society envisioned by the Qur’an is an independent society of majesty and grandeur, not one subservient to and dependent on the unbelievers, as can be seen from this verse of the Qur’an:

وَلَنْ يَجْعَلَ اللَّهُ لِلْكَافِرِينَ عَلَى الْمُؤْمِنِينَ سَبِيلًا

“...and Allah does not grant the unbelievers any way (of domination) over the believers.” (4: 141)

In order to realize this goal set by the Qur’an, it is essential the Islamic society should have cultural, political and economic independence; this in turn necessitates training of specialists of high calibre in

every field and creation of the necessary scientific and technical facilities in Islamic societies. It is clear one of the reasons of decline of Muslim societies in recent centuries is they left the study of those sciences to others which they themselves deserved to study most, and made themselves dependent on others.

Should not the Muslims equip themselves in every way to defend themselves against the non-believers as stressed by the following verse?

وَأَعِدُّوا لَهُمْ مَا اسْتَطَعْتُمْ مِنْ قُوَّةٍ وَمِنْ رِبَاطِ الْخَيْلِ تُرْهِبُونَ بِهِ عَدُوَّ اللَّهِ وَعَدُوَّكُمْ

“And prepare against them what force you can...so you may dismay the enemy of God and your enemy and others beside them whom you know not, God knows them. Whatever you spend in the way of God it will be repaid to you in full, and you will not be cheated.” (8:60)

And it is not true, in our world today, possession of defence equipments to face the enemies of Islam requires all kinds of scientific and technical know how? Then why do not the Muslims give the necessary attention to the issue of preparing themselves adequately for their self-defence?

In our Modern age, human life is inextricably linked with the effort for scientific advancement and the key to success in all affairs lies in knowledge. It is, therefore, an obligation of Muslim scholars and researchers, living in the countries of either the Eastern or Western block and is engaged in education, to acquire the latest and most complete scientific and technical knowledge. Otherwise, their societies will inevitably remain under the domination of one super-power or another. Imam Ja'far al-Sadiq (a.s.) says:

العلم بزمانه لاتهجم عليه اللوابس

A man who is abreast of his time will not be overwhelmed by unexpected problems. [26](#)

To sum up, if Muslims want to succeed in their struggle against the evil powers of this age, they should equip themselves with the essentials of scientific advancement and endeavour to make up their lag in scientific and technical fields. Whatever subject is essential for safe-guarding the existence and vitality of the Islamic societies should be learnt.

3. The Holy Qur'an invites humankind to study the system and scheme of creation, the wonders of nature and the causes and effects of all things which exist, the conditions of living organisms, and in short, all signs of God discernible in the external universe and the inner depths of the human soul. The Qur'an enjoins thought and meditation on all aspects of creation and requires human beings to apply their reasons and faculties to the discovery of the secrets of nature. We shall quote here a few verses:

أَفَلَمْ يَنْظُرُوا إِلَى السَّمَاءِ فَوْقَهُمْ كَيْفَ بَنَيْنَاهَا وَزَيَّنَّاهَا وَمَا لَهَا مِنْ فُرُوجٍ وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ زَوْجٍ بَهِيجٍ تَبْصِرَةً وَذِكْرَى لِكُلِّ عَبْدٍ مُنِيبٍ

What, have they not beheld heaven above them, how We have built it, and decked it out fair, and it has no cracks? And the Earth – We stretched it forth, and cast on it firm mountains, and We caused to grow therein of every joyous kind for insight and a reminder to every penitent servant.” (50:6 – 8)

وَإِلَى السَّمَاءِ كَيْفَ رُفِعَتْوَالِى الْجِبَالِ كَيْفَ نُصِبَتْوَالِى الْأَرْضِ كَيْفَ سُطِحَتْفَذَكِّرْ إِنَّمَا أَنْتَ مُذَكِّرٌ

What, do they not consider how the camel was created, how heaven was lifted up, how the mountains were hoisted, how the earth was outstretched?” (88: 17 – 20)

قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ ۚ ثُمَّ اللَّهُ يُنشِئُ النَّشْأَةَ الْآخِرَةَ ۚ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ

Say, “Journey in the land, then behold how He originated creation, then God causes the second growth, God is powerful over everything.” (29:20)

وَفِي الْأَرْضِ آيَاتٌ لِّلْمُوقِنِينَ ۖ أَنفُسُكُمْ ۚ أَفَلَا تُبْصِرُونَ

In the earth are signs for those having sure faith, and in yourselves; what, do you not see?” (51:20 – 21)

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِّأُولِي الْأَلْبَابِ ۚ الَّذِينَ يَذْكُرُونَ اللَّهَ قِيَامًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَاطِلًا سُبْحَانَكَ فَقِنَا عَذَابَ النَّارِ

Surely in the creation of the heavens and the Earth and in the alternation of the night and day there are signs for men possessed of minds who remember God, standing and sitting and on their side, and reflect upon the creation of the heavens and on earth, “Oh Lord, Thou hast not created this out of falsehood. Glory be to Thee! Guard us against the chastisement of the fire. (3: 190 – 191)

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ وَالْفُلْكِ الَّتِي تَجْرِي فِي الْبَحْرِ بِمَا يَنْفَعُ النَّاسَ وَمَا أَنْزَلَ اللَّهُ مِنَ السَّمَاءِ مِنْ مَّاءٍ فَأَحْيَا بِهِ الْأَرْضَ بَعْدَ مَوْتِهَا وَبَثَّ فِيهَا مِنْ كُلِّ دَابَّةٍ وَتَصْرِيفِ الرِّيَّاحِ وَالسَّحَابِ الْمُسَخَّرِ بَيْنَ السَّمَاءِ وَالْأَرْضِ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ

Surely in the creation of the heavens and the earth and the alternation of night and day and the ship that runs in the sea with profit to men, and the water God sends down from heaven therewith reviving the earth after it is dead and His scattering abroad in it all manner of crawling thing, and the turning about of the winds and clouds compelled between heaven and earth – surely there are signs for a people having understanding. (2: 164)

As can be seen from the foregoing verses, God refers to all existing things in the universe as the “signs” of their Creator, and the system of the universe as the imprint of an omniscient designer and programmer. The study of the universe and what exists in it is considered one of the most important means for knowledge of God and recognition of the majesty of its Creator. Prophets also based their invitation to belief on this point. Prophet Moses (a.s.) makes a similar argument in his confrontation with Pharaoh. The Qur’an quotes Moses as putting his argument in these words:

قَالَ رَبُّنَا الَّذِي أَعْطَى كُلَّ شَيْءٍ خَلْقَهُ ثُمَّ هَدَانَا الَّذِي جَعَلَ لَكُمُ الْأَرْضَ مَهْدًا وَسَلَكَ لَكُمْ فِيهَا سُبُلًا وَأَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ أَزْوَاجًا مِنْ نَبَاتٍ شَتَّى

He said, “Our Lord is he who gave everything its creation, then guided it...he who appointed the Earth to be a cradle for you, and therein threaded roads for you and sent down water out of heaven, and therewith We have brought forth diverse kinds of plants.” (20:50 – 53)

Prophet Noah (a.s.) is quoted in the Qur’an as saying to his people:

قَالَ رَبِّ إِنِّي دَعَوْتُ قَوْمِي لَيْلًا وَنَهَارًا قَالَ رَبِّ إِنِّي دَعَوْتُ قَوْمِي لَيْلًا وَنَهَارًا أَلَمْ تَرَوْا كَيْفَ خَلَقَ اللَّهُ سَبْعَ سَمَاوَاتٍ طِبَاقًا وَجَعَلَ الْقَمَرَ فِيهِنَّ نُورًا وَجَعَلَ الْقَمَرَ فِيهِنَّ نُورًا وَجَعَلَ الشَّمْسُ سِرَاجًا وَاللَّهُ أَنْبَتَكُمْ مِنَ الْأَرْضِ نَبَاتًا ثُمَّ يُعِيدُكُمْ فِيهَا وَيُخْرِجُكُمْ إِخْرَاجًا وَاللَّهُ جَعَلَ لَكُمُ الْأَرْضَ بِسَاطًا لِتَتَسَلَّكُوا مِنْهَا سُبُلًا فَجَاجًا

He said, “My Lord, I have called my people by night and by day, but my calling has only increased them in flight...and I said, ‘Ask for forgiveness of your Lord, surely He is ever All forgiving... What ails you in which you look not for majesty in God, seeing He created you by stages? Have you not regarded how God created seven heavens one upon another, and set the moon therein for a light and the sun for a lamp? And God causes you to grow out of the Earth, then He shall return you into it, and bring you forth. And God has laid the earth for you as a carpet, and thereof you may tread ways, ravines.’” (71:5 – 20)

Obviously, it is not for everyone to be able to read the “book” of the universe. The Qur’an considers only people of knowledge to be capable of benefiting from the book of nature as can be seen from the following verse:

لَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا أَلْوَانُهَا ۚ وَمِنَ الْجِبَالِ جُدَدٌ بَيْضٌ وَحُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا

وَعَرَابِيْبُ سُودَوِيْنَ النَّاسِ وَالْدَّوَابِّ وَالْأَنْعَامِ مُخْتَلِفٌ أَلْوَانُهُ كَذَلِكَ ۚ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ ۚ إِنَّ اللَّهَ عَزِيْزٌ غَفُوْرٌ

Has thou not seen how God sends down out of Heaven water, and therewith We bring forth fruits of diverse hues? And in the mountains are streaks white and red, of diverse hues, and pitch black, men too, and beasts and cattle, diverse are their hues. Even so only those of His servants fear God who has knowledge, surely God is Almighty, All- forgiving. (35:27 – 28)

The Qur'an regards only people of knowledge as being capable of discerning the majesty and magnificence of God's creation and as possessing the humility produced by their knowledge of Divine power and greatness. This point is stressed in other verses of the Qur'an:

وَتِلْكَ الْأَمْثَالُ نَضْرِبُهَا لِلنَّاسِ ۚ وَمَا يَعْقِلُهَا إِلَّا الْعَالِمُوْنَ

And these similitudes – We strike them for the people, but none understands them save those who know. (29:43)

بَلْ هُوَ آيَاتٌ بَيِّنَاتٌ فِيْ صُدُوْرِ الَّذِينَ أُوتُوا الْعِلْمَ ۚ وَمَا يَجْحَدُ بِآيَاتِنَا إِلَّا الظَّالِمُوْنَ

Nay, rather it is sings, clear signs in the breasts of those who have been given knowledge, and none denies Our signs but the evildoers. (29:49)

Obviously, as implied by the above-mentioned verses, understanding of the “signs” of the Creator is considered possible only for the learned and the people of wisdom who have strived to fathom the secrets of nature and have acquired knowledge in their fields of study. Otherwise, only a superficial acquaintance with the “book of creation” is not very revealing.

A suitable initiation into this book of nature can only be achieved through such sciences as mathematics, physics, chemistry, astronomy, botany, and zoology (which we shall refer to as “natural sciences”). It is with the aid of these and the rational sciences we discover the laws of nature and unravel the wonderful order and scheme of creation which underlies nature. It is in this light we should read the verses of the Qur'an as the following:

فَارْجِعِ الْبَصَرَ هَلْ تَرَى مِنْ فُطُوْرٍ ثُمَّ ارْجِعِ الْبَصَرَ كَرَّتَيْنِ يَنْقَلِبْ إِلَيْكَ الْبَصَرُ خَاسِئًا وَهُوَ حَسِيْرٌ

Thou see not in the creation of the All-merciful any imperfection. Return thy gaze, sees thou any fissure? Then return thy gaze, and again, and thy gaze comes back to thee dazzled, weary. (67:3 – 4)

It means the further does human knowledge make progress in understanding God's creation, the more His Greatness and Majesty will become obvious to men. Consider the following verse:

سَنُرِيهِمْ آيَاتِنَا فِي الْآفَاقِ وَفِي أَنْفُسِهِمْ حَتَّىٰ يَتَبَيَّنَ لَهُمْ أَنَّهُ الْحَقُّ

We shall show them our signs in the horizons and in themselves, until it is clear to them He is the truth.” (41:53)

In the above verse God promises revelation of His signs in the universe without and the world of spirit within to mankind in future so as to make them convinced He is indeed the Truth.

4. Another reason for the study of the natural phenomenon and the scheme of creation is the knowledge of the laws of nature and characteristics of things and organisms can be useful for improvement of conditions of human life. This aspect is emphasized by numerous verses of the Qur'an, of which we quote a few:

وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۚ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِهِ ۚ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۚ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِهِ ۚ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۚ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِهِ ۚ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۚ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِهِ ۚ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۚ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِهِ ۚ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ

And he subjected to you the night and day and the sun and moon, and the stars are subjected by His command. Surely in this are signs for people who understand. And in which He has multiplied for you in the Earth of diverse hues. Surely in this is a sign for a people who remember. It is He who subjected to you the sea, which you may eat of it fresh flesh, and bring forth out it ornaments for you to wear, and thou may see the ships cleaving through it, and you may seek of His bounty, and so haply you will be thankful. And He case on the earth firm mountains, lest it shake with you, and rivers and ways, so haply you will be guided, and way marks, and by the stars they are guided. (16: 12 – 16)

وَسَخَّرَ لَكُم مَّا فِي السَّمَاوَاتِ وَمَا فِي الْأَرْضِ جَمِيعًا مِنْهُ ۚ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَتَفَكَّرُونَ

And He has subjected you what is in the heavens and what is in the earth, all together, from Him. Surely in this there are signs for a people who reflect. (45: 13)

وَالَّذِي خَلَقَ الْأَزْوَاجَ كُلَّهَا وَجَعَلَ لَكُم مِّنَ الْفُلْكِ وَالْأَنْعَامِ مَا تَرْكَبُونَ لِتَسْتَوُوا عَلَىٰ ظُهُورِهِ ثُمَّ تَذْكُرُوا نِعْمَةَ رَبِّكُمْ إِذَا اسْتَوَيْتُمْ عَلَيْهِ وَتَقُولُوا سُبْحَانَ الَّذِي سَخَّرَ لَنَا هَذَا وَمَا كُنَّا لَهُ مُقْرِنِينَ

He who created the pairs, all of them, and appointed for you ships and cattle such as you ride, so you can be seated on their backs and then remember your Lord's blessing when you are seated on them and say, "Glory be to Him, who has subjected this to us, and we ourselves are not equal to it." (43: 12 – 13)

According to the Qur'an, the study of the book of nature reveals to man its secrets and manifests its underlying coherence, consistency and order. It allows people to use the agency of knowledge to uncover the riches and resources hidden in nature and to achieve material welfare through his scientific discoveries. God has appointed humans His vicegerent or deputy upon the Earth and provided them with unlimited opportunities. It is for them to recognize their own potentialities and benefit from the opportunities and acquire the power and wisdom befitting his role as a "deputy" of God and a "sign" of His wisdom and omnipotence:

وَهُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ الْأَرْضِ وَرَفَعَ بَعْضَكُمْ فَوْقَ بَعْضٍ دَرَجَاتٍ لِّيَبْلُوَكُمْ فِي مَا آتَاكُمْ ۖ إِنَّ رَبَّكَ سَرِيعُ الْعِقَابِ وَإِنَّهُ لَغَفُورٌ رَحِيمٌ

It is he who has appointed you viceroys on the earth, and has raised some of you in ranks above others, so He may try you in what He has given you. Indeed your Lord is quite in retribution, and He is Forgiving and Merciful. (6: 165)

In fact, this station of being God's viceroy or deputy upon the Earth has been bestowed upon humans as a result of his capacity of acquisition of knowledge as borne out by this verse:

وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ عَلَى الْمَلَائِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ هَؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ...

"He taught Adam all the names, then presented them to the angels, and then He said, "...Tell me the names of those if you are right." (2:31)

So far, we have tried to prove the recommendation of the Qur'an and "Sunnah" concerning the acquisition of knowledge is not restricted to the particular teachings of Shari'ah, but it equally applies to any knowledge use for humankind. Now, we are going to set the criteria as to what sort of knowledge is useful. To do so, we have to find out and define what the obligation and goal of a Muslim in this earthly life is. The Qur'an says all return to the Creator.

أَلَا إِلَى اللَّهِ تَصِيرُ الْأُمُورُ...

... To Allah do all affairs eventually return. (42:53)

And the purpose of creation of jinn and human beings is they worship and seek proximity to the

Almighty:

وَمَا خَلَقْتُ الْجِنَّ وَالْإِنْسَ إِلَّا لِيَعْبُدُونِ

And I have not created jinn and men except they should serve Me. (51:56).

...أُمِرُوا إِلَّا لِيَعْبُدُوا اللَّهَ مُخْلِصِينَ لَهُ الدِّينَ وَمَا

And they were not enjoined anything except they serve Allah, being sincere to Him in obedience. (98:5)

Therefore, the main objective of humans should be seeking proximity to God and attaining His consent and his activities should be focussed in this direction. Anything which brings about this proximity or guides in this direction is praiseworthy. Thus, knowledge is useful only if it is an instrument for obtaining knowledge of God and His pleasure and proximity, otherwise, knowledge itself is an inscrutable veil (hijab-e-akbar), whether it is linked with the sciences of nature or the sciences of the Shari'ah. As Saadi has put it:

جزیاد دوست هرجه کنی عمر ضایع است جز سرّ عشق هرجه بکوئی بطالت است

سعدی بشوی لوح دل از نفس غیر او علمی که ره بحق ننماید جهالت است

“Life is vain except when recalling Him,
No words are good but (uttering) secrets of love,
Sadi! Wash of your heart of all but Him,
The knowledge not leading to Him is ignorance.”

It is obvious in which worshipping God is not only through prayers, fasting and so on. In fact, any move in the direction of proximity to God is considered as worship. One of the means to help humans on their way towards God is knowledge, and of course, it is only in this case in which knowledge can be considered valuable. By the help of Knowledge a Muslim can gain proximity to God in various ways and manners.

First of all, they can increase their cognition of God.

Our great Prophet (S) is related to have said,

إن الله يطاع بالعلم وبعد العلم ، وخير الدنيا والأخرة مع العلم ، وشر الدنيا والأخرة مع الجهل

“God can be worshipped and served by means of knowledge, bliss in this world and the Hereafter comes through knowledge, and adversity of this world and the Hereafter lies in ignorance.”²⁷

Secondly, they can effectively help in the advancement of Islamic society and realization of Islamic goals,

وَاللَّهُ عَزِيزٌ حَكِيمٌ...

“And the word of Allah is the highest.” (9:40).

A tradition has been quoted from our great Prophet (S):

من جاءه الموت وهو يطلب العلم يحيي به الإسلام كان بينه وبين الأنبياء درجة واحدة في الجنة

Should death occur to a person who is learning knowledge with the purpose of reviving Islam, their position in Paradise will be (only) the stage below the prophets”²⁸

Thirdly, they can guide other people. It is reported from our dear Prophet (S) as having said:

قال (ص): رحم الله خلفائي ، فقبل ومن خلفاؤك يا رسول الله؟ قال: الذين يحبون سنتي ويعلمونها عباد الله

“God will patronize my successors.” He was asked, “Who are your successors?” He answered, “Those who revive my traditions, and teach them to God’s servants.”²⁹

Fourthly, he can solve many problems of human society. Our great Prophet (S) is quoted as having said:

الخلق كلهم عباد الله ، فأحب الخلق إليه أنفعهم لعباده

“All people are God’s family. Among them, God’s favourites are those who are more useful to His family.”³⁰

The knowledge employed in the above mentioned ways deemed to be useful, otherwise, it would not have any real value:

...ذَلِكَ بِأَنَّ اللَّهَ هُوَ الْحَقُّ وَأَنَّ مَا يَدْعُونَ مِنْ دُونِهِ الْبَاطِلُ

“This is because Allah is the truth, and which they call upon besides Him is falsehood...” (31:30).

Our Great Prophet (S) is related as having said:

من تعلم علماً لغير الله وأراد به غير الله فليتبوأ مقعده من النار

“He who learns knowledge for other than God, and his aim be other than God, will abide in fire (hell).”³¹

من ازداد علماً ولم يزد هدى لم يزد من الله إلا بُعداً

“One whose knowledge increases but his salvation does not keep pace with it has remoteness from God increases.”³²

إن الله عز وجل يقول: تذاكر العلم بين عبادي مما تحيي عليه القلوب الميتة إذا هم انتهوا فيه إلى أمري

“God, the Most exalted, has said, ‘Knowledgeable discussions among my servants can enliven their hearts if it leads them towards my commands.’”³³

And any knowledge not helping man on his way to Allah is similar to the load of books carried on the back of a donkey:

...مَثَلُ الَّذِينَ حُمِّلُوا التَّوْرَةَ ثُمَّ لَمْ يَحْمِلُوهَا كَمَثَلِ الْحِمَارِ يَحْمِلُ أَسْفَارًا

The likeness of those who are charged with the Torah, then they did not observe it, is as the likeness of the as bearing books... (62:5)

Sayyid Qutb in his commentary on the verse (16:35) makes the following comment, “In this verse the kind or the subject matter of the knowledge has not been mentioned, for it considers knowledge in general. Moreover, it implies all kinds of knowledge are considered the gift of God, and any learned person should realize the origin of his knowledge and turn their face towards God to thank Him. They should also utilize it in attaining the consent of God, who has granted him knowledge.

“Therefore, knowledge should not stand between a person and the Creator, for knowledge is one of God’s gifts to humans. The knowledge which causes separation between person’s heart and God is nothing but aberration and has gone astray from its origin and is oblivious of the destination. It brings happiness neither to its possessor nor to others, and is only the cause of cruelty, fear, anxiety and destruction, because it has gone away and from its origin, deviated from its real direction, and has lost its way towards God.”³⁴

Hence we can infer the following conclusions:

a) All sciences, whether theological or natural are means for obtaining proximity to God, and as long as they play this role, they are sacred. But this sanctity is not intrinsic. As Martyr Dr. Beheshti puts it, “Any area of knowledge as long as it does not become an instrument in the hands of **taghut** (non-God or anti-God) is a means of enlightenment; otherwise, knowledge may also become a means of misguidance.”

b) In this perspective, various sciences are not alien to each other because, in their own way, they interpret the various pages of the book of creation to us.

As the eminent poet sage Sheikh Mahmud Shabistari says:

ينزد آنکه جانش در نجلی است

همه عالم کتاب حق تعالی است

از او هر عالمی چون سوره ای خاص

یکی زان فاتحه وان دیگر اخلاص

“To him, whose spirit is enlightened,
The entire universe is a sacred book of the Most High,
Every sphere of universe is a different chapter,
One sphere of universe is a different chapter,
One is the Opening Surah, and another the Surah of Ikhlas.”

In the pages of this Divine book, some chapters may have precedence and priority over others, but nevertheless, all of them are essential for the appreciation of God’s signs **afaq** (horizons) and **anfus** (souls), which is in the universe without and within.

In the early centuries of Islamic civilization, when it was at its peak, the Muslim intellectuals approached the question of learning with a vision similar to the one discussed above. Different sciences were seen in a single perspective and considered inter-related as branches of the “tree” of knowledge. The goal of all sciences was seen as discovery of unity and coherence of the world of nature. Accordingly, the source of all knowledge was considered to be one. They utilized the experimental as well as the intellectual and intuitive approaches for understanding of various levels and stages of existence.

During this period we find numerous examples of scholars who combined authority in religious sciences with encyclopedic knowledge of the natural sciences. Men like Ibn Sina, 'Umar Khayyam, Khwajah Nasir al-Din Tusi and Qutb al-Din Shirazi are some names among many. As long as this vision and perspective ruled Muslim scholarship and science, the Muslims were in the vanguard of human civilization and their cities were centres of specialized learning.

George Sarton admits in which during the period between A.D. 750 and 1100, the Muslims were undisputed leaders of the intellectual world and between A.D. 1100 and 1350, the centres of learning in the Muslim world retained their global importance and attraction. After 1350 the European world began to advance and the Islamic world not only became stagnant but also failed to absorb the progress made outside it. The theological schools excluded all natural sciences from their curriculum except classical astronomy and mathematics. This restriction led to grave repercussions for the Islamic world. Here we point out a few of these effects:

1. Whereas the Europeans were striving to unravel the hidden laws of nature and to discover ways of exploiting its treasures and resources, the Muslims set aside these activities, and left to others what they deserved to handle. Today, they have reached the point where they have to depend on America and Europe to satisfy their elementary needs. They remain largely unable to use their resources, which they continue to leave to foreigners to exploit.

2. Those Muslims who pursued the empirical sciences were mostly estranged from the religious sciences. As a result, they lacked the Islamic world outlook which was replaced by the atheistic vision which dominates the Western scientific tradition.

3. The elimination of the study of the natural sciences from the curricula of the religious **madrasahs** and the lack of direct touch with the sources of modern science on the part of religious scholars gave rise to the deviated intellectual currents in the Muslim world:

- a) Some Muslims, under the influence of Western scientific and technical progress and without any knowledge of the limitations of empirical sciences, became singularly possessed with...to the extent in which they even tried to interpret the Qur'an and **hadith** according to their conjectures. The Qur'anic exegeses written by Tantawi and Sir Sayyid Ahmad Khan belong to this class. Others have gone still further claiming all the findings of modern sciences are found in the Qur'an and the texts of Islamic tradition (**hadith**). The claim, supposedly, was aimed at demonstrating the miraculous and divine nature of the Qur'an.[35](#)

In the introduction to his exegesis of the Qur'an, Sheikh Mahmud Shaltut, the late head of al-Azhar University, writes, "God did not send down the Qur'an to inform humankind of scientific theories and technological techniques...If we try to attempt a conciliation between the Qur'an and tentative scientific hypotheses, we will thereby subject the Qur'an to reversals of times to which all scientific theories and hypotheses are prone. This would result in presenting the Qur'an in an apologetic and defensive

perspective. Whatever is mentioned in the Qur'an about the mysteries of creation and natural phenomena is intended to impel humankind to speculation and inquiry into these matters so, thereby, their faith in it is enhanced.”³⁶

b) Some scholars or religion considered scientific theories as opposed to the doctrines of religion and accordingly set out to attack science. This resulted in the repercussion in which many Muslims turned away from religion. Had the natural sciences not been exiled from the religious curricula, this tragedy would not have occurred. Any fruitful criticism of ideas based on scientific theories requires, in the first place, familiarity with the various disciplines of modern science, so any unwarranted conclusions derived from scientific finds may be properly exposed and rejected. How is it possible to claim the natural sciences result in a human's estrangement from God, when the Qur'an unambiguously declares:

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِّأُولِي الْأَلْبَابِ

الَّذِينَ يَذْكُرُونَ اللَّهَ قِيَامًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَاطِلًا
سُبْحَانَكَ فَقِنَا عَذَابَ النَّارِ

Surely in the creation of the heavens and earth and in the alternation of night and day there are signs for men possessed of minds who remember God, standing and sitting and on their sides, and reflect upon the creation of the heavens and the earth, “Our Lord, You have not created this for vanity. Glory be to You! Guard us against the chastisement of the Fire.” (3: 190 – 191)

If the line of demarcation between religion and science is made clear, there is no reason for any conflict between these two. In fact, they would complement each other. Science is like the lamp of life and religion its guide.

Proposals

We have seen how Islam has strongly emphasized the need for acquisition of knowledge in its widest sense, and how the Muslims, following the teachings of Islam, created a brilliant civilization and were the leaders of human intellectual advancement for centuries. We also saw how the separation of religion from science in Muslim societies caused the Muslims to abandon their role of intellectual leadership of humankind.

But how the Muslim community is showing gradual reawakening, and a new spirit is resurging in almost every corner of the Muslim world, the time seems most suitable for taking decisive steps towards bringing about a scientific renaissance. In this context, we call the attention of our readers to the following proposals:

1. Like the scholars and scientists of the early centuries of the Islamic era we should learn all useful sciences from others. We can liberate scientific knowledge from its attending Western materialistic interpretations and rehabilitate it in the context of Islamic world outlook and ideology.
2. The kind of alliance which existed between religious and natural sciences during the peak days of Islamic civilization should be re-established since, as has been pointed out, there is no conflict between the ends of religion and science. Religion teaches all creation is oriented towards God as stated in the Qur'anic verse:

يُسَبِّحُ لِلَّهِ مَا فِي السَّمَاوَاتِ وَمَا فِي الْأَرْضِ الْمَلِكِ الْقُدُّوسِ الْعَزِيزِ الْحَكِيمِ

All which is in the heavens and the earth magnifies God, the Supreme, the All-holy, the Almighty, the All-wise. (62: 1)

Science, too, is engaged in an attempt to unravel a comprehensive unity in the laws of nature. The present day physicists are involved in an effort of reducing all apparently independent forces of nature of a single fundamental one and have obtained some success in this field.[37](#)

For the achievement of this goal, it seems inevitable the latest scientific principles should be taught in theological centres, and, in the same way, religious sciences should be taught in universities at a comparatively advanced level. This will be instrumental in familiarizing Muslim research scholars with the Islamic world outlook. Moreover, it would give the opportunity to theological schools to utilize latest scientific finds for clarification of the content of the law of the **Shari'ah**.

3. For the achievement of an all-round independence of the Islamic Ummah, it is essential all the Muslim countries take steps towards the training of specialists in all important scientific and industrial fields. Moreover, research centres should be established by all Muslim communities so Muslim researchers can work without any anxieties or problems, and with all necessary facilities for research, so they are not forced to take refuge in atheistic environments, and as a result compelled to put their expertise in the service of others.

4. Scientific research should be thought of as a fundamentally essential and not an ancillary pursuit. The Muslims should think of it as an obligation imposed upon them by the Qur'an so they do not come to rely and be dependent on others.

Presently, the practice in most Muslim countries is to import all machinery along with a little knowledge of assembling its parts from Eastern and Western countries instead of making a serious attempt in fundamental scientific research. The present trend will never lead Muslim countries to scientific and technological self-sufficiency. Imported technology should be accompanied by indigenous research work.

5. There should be co-operation between Muslim countries in the scientific and technological research. For this purpose, establishment of communication links between their universities can serve as a preliminary ground. Moreover, joint research and development bodies (such as the Geneva based CERN organization) should be formed by the Muslim countries where Muslim scientists and research scholars can work together. There should be no nationalistic bias in this regard. Such centres were widely prevalent during the past ages of Islamic civilization.

All which has been done hitherto in this connection is more or less of a rudimentary nature. Now it is time for a decisive stem in this direction.

- [1.](#) Kulayni, al-Kafi, vol. 1, p. 30; ibn majah, Sunan, Introduction, see 17, no. 224.
- [2.](#) Abu Hamid al-Ghazali, Ihya 'Ulum al-Din, vol. 1, p. 14.
- [3.](#) Ibid, vol. 1, p. 15.
- [4.](#) Ibid, vol. 1, p. 16.
- [5.](#) Ibid, vol. 1, p. 39.
- [6.](#) Ibid, vol. 1, p. 22.
- [7.](#) Mulla Muhsin Fayd Kashani, Muhajjat al-Bayda vol. 1, p. 59.
- [8.](#) Ibid, vol. 1, p. 71.
- [9.](#) Ibid, vol. 1, p. 72.
- [10.](#) Sadr al-Din Shirazi, Sharh Usul al-Kafi, p. 121.
- [11.](#) Ibid, p. 120.
- [12.](#) Ibid. p. 121.
- [13.](#) Ibid, p. 129.
- [14.](#) Murtada Mutahhari, Guftar e-Mah, vol. 1, p. 137.
- [15.](#) Zayn al-Din 'Amili, Munyah al-Muried (Qum, 1402 H), ibn Majah Sunan, Introduction, see 17, No. 223).
- [16.](#) Suyuti, al-Jami al-Saghir, vol. 1, p. 11.
- [17.](#) Saduq, Amali (Beirut, 1400 H), p. 27.
- [18.](#) Zayn al-Din al-'Amili, Munyah al-Murid, p. 71; Suyuti, al-Jami al-Saghir, vol. 2, p. 255.
- [19.](#) 'Allamah Mohammad Baqir Majlisi, Bihar al-Anwar, vol. 2, p. 97.
- [20.](#) 'Amidi, Ghurar al-Hikam wa Durar al-Kalim (Tehran University Press), vol. 2, p. 394.
- [21.](#) Saduq, Ghurar al-Hikam wa Durar al-Kalim (Tehran University Press), vol. 2, p. 394.
- [22.](#) Suyuti, al-Jami al-Saghir, vol. 1, p. 196.
- [23.](#) Nahj al-Balaghah (S. al-Saleh Ed.) p. 393.
- [24.](#) 'Amidi, Ghurar al-Hakim wa Durar al-Kalim, vol. 2, p. 56.
- [25.](#) Although, even in this case, it may be said the religious information of most of Muslims is vary scanty, and unfortunately, most of the laws of Islam have, in practice, lost their social relevance.
- [26.](#) Kulayni, al-Kafi, vol. 1, p. 27; Harrani, Tuhaf al-'Uqul (Qum, 1394, A.H.) p. 264.
- [27.](#) Fattal Nayshaburi Rawday al-Wa'izin, vol. 1, p. 12.
- [28.](#) M. Baqir Majlisi, Bihar al-Anwar, vol. 1, p. 184.
- [29.](#) Zayn al-Din 'Amili, Munyah al-Murid, p. 24.
- [30.](#) Ibn Abi Jumhur, Ghwali al-La'ali, vol. 1, p. 101; see also Suyuti's al-Jami al-Saghir, vol. 1, p. 558.
- [31.](#) Zayn al-Din Amili, Munyah al-Murid, p. 43; see also ibn Majah, Sunan, Introduction, sec. 23, no. 258.
- [32.](#) M. Baqir Majlisi, Bihar al-Anwar, vol. 2, 37; see also al-Jami al-Sayhir, vol. 2, p. 487.
- [33.](#) Kulayni, al-Kafi, vol. 1, p. 41.
- [34.](#) Sayyid Qutb, Fi Zilal al-Qur'an, vol. 6, pp. 262 – 263.
- [35.](#) A. Noofel al-Muslimun wa al-'Ilm al-Hadith, p. 5.
- [36.](#) M. Shaltut, Tafsir al-Qur'an al-Karim (Dar al-Shuruq) pp. 11 – 14).

[37.](#) Ideals and Realities, Selected Essays of Abdus Salam, Scientific Publishing Co., 1984, pp. 299 – 303, P.C.W. Davies, The Forces of Nature, Cambridge University Press, pp. 216 – 227.

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