

Part 2: The Significance of Physical and Biological Sciences in Islamic Perspective

Introduction

In the Holy Qur'an the word al-'ilm, knowledge, and its derivatives are used more than 780 times. The first few verses which were revealed to our Prophet (S) mention the importance of reading, pen, and teaching for human beings:

اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ اقْرَأْ وَرَبُّكَ الْأَكْرَمُ الَّذِي عَلَّمَ بِالْقَلَمِ الْإِنْسَانَ مَا لَمْ يَعْلَمْ

“Read, in the name of your Lord who created. He created man from something which clings. Read and your Lord is the most generous. Who taught with the pen. Taught man what he knew not...” (96: 1 – 5)

And about the creation of Adam, the Qur'an says even the angels bowed before Adam after he was taught the names:

وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ عَلَى الْمَلَائِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ هَؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا ۚ إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

“And He taught Adam the names, all of them, then He presented them unto the angels and said, ‘Now tell Me the names of these if you speak truly.’ They said, ‘Glory be to Thee, We know not save what Thou hast taught us. Surely Thou are the All-knowing, the All-wise.’” (2:31 – 32)

The Qur'an says those who know are not comparable to those who do not know:

...قُلْ هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا يَعْلَمُونَ...

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

And only the learned understand:

وَتِلْكَ الْأَمْثَالُ نَضْرِبُهَا لِلنَّاسِ ۖ وَمَا يَعْقِلُهَا إِلَّا الْعَالِمُونَ

And these examples We set forth for the people, but none understands them save those who know. (29:43)

And only those who have knowledge stand in awe of God:

إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ

Of all His servants, only those endowed with knowledge stand in awe of God.”(35:28)

In the Islamic tradition, too, there are many words of praise for knowledge and the learned. A number of traditions are attributed to the Prophet (S) in this regard, some of which are quoted below:

طلب العلم فريضة على كل مسلم

“It is an obligation for every Muslim to seek knowledge.”1

اطلبوا العلم ولو بالصين

“Seek knowledge even if it be in China.”2

اطلبوا العلم من المهد إلى اللحد

“Seek knowledge from cradle to grave.”3

العلماء ورثة الأنبياء

Scholars are the heirs of the prophets.”4

“The ink of the learned will be weighted with the blood of the martyrs on Resurrection day, and, then, the ink of the learned would be preferred to the blood of martyrs.”⁵

It has been a subject of fundamental importance from the early days of Islam as to which kind of knowledge Islam recommends; is there any specific kind of knowledge to be sought? Some well-known Muslim scholars have counted as praise-worthy only those branches of knowledge which are directly connected with religion. As for other types of knowledge they hold the view it is up to the community to decide which of them are essential for the sustenance and welfare of the community.

We believe there can be no restriction on the acquisition of knowledge, and, if there were any limitations of this kind, our Holy Prophet (S) would have mentioned them. Furthermore, on the basis of the Qur’an and Islamic traditions, one can hold the recommended type of knowledge itself embraces a wide range of subjects.

According to a tradition, Imam Ja‘far al-Sadiq, while addressing himself to Mufaddal ibn ‘Umar clearly described the vast domain of Islamic Science:

ذكر يا مفضل ، فيما أعطى الإنساء علمه وما مُنِع ، فإنه أعطي علم جميع ما فيه صلاح دينه ودُنياه ، فمما فيه صلاح دينه معرفة الخالق تبارك وتعالى بالدلائل والشواهد القائمة في الخلق ، ومعرفة الواجب عليه من العدل على الناس كافة ، وبر الوالدين وأداء الأمانة. ومُواساة أهل الخلّة ، وأشباه ذلك مما قد تُوجد معرفته والإقرار والإعتراف به في الطبع والفطرة ، من كل أمة مُوافقة أو مخالفة ، وكذلك أعطي علم ما فيه صلاح دنياه كالزراعة والغراس ، واستخراج الأرضين واقتناء الأغنام والأنعام واستنباط المياه ومعرفة العقاقير التي يُستشفى بها من ضروب الأَسقام والمعادن التي يُستخرج منها أنواع الجواهر ، وركوب السُفن والغوص في البحر ، وضروب الجبل في صيد الوحش والطير والحيتان ، والتصرف في الصناعات ، ووجوه المناجر والمكاسب ، وغير ذلك مما يطول سرحه ويكثر تعداده ، مما فيه صلاح أمره في هذه الدار. فأعطي علم ما يصلح به دينه ودنياه ، ومنع ما سوى ذلك مما ليس في شأنه ولا طاقبه أن يعلم ، كعلم الغيب وما هو كائن وبعض ما قد كان...فانظر كيف أعطي الإنسان علم جميع ما يحتاج إليه لدينه ودنياه ، وحُجِب عنه ما سوى ذلك. ليعرف قدره ونقصه. وكلا الأمرين فيهما صلاحه

“Oh Mofaddal, remember what God has granted man to learn, and what He has forbidden him from knowing. Man may acquire the knowledge of what is good for life in this world and his faith. In the sphere of religious interests of man are: knowledge of God Almighty, through signs and strong proofs which are manifest in creation, obligatory knowledge of issues which lead to just treatment of fellowmen, to parents, trustworthiness, helping the poor, and the awareness of the values and principles in which every human being, whether believing in God or disbelieving Him, intrinsically and naturally cherishes.

Man has also been granted capacity of knowing what is good for his worldly interests, such knowledge includes the following: agriculture, plantation, cultivation of land, animal husbandry, utilization of pharmaceutically useful plants, exploitation of mineral resources, navigation and diving the seas,

methods and weapons of hunting (animals and birds) and fishing, management of various industries, a variety of trades and professions, and many other disciplines profitable to man in this world.

Therefore, God has made man capable of attaining all knowledge which he needs for the benefit of this worldly life and He has forbidden what is unfit and beyond his reach such as: occultation, prevision, knowledge of certain past events...So, look and reflect on how God granted man some capabilities to get what he needs for this world and his religion, while He has deprived him of other abilities so he may appreciate what he has, and be aware of what he lacks – both of which are to his benefit.”⁶

The only limit set to the acquisition of knowledge in Islam is Muslims should seek useful knowledge. Our great Prophet (S) is reported as having said:

“My Lord, save me from useless knowledge.”⁷

Any knowledge helping a human in performing his God–assigned role in this world is useful, other than what is considered useless knowledge. The following statement which has been reported from Imam al–Sadiq, may be used as a criterion to distinguish between useful and useless sorts of knowledge:

فكل ما يتعلم العباد أو يعلمون غيرهم من صنوف الصناعات مثل الكتابة والحاسب والتجارة والصياغة والسراجة والبناء والحكاية والقصارة والخياطة وصناعة صنوف التصاوير – ما لم يكن مثل الروحاني – وأنواع صنوف الآلات التي يحتاج إليها العباد التي منها منافعهم ويعمل قوامهم وفيها بلغة جميع حوائجهم فحلال فعله وتعليمه والعمل به وفيه لنفسه أو لغيره وإن كانت تلك الصناعة وتلك الآلة قد يستعان بها على وجوه الفساد ووجوه المعاصي ويكون معونة على الحق والباطل. فلا بأس بصناعته وتعليمه ، نظير الكتابة التي هي على وجه من وجوه الفساد من تقوية ولاة ولاة الجور. وكذلك السكين والسيوف والرمح والقوس وغير ذلك من وجوه الأثمة التي قد تصر لاف إلى جهات الصلاح و جهات الفساد وتكون الة ومعونة عليهما ، فلا بأس بتعليمه وتعلمه وأخذ الأجر عليه وفيه والعمل به وفيه لمن كان له فيه جهات الصلاح من جميع الخلائق ومحرم عليهم فيه تصريفه إلى جهات الفساد والمضار ، فليس على العالم والمتعلم اثم ولا وزر لما فيه من الرجحان في منافع جهات صلاحهم وقوامهم وبقائهم به وإنما الإثم والوزر على المنصرف بها في وجوه الفاسد والحرام ، وذلك إنما حرم الله الفساد التي حرام هي كلها التي يحي منها الفساد محضا نظير البرابط والمزامير والشطرائج وكل ملهوبة والصلبان والأقسام وما أشبه ذلك من صناعات الأشرية الحرام وما يكون منه وفيه الفساد محضا ولا يكون فيه ولا منه شيء من وجوه الصلاح فحرام تعليمه والعمل به واخذ الأجر عليه وجميع التقلب فيه من جميع وجوه الحركة كلها. إلا ان تكون صناعة قد تتصرف إلى جهات الصنائع ، وإن كان قد ينصرف بها ويتناول بها وجه من وجوه المعاصي ، فلعله لما فيه من الصلاح حل تعلمه والعمل به ، ويحرم على من صرفه إلى غير وجه الحق والصلاح

“Any sort of science and technology which eliminates person’s needs or is useful to God’s servants and helps them to continue their lives and meet their daily needs, is permitted by religion to teach or learn. For example, they are: writing, accounting, commerce, work of a goldsmith, saddle making, brick laying, knitting, tailoring, painting and drawing (with the exception of animate beings) and making tools required by people. But if such knowledge or skill could be used for vicious and sinful purposes as well as rightful and noble deeds, such as writing, which may be abused for strengthening oppressive rulers, is not

forbidden; so make knives, swords, spears, bows and arrows which can be used in both good and ways.

Teaching and learning such trades or receiving fees for their instruction, provided it is for the benefit of God's servants, is permissible, but their use in harmful or vicious ways is forbidden; in either case, it is not a sin for person to teach or learn such a trade for utility of these tools is greater than the harm caused by their abuse and the continuity of social life depends on them. Their misuse, however, is a sinful deed. This is because God has forbidden going after anything which is totally corrupt and has no useful result.

Thus, it is forbidden to make strings (of musical instruments) flutes, chess, various instruments of entertainment and pleasure, crosses, idols or the like, and intoxicating drinks, and anything causing disturbance in harm, or ending in corruption and having no use for man, is forbidden to teach, to learn or impart it to others and to obtain fees or wages for them. If there is a craft or industry which is used for other industries or crafts, even if it is sometimes used for sinful purposes, it would be permissible to be developed, but using it in the wrong way would unlawful.”⁸

Islam and Science

In this section, firstly we intend to deal with the reason which justifies study of the sciences (of nature) from the Islamic view point and then we shall try to see how far the Islamic conception of knowledge is compatible with sciences of nature. The study of the Qur'an and the Islamic tradition indicates for two fundamental reasons Islam recognizes the significance of science:

1. The role of science in knowing God.
2. The role of science in the stability and advancement of Islamic society.

1. The Role of Science in Knowing God

In the Holy Qur'an there are more than 750 verses which refer to natural phenomena, and people are asked to think over them in order to recognize Allah through His signs. These verses can be divided into the following categories:

1. The verses which either describe the constituent elements of objects or enjoin people to discover them. For example, we read in the Qur'an:

فَلْيَنْظُرِ الْإِنْسَانُ مِمَّ خُلِقَ

“So let man consider of what he is created.” (86:5)

...وَاللَّهُ خَلَقَ كُلَّ دَابَّةٍ مِنْ مَاءٍ

“And Allah has created every living creature from water...” (24:45)

إِنَّا خَلَقْنَا الْإِنْسَانَ مِنْ نُطْفَةٍ أَمْشَاجٍ نَبْتَلِيهِ فَجَعَلْنَاهُ سَمِيعًا بَصِيرًا

“We created man from a sperm drop, a mingling, trying him, and we made him hearing, seeing.” (76:2)

2. The verses either give an account of the manner of creation of material objects or enjoins a person to discover their genesis. The following are typical of this category:

وَهُوَ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ وَكَانَ عَرْشُهُ عَلَى الْمَاءِ

“And it is He who created the heavens and the earth in six periods, and His Dominion was upon the waters...” (11:7)

وَلَقَدْ خَلَقْنَا الْإِنْسَانَ مِنْ سُلَالَةٍ مِنْ طِينٍ ثُمَّ جَعَلْنَاهُ نُطْفَةً فِي قَرَارٍ مَكِينٍ ثُمَّ خَلَقْنَا النُّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظَامًا فَكَسَوْنَا الْعِظَامَ لَحْمًا ثُمَّ أَنْشَأْنَاهُ خَلْقًا آخَرَ ۗ فَتَبَارَكَ اللَّهُ أَحْسَنُ الْخَالِقِينَ

“And certainly we created man of an extract of clay, and then We made him a small life-germ in a firm resting place. Then We made the life germ a clot, then We made the clot a tissue, then We made the tissue bones, then We clothed the bones with flesh, then We caused it to grow into another creation, so blessed be Allah, the best of Creators.” (23: 12 – 14)

أُولَئِكَ يَرِ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا

“Do not those who disbelieve see the heavens and the earth were closed up which we then parted asunder...” (21:30)

خَلَقَ السَّمَاوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا وَالْأَرْضَ رَوَاسِيَ أَنْ تَمِيدَ بِكُمْ

“He created the heavens without pillars you can see, and he cast on the earth firm mountains, lest it shakes with you...” (31: 10).

ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ

“Then He directed himself to the heaven when it was a vapour.” (41: 11).

أَفَلَا يَنْظُرُونَ إِلَى الْإِبِلِ كَيْفَ خُلِقَتْ وَإِلَى السَّمَاءِ كَيْفَ رُفِعَتْ وَإِلَى الْجِبَالِ كَيْفَ نُصِبَتْ وَإِلَى الْأَرْضِ كَيْفَ سُطِحَتْ

“Will they not then consider how the camel was created, how heaven was lifted up, how the mountains were hoisted, how the earth was outstretched.” (88: 17 – 20).

3. The verses in which man is enjoined to discover our physical universe came into existence. The following are typical of this kind of verses:

قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ

Say, “Journey in the Earth, then behold how He originated creation.” (29:20)

أَوَلَمْ يَرَوْا كَيْفَ يُبْدِئُ اللَّهُ الْخَلْقَ ثُمَّ يُعِيدُهُ

Have they not seen how God originates creation, then brings it back again.” (29: 19)

4. The verses in which man is enjoined to study natural phenomena. The following verses typify this category:

أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَسَلَكَهُ يَنَابِيعَ فِي الْأَرْضِ ثُمَّ يُخْرِجُ بِهِ زَرْعًا مُخْتَلِفًا أَلْوَانُهُ ثُمَّ يَهِيَجُ فَتَرَاهُ مُصْفَرًّا ثُمَّ يَجْعَلُهُ حُطَامًا ۖ إِنَّ فِي ذَلِكَ لَذِكْرًا لِأُولِي الْأَلْبَابِ

“Do you not see Allah sends down water from the heaven (cloud), then makes it go along in the Earth in springs, then brings forth there with herbage of various colours, then it withers so you see it becoming yellow, then He makes it a thing crushed and broken into pieces? Most surely there is a reminder for the men of understanding. (39:21)

اللَّهُ الَّذِي يُرْسِلُ الرِّيحَ فَتُثِيرُ سَحَابًا فَيَبْسُطُهُ فِي السَّمَاءِ كَيْفَ يَشَاءُ وَيَجْعَلُهُ كِسْفًا فَتَرَى الْوَدْقَ يَخْرُجُ مِنْ خِلَالِهِ ۖ فَإِذَا أَصَابَ بِهِ مَنْ يَشَاءُ مِنْ عِبَادِهِ إِذَا هُمْ يَسْتَبْشِرُونَ

“Allah is he Who sends forth the winds so they raise a cloud, then He spreads it forth in the sky as He pleases, and He breaks it up so that you see the rain coming forth from inside it; then when He causes it to fall upon whom He pleases of His servants, lo! they are joyful” (30:48)

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

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

4. The verses in which God swears by various natural objects. Here we cite some examples:

وَالشَّمْسِ وَضُحَاهَا وَالْقَمَرِ إِذَا تَلَاهَا وَالنَّهَارِ إِذَا جَلَّاهَا وَاللَّيْلِ إِذَا يَغْشَاهَا وَالسَّمَاءِ وَمَا بَنَاهَا وَالْأَرْضِ وَمَا طَحَاهَا

“By the sun and his morning brightness, and by the moon when she follows him, and by the day when it displays him and by night when it enshrouds him and by the heaven and which built it and by the earth and which extended it.” (91: 1 – 6)

فَلَا أُقْسِمُ بِمَوَاقِعِ النُّجُومِ وَإِنَّهُ لَقَسَمٌ لَوْ تَعْلَمُونَ عَظِيمٌ

“But nay, I swear by the fallings of stars. And most surely it is a very great oath if you only know.” (56:75 – 76)

وَالسَّمَاءِ وَالطَّارِقِ وَمَا أَدْرَاكَ مَا الطَّارِقُ النُّجْمِ الثَّاقِبُ

“By heaven and the night star. And what shall teach you what is the night star, the piercing star.” (86: 1 – 3)

6. The verses in which with reference to some natural phenomena the possibility of the occurrence of Resurrection has been explained. Examples:

يَا أَيُّهَا النَّاسُ إِن كُنتُمْ فِي رَيْبٍ مِّنَ الْبُعْثِ فَإِنَّا خَلَقْنَاكُمْ مِّن تُّرَابٍ ثُمَّ مِّن نُّطْفَةٍ ثُمَّ مِّن عَلَقَةٍ ثُمَّ مِّن مُّضْغَةٍ مُّخَلَّقَةٍ وَغَيْرِ مُخَلَّقَةٍ وَنُقِرُّ فِي الْأَرْحَامِ مَا نَشَاءُ إِلَىٰ أَجَلٍ مُّسَمًّى ثُمَّ نُخْرِجُكُمْ طِفْلًا ثُمَّ لِتَبْلُغُوا أَشُدَّكُمْ ۖ وَمِنكُمْ مَّن يُوَفَّىٰ وَمِنكُمْ مَّن يُرَدُّ إِلَىٰ أَرْدَلِ الْعُمُرِ لِكَيْلَا يَعْلَمَ مِن بَعْدِ عِلْمٍ شَيْئًا ۖ وَتَرَىٰ الْأَرْضَ هَامِدَةً فَإِذَا أَنزَلْنَا عَلَيْهَا الْمَاءَ اهْتَزَّتْ وَرَبَتْ وَأَنْبَتَتْ مِن كُلِّ زَوْجٍ بَهِيجٍ

“Oh people, if you are in doubt about the raising, then surely we created you from dust, then from a small life-germ, then from a clot, then from a lump of flesh, complete in make and incomplete...and you see the earth's sterile land, but when We send down on it the water, it stirs and swells and brings forth of every kind a beautiful herbage.” (22:5)

أَوَلَيْسَ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ بِقَادِرٍ عَلَىٰ أَنْ يَخْلُقَ مِثْلَهُمْ ۚ بَلَىٰ وَهُوَ الْخَلَّاقُ الْعَلِيمُ

“Is not He who created the heavens and the earth able to create the like of them? Yes! And He is the Creator (of all), the Knower.” (36:81)

يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَيُخْرِجُ الْمَيِّتَ مِنَ الْحَيِّ وَيُحْيِي الْأَرْضَ بَعْدَ مَوْتِهَا ۚ وَكَذَٰلِكَ تُخْرَجُونَ

“He brings forth the living from the dead and brings forth the dead from the living and gives life to the earth after its death and thus shall you be brought forth.” (30: 19)

7. The verses which emphasize the thoroughness and orderliness of the creations of Allah. The following verses envisage this point:

وَتَرَى الْجِبَالَ تَحْسِبُهَا جَامِدَةً وَهِيَ تَمُرُّ مَرَّ السَّحَابِ ۚ صُنِعَ اللَّهُ الَّذِي أَنْقَنَ كُلَّ شَيْءٍ

“And you shall see the mountains which you supposed fixed passing by like clouds; God’s handiwork, who has created everything very well...” (27:88)

الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا ۚ مَا تَرَى فِي خَلْقِ الرَّحْمَنِ مِنْ تَفَٰوُتٍ ۚ فَارْجِعِ الْبَصَرَ هَلْ تَرَى مِنْ فُطُورٍ ثُمَّ ارْجِعِ الْبَصَرَ كَرَّتَيْنِ يَنْقَلِبْ إِلَيْكَ الْبَصَرُ خَاسِئًا وَهُوَ حَسِيرٌ

“Who created seven heavens one upon another. You see no imperfection in the creation of the Beneficent God; then look again, can you see any disorder? Then returns back the eye again and again, your look shall come back to you dazzled, a weary.” (67:3 – 4)

وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ

“And the earth, we stretched it forth and cast on it firm mountains, and We caused to grow in it of everything justly weighted.” (15: 19)

وَخَلَقَ كُلَّ شَيْءٍ فَقَدَرَهُ تَقْدِيرًا

“And He created everything, then He ordained it very carefully.” (25:2)

خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ بِالْحَقِّ ۚ يُكَوِّرُ اللَّيْلَ عَلَى النَّهَارِ وَيُكَوِّرُ النَّهَارَ عَلَى اللَّيْلِ ۚ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ ۚ كُلٌّ يَجْرِي لِأَجَلٍ مُّسَمًّى

“He created the heavens and the earth in truth, wrapping night about the day, and wrapping day about the night, and He has subjected the sun and the moon, each of them running to an assigned term.” (39:5)

وَمَا خَلَقْنَا السَّمَاءَ وَالْأَرْضَ وَمَا بَيْنَهُمَا لَاعِبِينَ

“And we did not create the heaven and the earth and what is between them for sport.” (21: 16)

8. The verses which explain the harmony in which man exists with the rest of the physical universe and the subservience of what is in the earth and in the heavens to man. The following exemplify this type of verses:

هُوَ الَّذِي خَلَقَ لَكُمْ مَا فِي الْأَرْضِ

“It is He who created for you all that is on the earth.” (2:29)

وَسَخَّرَ لَكُمْ مَا فِي السَّمَاوَاتِ وَمَا فِي الْأَرْضِ جَمِيعًا مِنْهُ ...

“And He has made subservient to you what is in the heavens and what is in the earth, all together form him...” (45: 13)

هُوَ الَّذِي جَعَلَ لَكُمْ الْأَرْضَ ذُلُولًا فَامْشُوا فِي مَنَاكِبِهَا وَكُلُوا مِنْ رِزْقِهِ ...

“It is He Who made the earth submissive to you; therefore, walk in its tracts, and eat of His provisions...” (67: 15)

....وَأَنْزَلْنَا الْحَدِيدَ فِيهِ بَأْسٌ شَدِيدٌ وَمَنْفَعٌ لِلنَّاسِ ...

“...And we sent down iron, wherein is great might, and many uses for men...” (57:25)

وَهُوَ الَّذِي جَعَلَ لَكُمْ النُّجُومَ لِتَهْتَدُوا بِهَا فِي ظُلُمَاتِ الْبَرِّ وَالْبَحْرِ ۗ قَدْ فَصَّلْنَا الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ

“And He is who has made the stars for you which you might follow the right way thereby by the darkness of the land and sea; truly We have made plain the communications for a people who know.” (6:97)

In these verses the Almighty invites His servants to see and reflect upon the natural phenomena, and through the observation of order and co-ordination in the system of creation and its wonders get closer to Him. It is obvious in having a clear conception of the issues referred to in these verses, and for the discovery of the answers to the problems therein one has to be familiar with the natural and physical sciences because a superficial knowledge of natural phenomena cannot reveal the grandeur of Creation to man. It is for this very reason in the verse 28 of the chapter **Fatir**, after describing a number of natural phenomena, God says:

...إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ...

“...of His servants only those who are possessed of knowledge fear Allah...” (35:28)

Also:

..بَلْ هُوَ آيَاتٌ بَيِّنَاتٌ فِي صُدُورِ الَّذِينَ أُوتُوا الْعِلْمَ

“Nay, these are clear signs in the breasts of those who have been given knowledge...” (29:49)

On the other hand, the knowledge of natural phenomena is effective in leading us closer to God only if we have faith. The following verse asserts this point beautifully:

قُلْ انظُرُوا مَاذَا فِي السَّمَاوَاتِ وَالْأَرْضِ ۚ وَمَا تُغْنِي الْآيَاتُ وَالنُّذُرُ عَنْ قَوْمٍ لَا يُؤْمِنُونَ

Say, “Behold what is in the heavens and in the earth, but neither signs nor warnings avail a people who do not believe.” (10:101)

One should not forget, however, the Qur’an is not a handbook of experimental science and if it explains some natural phenomena, it is because of the following reasons:

1. The study of natural phenomena and wonders of creation strengthens man’s faith in God.
2. By becoming familiar with the opportunities which God has provided for man, he becomes more knowledgeable about Allah and by obtaining just benefits from them, he can offer his gratitude to God.

In fact, it was due to the encouragement of the Qur’an for the study of natural phenomena in which Muslim scientists became deeply involved in this field. The development of Islamic civilization, too, was to a great extent, indebted to the Qur’an outlook. The prominent Muslim scientists of the past have acknowledged their indebtedness to the Qur’an, and even some Western scholars have acknowledged it.

For example, Levy, in **The Social Structure of Islam** says, “Apart from a small number of investigators inspired by Greek philosophic ideals, the Muslims who engaged in the pursuit of science did so...in order to discover, in the wonders of nature, the signs or tokens of the glory of God.”⁹

George Sarton, in his book “**Introduction of the History of Science**” writes, in order to fully conceive the motive behind the activities of Muslim scholars in the fields of science, one should note the axial role of the Qur’an for them.¹⁰

In his book, **Kitab al-Tahdid Nihayat al-Amakin**, al-Biruni writes, “When a person decides to discriminate between truth and falsehood, he has to study the universe and find out whether it is eternal or created. If somebody thinks he does not need this kind of knowledge, he is, however, in need of thinking about the laws which govern our world, in part or in its entirety. This leads him to know the truth about them, and paves the way for knowing the being, which directs and controls the universe, and His attributes. This is, in fact, the kind of truth which God enjoined His knowledgeable servants to search for, and Allah spoke the truth when He said:

وَيَنْفَكُرُونَ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَاطِلًا

“...And reflect upon the creation of the heavens and the earth; our Lord, You have not created this in vain.” (3. 191)

This verse contains what I explained in detail, and if man works according to it, he can have access to all branches of knowledge and cognition.”¹¹

Also, in al-Biruni’s **Kitab al-Jamahir** we read, “Sight connects what we see to the signs of Divine wisdom in creatures, and from the creation we deduce the existence of the Creator.”¹²

In this part of his diary which belongs to the year 417 Hijrat, ibn al-Haytham writes, “From my very childhood I have been wondering about the various peoples (i.e. sects) and their beliefs. Each sect has its own opinions and beliefs according to the principles of its faith. I, therefore, began to doubt the views of various sects, and I am now convinced truth is one and the same and their differences are based on the ways and methods of finding the truth. Having gained an insight into the intellectual basis, I decided to search for the truth and tear away the veil of superstitions and doubts, which an elusive vision has cast on the people, and so the doubting and sceptical people may lift their gaze freed from the labyrinth of scepticism.

“Afterwards, I decided to discover what it is which brings us closer to God, what pleases Him most, and what makes us submissive to his ineluctable Will. My feelings were akin to those of Gallen, which he describes in the seventh chapter of his **Hilat ul-Bur**. While addressing his students, he avers, ‘I am not aware of the feelings, thoughts, and sensations which have guided me since my childhood. Call it what you may – a matter of chance, or intuition vouchsafed by Almighty God, or madness. You may attribute

the source of my inspiration to any of the three.

'I shunned the publications, looked at them with contempt and derision and did not incline toward their company. In constantly sought knowledge and truth, and it became my belief for gaining access to the effulgence and closeness of God, there is no better way than a search for truth and knowledge.' (End of quotation from Gallen).

"At last, I was led to the conclusion in Truth can only be discovered by the formulations of theories, the content of which is sense and their form is intellectual equipment. I found such theories present in the logic, physics, and theology of Aristotle...when I discovered what Aristotle had done, I decided to understand philosophy whole-heartedly. There are three disciplines which make philosophy: mathematics, physical sciences and theology.

"Therefore, I learnt their principles and in this way I acquired skill in their derivatives...Realizing the mortality of man...I explained and surmised whatever knowledge I had acquired in these three disciplines, and wrote some books in the explanation of the difficulties in relation to their derivatives. This has been going on until now, i.e. 417 A.H." [13](#)

We see Muslim scientists' quest for knowledge of natural phenomena was due to the fact they considered this course of study to be one of the best ways of approaching God. They believed by studying signs of God in nature one can discover the inter-relation between all parts of the universe and the unity hidden behind this world of multiplicity, and this in turn leads him to the unique Creator. In the glorious period of Islamic civilization, Muslim scientists assimilated cosmological sciences of their time into their own knowledge because these sciences, too, in their view, were trying to demonstrate the unity of nature and were searching for the primary cause of things, and, thus, were conformable to Islamic perspective.

In this process, however, they first drew out the foreign elements, and then infused the rest with the Islamic concepts. Furthermore, Muslim scientists employed both experimental and theoretical methods of investigation.

Unfortunately, this kind of outlook toward the sciences of nature was gradually discarded in the Islamic world and Muslims neglected the recommendations of the Holy Qur'an about the study of nature and taking advantage of the opportunities which God has provided for man. On the other hand, non-Muslims studied these subjects, and this gave them mastery over the rest of the world. An important consequence of this grave mistake was a large gap appeared between religion and the mundane affairs of Muslims and they were forced to try to learn science and technology from the West.

A by-product of this was the infiltration of undesirable features of Western civilization into the Islamic world. As a consequence of these unfortunate facts, Muslims have reached a point where they have lost their spiritual qualities, and are not capable of controlling their mundane affairs without foreign assistance.

2. The Role of Science in the Stability and Advancement of an Islamic Society

According to the Holy Qur'an, Islam is a universal religion:

قُلْ يَا أَيُّهَا النَّاسُ إِنِّي رَسُولُ اللَّهِ إِلَيْكُمْ جَمِيعًا

Say, "Oh mankind, surely I am the Messenger of God to you all." (7: 158)

...وَمَا أَرْسَلْنَاكَ إِلَّا كَافَّةً لِّلنَّاسِ بَشِيرًا وَنَذِيرًا

**"And We have not sent you but to all mankind as a bearer of good news and as a warner..."
(34:28)**

And the aim of Islam is to establish a monotheistic society in which God's word is the highest.

...وَجَعَلَ كَلِمَةَ الَّذِينَ كَفَرُوا السُّفْلَىٰ وَكَلِمَةَ اللَّهِ هِيَ الْعُلْيَا...

**"...And He made the word of the unbelievers the lowest, and God's word is the uppermost..."
(9:40)**

In order to establish such a society and to keep it immune from the dangers of the unbelievers, the Islamic World has to be completely independent. The following verse envisages this point:

وَلَنْ يَجْعَلَ اللَّهُ لِلْكَافِرِينَ عَلَى الْمُؤْمِنِينَ سَبِيلًا

"And God will not grant the unbelievers any way over the believers." (4: 141)

Moreover, the Holy Prophet is reported to have said, "Islam is superior to (all) others and nothing can surpass it." [14](#)

Obviously, in order to guarantee the superiority of Islamic policy over others, Muslims should try to make themselves independent and self-sufficient. It is for this reason Muslim jurists have given the verdict in which any deed leading to the supremacy of unbelievers over Muslims is forbidden. [15](#) Moreover, they have decreed it is a duty of an Islamic society to provide whatever is needed for a duty of an Islamic society to provide whatever is needed for the sustenance of the society. In the Holy Qur'an itself, Muslims are enjoined to prepare and equip themselves in every respect to face the challenge of the forces of unbelievers:

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

“And prepare against them whatever force and strings of horses you can to terrify thereby the enemy of God and your enemy.” (8:60)

Today, everything revolves around the axis of science and technology. Therefore, in order to be independent and self-reliant, Islamic policy should provide all scientific and technological capabilities which are essential for its self-sufficiency and glory. This involves training of specialists of high calibre in every important field of science and technology, and equipping them with the best technical facilities. Unfortunately, since Muslims have over-looked the need to equip themselves with scientific and technological knowledge and have given the way to others in these fields, they have become more and more dependent for their very necessities of life on non-Muslims. Ibn Ikhwah, a Shafi'i jurist of the seventh century after Hijrah, tells us in the **Kitab Ma'alim al-Qurbah fi Ahkam al-Hesbah**:

“Learning of medicine is compulsory for the community as a whole, but in our time Muslims do not concern themselves with it, and we have many cities which have only Christian and Jewish physicians, whose testimony about medical matters are not acceptable in problems related to religion. In our time, I do not see many studying medicine, but I do see many who are involved deeply into jurisprudence and ethical and polemical issues and our city is full of jurists who are busy with given their opinion about various happenings. I do not know how it is permitted, religiously speaking, at the time when some compulsory duty of the community is neglected one gets involved in something which others have chosen to get pre-occupied with it..”¹⁶

If Ibn Ikhwah was complaining in the seventh century after Hijra, in which most of the physicians in the Muslim society of his time were Jews or Christians, and Muslims were neglecting this compulsory duty, today, we see Muslims are unable to use their resources and they let others exploit them. As the famous Pakistani poet Iqbal states:

دیروز مسلم از شرف علم سر بلند امروز بشت مسلم و اسلامیان خم است

“The Muslim of yesterday was proud and esteemed for his knowledge, (but) today the believers' and Muslims' back is bent (before others). Here on asks, ‘While the Qur'an says unbelievers will in no way have domination over the believers, why are they now ruled by unbelievers?’”

The answer may be found in the fact in which Muslims today are not real believers, and they overlook their Islamic obligations. They neither have the unity nor do they go after knowledge and other provisions recommended by the Holy Qur'an:

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

“And prepare against them what force you can and horses tied at the frontier, to frighten thereby the enemy of Allah and your enemy...” (8:60)

Despite all the categorical orders of the Qur'an, let us see what we have done in the way of preparing ourselves and exulting Islamic Society. While Islam does not allow the dominance of the unbelievers over believers even in a simple matter, like inheritance,¹⁷ why are Muslims so entirely dependent on the products of East or West?

It will not be unrealistic to have a look at the present state of the Islamic world:¹⁸

There are about 50 Islamic countries with 1/5 of the total population of the world, and covering 1/5 of the continents of the Earth. They possess 50 percent of the oil reserves as well as other natural resources of the world. On the other hand, the Islamic nations depend on Eastern or Western countries for their food, technology, science and defence requirements. They consume more food than they can produce. In recent years, food consumption in Islamic countries has risen by two and half percent while the rise in the population of these countries has an average growth of three percent.

The rate of literacy in the industrially advanced countries is 95%, in the Third World countries 55% and in the Islamic countries 34% only (this rate in the case of the United States, Russia, and Japan is 99%, in China 56% and Pakistan 21%.) Among the population aged five to 19, the percentage of students is as follows:

- Industrial advanced countries 75%
- Third world countries 48%
- Islamic countries 40%

Among the population aged 20 – 24, university or college students, the percentage is as follows:

- Industrially advanced countries 33%
- Third World countries 9%
- Islamic countries 4%

According to the report submitted to the Islamic Conference in Islamabad in May 1983, the number of research scholars in Islamic countries was about 45,000, whereas 1.5 million researchers were in Russia and 400,000 in Japan in the same year. In the year 1974, 35,000 research scholars were in Israel, and in Iran only 4,900 scholars were doing research work in the same year.

In the year 1976, 352,000 scientific research papers were written in the world, of which 94.5% (333,000) came from the industrially advanced countries which have only one-quarter of the world population, and the third world countries, with the population of three-fourths of the world population, produced only

19,000 articles, and out of this only 17% (i.e. 3,300) were written in Islamic countries. Comparatively speaking, the Islamic world contributed only nine percent of the whole work and two-thirds of the nine percent belonged to Egypt, Nigeria, Iran, Turkey, Malaysia, and Pakistan.

The number of inventions annually registered in the United States or Russia is 50,000, whereas in the whole Islamic countries this figure falls below 500. As for physicians, there is one doctor for every 600 people in the U.S.A., 300 people in Russia, 3,000 people in Pakistan, and 4,000 people in Iran.

It is obvious, in this deplorable condition Islamic countries will continue their dependence on the West until they fully equip themselves in the way of providing their own food and technology, and even this has to be done in the form of mobilized combat, without which there seems to be little likelihood of the elimination of Western cultural and economic influence over Islamic countries. Imam Khomeini in his book “**Tahir al-Wasilah**” says, “Should the danger of political and economic domination of the enemy increase to the extent it might bring the Islamic society under its political and economic yoke (causing humiliation and shame to Islam and Muslims and weakening them), it would be incumbent on all Muslims to defend their cause with the means and tools similar to those of the enemy.”¹⁹

Here, we find it necessary to mention two important points: a) from the Islamic viewpoint it is faith which guarantees the proper use of knowledge. In the Qur’an, knowledge and faith stand side by side. In the first verse revealed to the Prophet (S) reading has been recommended, but reading stands next to the name of the Creator, which means acquiring knowledge should be in God’s name, not in of Satan. Knowledge, together with faith, leads to righteousness, whereas knowledge in the hand of the unbelievers is a means of destruction. Many abuses of knowledge have been made by the unbelieving scientists. A tradition related to our Prophet (S) says:

ألا إن شر الشر شرار العلماء وإن خير الخير خيار العلماء

“Surely, the worst of all evils are wicked scholars and the best of all good things are good scholars.”²⁰

As Mowlawi puts it:

يد کهر را علم و قن اموختن دادن تیغ است دست راهزند

تیغ دادن در کف زنکی مست به که باشد علم ناکس را بدست

علم ومال ومنصب وجاه وقران فتنه ارد در کف بد کوهران

بس غزا زين فرض شد برمومنان تا ستانند از كف مجنون ستان

*“To impart knowledge and arts to villains,
is like giving a sword in the hands of a robber; putting a
sword in the hand of a drunk, is a lesser evil than
arming a villain with knowledge, wealth, knowledge
and position are the cause of
corruption in the hands of ignobles; therefore, it
is incumbent on the believers to snatch
spears from the grip of lunatics.*

The Holy Qur’an itself considers religious faith to be an essential factor for attaining all-around superiority.

وَلَا تَهِنُوا وَلَا تَحْزَنُوا وَأَنْتُمْ الْأَعْلَوْنَ إِنْ كُنْتُمْ مُؤْمِنِينَ

“Faint not, neither sorrow, you shall be the upper ones if you are believers.” (3: 139)

وَلَوْ أَنَّ أَهْلَ الْقُرَىٰ آمَنُوا وَاتَّقَوْا لَفَتَحْنَا عَلَيْهِم بَرَكَاتٍ مِّنَ السَّمَاءِ وَالْأَرْضِ

“Yet had the peoples of the cities believed and been God fearing, He would have showered upon them blessing from heaven and earth.” (7:96)

...وَلِلَّهِ الْعِزَّةُ وَلِرَسُولِهِ وَلِلْمُؤْمِنِينَ...

“..Yet glory belongs unto God, and unto His Messenger and the believers...” (63:8)

وَلَنْ يَجْعَلَ اللَّهُ لِلْكَافِرِينَ عَلَى الْمُؤْمِنِينَ سَبِيلًا

“And God will not grant the unbelievers any way over the believers.” (4: 141)

It is to be noted, despite the importance given to learning science and technology, they are not considered to be sufficient in themselves, and Muslims should, in addition to raising their standard in the material and scientific fields have firm belief in the Islamic ideology and follow the religious principles for attaining the desired goals. Sayyid Qutb elaborates this matter in a convincing manner:

“God has made a clear promise and has given a definite order in which if real faith penetrates into the

souls of the faithful and is exemplified in their lifestyle and their system of government, and if in all their acts and discourses Muslims pay attention only to Allah..., then Allah will not grant unbelievers any superiority over the believers. In order to guarantee our victory in every place and at all times, we should give priority to our faith and its requirements... and it is faith itself which demands from us strength and self-sufficiency. It forbids us from enemies and not seeking help from anybody but Allah.”[21](#)

b) Islam encourages Muslims to equip themselves with science and technology, to guarantee the independence and development of the Islamic society, for the sake of the preservation of spiritual aspects. Even in the Qur’anic verse:

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

“And prepare against them what force you can and horses tied at the frontier, to frighten thereby the enemy of Allah and your enemy...” (8:60)

God invites Muslims to strengthen their defence; it is immediately added in which its aim is weakening (frightening) of the enemies of God and Muslims. Therefore, while strengthening their material powers, Muslims should employ them in the service of spiritual cause and for the realization of Islamic ideals. They should not seek material progress for its own sake. The following glorious verses propound this idea in clear terms:

إِنَّا جَعَلْنَا مَا عَلَى الْأَرْضِ زِينَةً لَهَا لِنَبْلُوهُمْ أَيُّهُمْ أَحْسَنُ عَمَلًا

“Surely, We have made whatever is on the Earth an embellishment for it, so We may try them (as to) which of them is best in works.” (18:7)

وَهُوَ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ وَكَانَ عَرْشُهُ عَلَى الْمَاءِ لِنَبْلُوَكُمْ أَيُّكُمْ أَحْسَنُ عَمَلًا

“And He is Who created the heavens and the earth in six periods and his dominion (extends) on the waters – which He might manifest you, which of you is best in action.” (11:7)

Conclusion

We can notice in Islam, everything revolves around the axis of the unity of God, and the desirability of science and technology is based on the fact these are tools which add to our knowledge of God and are effective in the establishment of an independent monotheistic society. In our age, when Islamic countries are under the influence of unbelievers, Muslims have a great responsibility on their shoulders. Take into consideration a verse we quoted earlier and re-quote here:

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

“And prepare against them what force you can and horses tied at the frontier, to frighten thereby the enemy of Allah and your enemy...” (8:60)

According to this Qur’anic injunction, Muslims should prepare and equip themselves in every respect, and since, today empirical sciences play a fundamental role in every aspect of the material life, strengthening of this dimension of Islamic policy is a necessity. Islamic countries, therefore, should establish centres for promoting scientific and technological research and should train experts of high calibre in all useful fields of science and technology. In this attempt, however, they should put the emphasis on fundamental sciences, so they are able to advance original research rather than imitating others.

On the other hand, in order to ensure the success of scientific renaissance in Islamic policy, several important points should be taken into consideration:

1. It is obvious at the present time, Muslims need to learn science and technology from the countries which are advanced in these fields, and, of course, this is not by itself a blameworthy action. In fact, the Holy Prophet is reported to have said,

اطلبوا العلم ولو بالصين

“Seek knowledge, even if it be in China.”

صالة المؤمن فحيث وجدها فهو احق بها

“The believer is always searching or wisdom, where may find it, it is his, because he deserves to have it more than anyone else.”

خذوا العلم من افواه الرجال

“Acquire knowledge from what people say.”²²

And Imam ‘Ali (peace be upon him) is reported to have said:

حق على العاقل ان يضيف إلى رأيه رأي العقلاء ويضم إلي علمه علوم الحكماء

“It is praiseworthy for ever wise man to add the opinions of other sages to his own, and add the learned’

knowledge to his own knowledge.”²³

العلم ضالة المؤمن ، فخذوه ولو من أيدي المشركين

“Knowledge is the lost property of a believer, thus, acquire it even if it is in the polytheists’ hands.”²⁴

Muslim scholars of the past did the same and what we are supposed to do is to receive knowledge from non-believers in a selective manner, i.e. to purge it from the elements alien to Islam and to remodel it in the light of the Islamic world view. It is under the guidance of these principles in which Muslims can acquire knowledge from non-Muslim sources and mould it to suit the Islamic ideals. It is only under these conditions which different levels of knowledge can be co-ordinated to attain our aim and can take us closer to God.

2. We should revive the scientific spirit of our learned ancestors and their zeal to reshape different branches of knowledge for making use of them for the development of Islamic civilization. They did not see any real contradiction between the so-called religious sciences and the physical sciences, and they considered the aim of both to be the same. In their view, both the biological and physical sciences show the harmony between various parts of the Universe, and therefore, they lead us to God—something which is the aim of religion, too.

It was due to this kind of outlook in which religious, as well as physical sciences, were taught together and some of the Muslim scholars were first-rate authorities in both of them. This praiseworthy tradition has to be revived again, and the curricula of our universities have to include both religious sciences and the latest scientific and technological advances.

It is only in this way Muslims can be equipped with the latest developments made in scientific fields and at the same time, protect their students against atheistic and materialistic teachings of the East and the West, and can bring science and technology under the guidance of Islamic outlook.

3. According to the Holy Qur’an man is the vicegerent of God on Earth:

...وَإِذْ قَالَ رَبُّكَ لِلْمَلَائِكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً

“And when your Lord said to the angels, ‘I am going to place on the Earth a vicegerent’...” (2:30)

هُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ فِي الْأَرْضِ ۖ فَمَنْ كَفَرَ فَعَلَيْهِ كُفْرُهُ

“It is He Who appointed the vicegerents in the earth, so whoever disbelieves, his unbelief shall be charged against himself.” (35:39)

ثُمَّ جَعَلْنَاكُمْ خَلَائِفَ فِي الْأَرْضِ مِنْ بَعْدِهِمْ لِنَنْظُرَ كَيْفَ تَعْمَلُونَ

Then We appointed you vicegerents on the Earth after them, so We may see how you act.” (10: 14)

Now, in order to be able to play this role, God has given man all kinds of gifts and has endowed him with intelligence, and has provided a nice harmony between the creation of man and the rest of the universe so human beings can take care of their needs. Again to quote the Holy Qur’an:

هُوَ الَّذِي خَلَقَ لَكُمْ مَا فِي الْأَرْضِ جَمِيعًا

“He it is Who created for all which is on the Earth.” (2:29)

...وَلَقَدْ مَكَّنَّاكُمْ فِي الْأَرْضِ وَجَعَلْنَا لَكُمْ فِيهَا مَعَايِشَ

“And certainly We have established you on the Earth and made in it means of livelihood for you...” (7: 10)

It is, therefore, for Muslims to employ their knowledge and technology for the solemn goals of Islam and higher interests of humanity in order to exemplify the glorious verse:

كُنْتُمْ خَيْرَ أُمَّةٍ أُخْرِجَتْ لِلنَّاسِ تَأْمُرُونَ بِالْمَعْرُوفِ وَتَنْهَوْنَ عَنِ الْمُنْكَرِ وَتُؤْمِنُونَ بِاللَّهِ

“You are the best nation ever brought forth to men, bidding to honour, and forbidding dishonour, and believing in God.” (3: 110)

Muslims are not permitted to destroy the Earth or spread injustice and corruption upon the Earth. They are asked to dwell in it in a manner desired by God:

...هُوَ أَنْشَأَكُمْ مِنَ الْأَرْضِ وَاسْتَعْمَرَكُمْ فِيهَا...

“...He brought you forth from the Earth and hath made you to dwell in it...” (11:61)

They are supposed to reform it and bring order to it. Unfortunately, Western science, due to its misconceived philosophical notions, has brought destruction in its wake and the knowledgeable and powerful scientists of our time fit the description in the following verse of the Holy Qur’an:

وَإِذَا تَوَلَّى سَعَى فِي الْأَرْضِ لِيُفْسِدَ فِيهَا وَيُهْلِكَ الْحَرْثَ وَالنَّسْلَ ۗ وَاللَّهُ لَا يُحِبُّ الْفَاسَادَ

“And whenever he prevails, he hastens about the Earth to do corruption there and to destroy the tillage and the stock, and God does not love corruption.” (2:205)

The story of Adam in the Qur’an, while illustrating the superiority of man, due to his being vicegerent of God and his knowledge of the “names” (asma) warns us of the dangers which face him whenever he violets God’s commandments. man is appointed as the vicegerent of God on Earth in order to reform it, to see the signs of God, and to become representative of His Power and Wisdom.

4. In schools and universities of Islamic countries, sufficient attention should be paid to the problem of moral purification of students and they ought to be instructed in virtuous actions. It is only then the graduates of schools and universities will be both faithful and knowledgeable, and it is with this kind of scientists in which order can be brought to our world and the well-known saying of Imam Ali exemplified:

والإيمان يعمر العلم

“Knowledge prospers through faith.”²⁵

Knowledge without faith does not produce anything better than what Western civilization has produced, and the faithless scientists have no aim but position, power, and wealth. Imam Khomeini has justly said, “All of these tools which are made for the destruction mankind and all of the advances which are made in the field of weaponry are the products of university graduates who have not been morally trained and who have not purified their souls.”

The Holy Qur’an itself, when talking about the Prophet’s message, mentions spiritual training to be compulsory for learning:

كَمَا أَرْسَلْنَا فِيكُمْ رَسُولًا مِنْكُمْ يَتْلُو عَلَيْكُمْ آيَاتِنَا وَيُزَكِّيكُمْ وَيُعَلِّمُكُمُ الْكِتَابَ وَالْحِكْمَةَ

“As also we have sent among you, of yourselves, a Messenger, to recite Our signs to you and to purify you, and to teach you the Book and the Wisdom.” (2: 151).

...وَيُعَلِّمُهُمُ الْكِتَابَ وَالْحِكْمَةَ وَيُزَكِّيهِمْ...

“...and teach them with the Book and the Wisdom...and purify them...” (2: 129)

هُوَ الَّذِي بَعَثَ فِي الْأُمِّيِّينَ رَسُولًا مِنْهُمْ يَتْلُو عَلَيْهِمْ آيَاتِهِ وَيُزَكِّيهِمْ وَيُعَلِّمُهُمُ الْكِتَابَ وَالْحِكْمَةَ

“It is He Who has raised up among the illiterates a Messenger among themselves, to recite His

signs to them, and to purify them, and to teach them the Book and the Wisdom...” (62:2)

Muslim scholars, too, used to recommend to their students to have spiritual training and in seeking knowledge not to go after position, power, or wealth. Mohammad ibn Zakariyya al-Razi, when mentioning the qualifications of medical students, says, “It is urgent a medical student should not learn medicine for the sake of becoming wealthy. Rather, he should know the closest people to God are those who are the most learned, the most just, and the kindest toward other people.”²⁶

In short, in order to secure the spiritual as well as the material welfare of an Islamic society, it is essential to have learning tied with spiritual training.

4. The Holy Qur’an calls the followers of Islam a justly balanced nation:

...وَكَذَلِكَ جَعَلْنَاكُمْ أُمَّةً وَسَطًا لِتَكُونُوا شُهَدَاءَ عَلَى النَّاسِ

“Thus we have made of you a justly balanced nation so you might be witnesses over the nation...” (2: 143)

And it recommends them to maintain equilibrium between the spiritual and the material dimensions of life:

...رَبَّنَا آتِنَا فِي الدُّنْيَا حَسَنَةً وَفِي الْآخِرَةِ حَسَنَةً...

“...Our Lord, grant us good in this world and good in the hereafter...” (2:201)

...وَابْتَغِ فِيمَا آتَاكَ اللَّهُ الدَّارَ الْآخِرَةَ ۗ وَلَا تَنْسَ نَصِيبَكَ مِنَ الدُّنْيَا

“And seek by means of what Allah has given you the future abode, and do not neglect your portion of this world...” (28:77)

Therefore, Muslims should not, like western people, become deeply involved in material aspects of life, and should not forget the spiritual dimensions of existence. Muslims should be aware of the fact in the Islamic outlook all material opportunities are permissible but not as an end in themselves. They serve as a ladder for the spiritual progress of man.

Muslims should never forget Islam is radically opposed to the materialistic approach in the acquisition of science and technology and stress they should not be sought for their own sake. This does not in any way delimit the scope of empirical knowledge. It only means, in making progress in this area, they should always remember God and seek His proximity as a primary goal.

In short, today we face two realities: on the one hand, we see the West has progressed in various fields of science and technology tremendously, and on the other hand, this material progress has not brought satisfaction to the Western man. It has rather drawn him to the pitfall of nihilism and, in fact, it has brought mankind to the verge of total annihilation. Under these circumstances, the duty of Muslims is to compensate for their lag in the fields of science and technology, and, by reviving Islamic teachings and the prevailing Islamic outlook; they can guide humanity toward real welfare and happiness.

[1.](#) Kulayani, al-Kafi, vol. 1, p. 30; ibn Majah, Sunan, vol. 1, Introduction, section 17, no. 224.

[2.](#) Abu Hamid Mohammad Ghazali Ihya' 'Ulum al-Din, vol. 1, p. 14; Mohammad Baqir Majlisi, Bihar al-Anwar, vol. 1, 180.

[3.](#) Sayyid Hassan Shirazi, Kalimah al-Rasul al-A'zam, p. 203.

In al-Khisal (vol. 2, p. 433), Saduq reports, while our Prophet (S) was describing the characteristics of wise men he said, "A wise man does not become tired of seeking knowledge throughout his lifetime."

[4.](#) Kulaayni al-Kufi, vol. 1, p. 32; ibn Majah, Sunan, under no. 223; Abu Dawud al-Sujstani, Sunan, vol. 2, p. 285.

[5.](#) Sayuti, al-Jami' al-Saghir (Damascus, 1352 H) vol. 2, p. 657; see also Majlisi, Bahar al-Anwar, vol. 3, pp. 82 – 83.

[6.](#) Majlisi, Bihar al-Anwar, vol. 2, p. 16.

[7.](#) Ibn Majah, Sunan, Introduction, section 23, no. 250; Sayuti al-Saghir, vol. 1, p. 185. In another well-known quotation from our Holy Prophet (S) we read:

"We seek refuge in God from useless knowledge."

(Majlisi, Bihar al-Anwar, vol. 2, p. 32; Ghazali, Ihya al-'Ulum al-Din, vol. 1, p. 2)

[8.](#) Harrani, Tuhaf al-Uqul (Qum, 1394 H) pp. 249 – 250.

[9.](#) R. Levy, The Social Structure of Islam (Cambridge, 1975) p. 400.

[10.](#) G. Sarton, Introduction to the History of Science vol. 1 (Persian translation), p. 23.

[11.](#) Abu Rayhan al-Biruni, Kitab Tahdid Nihayat al-Amakin, Persian translation (by A. Aram) pp. 3 – 4.

[12.](#) Abu Rayhan al-Biruni Kitab al-Jamahir (Hyderabad, 1935) p. 5.

[13.](#) Ibn Abi Usaybiyah, Tabaqat al-Atibba (Beirut, 1965) p. 552.

[14.](#) al-Suduq, Man La Yahduruh al-Faqih (Tehran ed), vol. 4, p. 334. In Bukhari's al-Sahih (champtn on funeral rites) this tradition is reported and has the same meaning as the one we quoted in the article.

[15.](#) M.J. Mughniyah, al-Tafsir al-Kashif, vol. 2, p. 465.

[16.](#) Ibn Ikhvah, Kitab Ma'alim al-Qurbah fi Ahkam al-Hisbah (Egypt, 1976), p. 254.

[17.](#) M.J. Mughniyah, al-Fiqh al-Mazaheb al-Khamsah (Beirut), p. 499.

[18.](#) The statistics are taken from several papers presented (Nov. 1983) at the "International Conference on Science in Islamic Polity" held at Islamabad in November, 1983.

[19.](#) Imam Khomeini, Tahri al-Wasilah, vol. 1, p. 485.

[20.](#) Sheikh Zayn al-Din al-'Amili Munyah al-Murid (Qum) p. 45.

[21.](#) Sayyid Qutb, Fi Zilal al-Qur'an, vol. 2, pp. 560 – 61.

[22.](#) Mohammad Baqir Majlisi, Bihar al-Anwar, vol. 2, p. 99; Sayuti, al-Jami' al-Saghir, vol. 2, p. 255.

[23.](#) Mohammad Baqir Majlisi, Bihar al-Anwar, vol. 2, p. 105.

[24.](#) Abn 'Abd al-Bar, Jami' Bayan al-'Ilm, vol. 1, p. 121, Majlisi, Bihar al-Anwar (vol. 2, p. 97), reports a similar quotation from Imam 'Ali in the following form:

Wisdom is a lost objective of believers; search for it even if it is in the polytheist's possession, because you deserve to have it more than they do."

[25.](#) Nahj al-Balaghah (S. al-Saleh, Ed.) p. 393.

[26.](#) Mohammad ibn Zakariyya al-Razi, Rasa'il Falsafiyah (Cairo, 1939) p. 108.

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