

Toward Islamization of Science and Technology

Fouzia Ferdous*
Muhammad Athar Uddin**

Abstract: *The attitude and knowledge of Muslim Scientists can play an important role in the efforts for Islamization of Knowledge. Unfortunately, all sciences including Engineering and Technology of today which flourished at the hands of Muslim scholars in the medieval age are void completely from Islamic attitude and spirit. The Muslim Scientists of today are obligated to the Muslim Ummah to bring the spirit of sciences back in accordance with the spirit of Islam. Concrete proposals with specific plans should be further pursued, both academically and practically in the process of Islamization of Science and Technology.*

Index Terms: Islamization, Science, Technology, Muslim Ummah.

I. Introduction

Scientific credibility emanates from the axiom that Science is the body of knowledge which is gathered by the use of scientific method. Since such a phenomenon is only possible while dealing with the material things, Science means that branch of knowledge which deals with the material world. Scientific method should be value dependent. Values vary from place to place, science does not. However the implementation of the fruits of scientific method can be and are value-oriented [1].

Six hundred years of scientific discoveries cannot be considered an accident. A good portion of this earth slept through these discoveries, which flowed from the Islamic culture that was profused with the spirit of thinking, discovery and free expression. Others were trying to free

* Assistant Professor, Dept. of Electrical and Electronic Engineering, IIUC, Dhaka Campus

** Associate Professor, Dept. of Electrical and Electronic Engineering, IIUC, Dhaka Campus

their societies from pernicious clutches of the clergy which was trying hard to inhibit scientific development. When logic reason and freedom to do scientific research were being curtailed, inhibited, questioned and persecuted by others, the Muslim civilization had embarked upon a journey set in motion by the Quranic attitude [2]. Muslims of today have come around a circle trading places with others. Now it is the Muslims who lack the Quranic attitude while others have borrowed and effectively adopted this attitude to their advantage.

II. Causes of Decline

Some of the historical causes that led to the decline of science in our countries and continue to retard its progress today are easy to recognize. In common with most countries in Asia and Africa, the Muslim world remained under colonial rules for the better part of the past century. Characteristically, the educational system was designed to produce low level bureaucrats needed to run the colonial administration. Scientific education received low priority and, worse yet, was often spurned by Muslims themselves who viewed all forms of western education as anti-religious. This bias against the new knowledge, although understandable, was incompatible with the teachings of the Prophet (saws) who urged Muslims to acquire knowledge even if it meant travelling to China, one of the most difficult-to-reach countries in his day.

Besides an aversion to science, there were other practical problems. Most of Muslim institutions have traditionally lacked adequate facilities for the teaching of sciences. Even today, many laboratories are poorly equipped, teaching methods are antiquated and the material taught frequently out-dated. One cannot entirely fault the teachers for the poor quality of education because they rarely have access to modern textbook and exposure to new techniques [3].

The poor quality education is not the only problem. In these countries, most students far more interested in promoting political and regional causes than in pursuing knowledge. For if the faculty members are not actively involved in research, the younger generation will receive neither the motivation nor necessary training to pursue research.

In our estimation, it is the lack of a truly Islamic approach to the academic disciplines that is at the core of the crisis confronting the Ummah today. While it is true that the majority of the Ummah is uneducated, and that basic literacy is a problem in its own right, the

problem is compounded when we see that those who do manage to acquire. For themselves an education, acquire with it the biases and attitudes that come part and parcel with the curricula and syllabi that frame that education [4]. While the majority of the Ummah is simply ignorant, the majority of Ummah's educated lacks an Islamic identity or sense of Islamic individuality. And this is the result of an educational benefit of even the least significant Islamic inputs. A Western observer, commenting on the state of education in Turkey during the last years of the 'Uthmani Khilafah' wrote, "if the dead point of a society is reached when the educational forces are no longer effective to influence or direct its development, it must be admitted that the dead-point was long since passed in Islamic society" [5].

Our countries are, by and large, ruled by dictatorial regimes having a greater stake in self –preservation than in scientific development. A major share of financial resources goes to military establishments while only a minor portion is invested in education and science. Occasionally, even the meager sums earmarked for scientific institutions are not wisely spent [6].

III. How Can We Develop

The Muslim World stretches from Morocco to Indonesia and beyond; and, consequently, each country has its own unique social, political and financial considerations that shape its policy toward science and technology. Because of this vast diversity, effective solutions have to be individually tailored. For the present, a closer collaboration among the Muslim countries would be beneficial. For example, a free and open exchange of scientists and scholars within this community should be encouraged and hands-on workshops aimed at teaching specific methodologies to investigators should be organized [7].

The present trend in some of our countries is to hold annual conference to which Western scientists are principally invited and treated like royalty does not benefit indigenous. Science even though it may promote some interest in tourism, most of the local scientists do not contribute significantly to these seminars and do not absorb what is presented by the outsiders. For a limited period, it would be more advantageous to invite scientists primarily from third-world countries with whom we can relate somewhat better and can engage in healthy competition [8]. Library facilities at most of our academic and research facilities are woefully inadequate, making it almost impossible for scientists to stay abreast of the latest progress in their research areas.

Our library facilities should be enhanced, library should be enriched and internet facilities must be obligatory. It is unrealistic to expect all universities to become centres of research. Most should concentrate on achieving excellence in teaching while a few should be designated as research universities. The latter should be provided with the best affordable facilities and staffed with the most talented researchers available. It is absolutely essential some systems for accountability in research [9].

With the perseverance of the scientists and the consistent support from governments, the future of science in Muslim countries will be bright. One day, in the not too distant future, we shall reclaim some of the eminence in the sciences that Muslims once enjoyed and cherished.

IV. Islamization of Science and Technology

If something is to be accepted in science, it must be established by means of proof, it must have a source and the method or methods used to reach it must be valid. Indeed, the same is true with regard to the sciences of Shariah. For anything to be valid it must have its basis in either the Quran or Sunnah, or in the Ijma or Qiyas. Moreover, all such details in the Shariah-sciences must have been obtained by valid methods.

What we mean by the Islamization of knowledge, it should first be clear that the sources of knowledge should be Islamic sources, i.e. revelation as represented by the Quran and Sunnah, and nature as manifested in the natural universe. [10] Secondly, the methods for obtaining knowledge must be Islamic methods, so that the God –given faculties of reason and the rest are used alongside the Fitrah-powers of discretion [11]. Finally, the results obtained by this formula must be consistent with the following criteria:

- Human nature
- The natural laws of the universe
- Islamic teachings: principles and injunctions
- Islamic values: both moral and aesthetic

Indeed, the Islamization of Knowledge is something that we feel to be the duty of everyone capable of contributing to it. In order to revitalize the Ummah, it is essential that its educational processes be revamped to reflect its own identity rather than the Pythagorean world view of

the available Western models. The following guidelines may prove to be beneficial:

- Whatever knowledge can be proven to be scientific fact may legitimately be accepted as Islamic.
- All knowledge must be fixed in the overall framework of The Islamic scheme of things with regard to life in the universe. In other words, the Muslim should never be allowed to lose his perspective. Indeed, the Quran is severe in its condemnation of the disbelievers over their inability to understand natural phenomena within the larger context of Allah's world-order.
- Anything found contrary to the universal principles of Islam must be rejected. This is where the efforts of Muslim social scientists will contribute to those of Muslim scientists and technologists in the establishment of an integral Islamic society by means of which man may fulfil his mission on earth.

Of a certainty, when Allah is the Creator and Author of both the universe and the universal religion, no article of religion will ever be found contradictory to the laws of the universe. The implications of this simple truth on entire scope of academic and intellectual activities are legion. Indeed, we are charged with putting to use the social and material imperatives governing life in the universe for the purpose of doing the will of Allah. But, unless the Ummah is infused with the spirit and dynamism of Islam, it will never realize its goals.

Thus, the burden to be shouldered by the Muslim scientist is indeed a ponderous one; as it is his or her task to acquire knowledge, to interact with it, and then to put it in a proper Islamic perspective so that it may be imparted thereafter from an Islamic point of view to younger, and increasingly more Islamically oriented minds. In the evolution of Muslim attitudes the very first development was the transformation of Quranic attitude into the scientific habit. Let us first look at the Islamic basis of such a transformation and the forces behind it. This will not only absolve Islamic heritage from being responsible for the ailments of Muslim attitude but will also re-establish the premise of Islamization of attitudes that once prompted development. The best Quranic term that invites human intellect to react with the processes of cause and effect, to our mind, is *tadabbur*. That is the Quranic invitation to the development of the scientific attitude. This prompted the human being to question his surroundings and base his inferences

upon solid and legitimate grounds [12]. Exercising more common sense than dogma, observation than blind faith intellect (al'aql) became prerequisite of inquisition of knowledge. Time and again the Quran invited, moreover challenged humans to reason and to arrive at the concept of Tawhid via observation and logic. It constantly reflected upon the laws of nature that operate in this universe and which are accessible to every human being.

“A token unto them is night. We strip it of the day, and see! They are in darkness. And the sun runs on unto a resting place for him. That is the measuring of the Mighty, the Wise.” [13]

“Surely in the creation of the Heavens and of the earth and in the alternation of the night and of the day are there signs for men of understanding.”[14]

“Such as remember Allah, standing, sitting, and reclining, and consider the creation of the heavens and the earth, (and say): Our Lord! You created not this in vain. Glory be to You! Preserve us from the doom of Fire” [14]

“Surely; there are signs in this for those who have aql” [15].

The Quran even challenged human intellect and experience to find any flaw in the universe and assured man that such will not happen [16]. The Quran ask of the disbelievers to offer their reasoning [17]. Whoever died, died after (being exposed to) the clear reasoning [18]. The Quran instructed its followers to speak to others in such a reasonable manner that it shall reach their very souls of understanding [19]. Then came a simple but profound challenge to the power of human tadabbur about the Quran itself.

“Why don't they exercise tadabbur over Quran; if it were from any one but Allah, they would have found many inconsistencies in it” [20].

In spite of excellent performance by individual Muslim scientists and engineers in foreign countries, the research output of Muslim universities is today negligible. This can only change by allowing more free competition and rewarding innovation rather than resisting it through fear that one will be required to learn more things to teach. Innovation is not to be achieved by simply copying the West. The

crushing weight of blind adherence to Islamic orthodoxy which emphasizes rigid observances of ritualistic ceremonies as a mechanistic formula for salvation was a major factor in the decline of Islamic science and this should be excluded from the Islamic universities [21].

The desire of getting into the main stream of science and technology, if there is any, is achievable within the resources and assets of the Muslim World. What is needed to achieve this goal can philosophically be described. It requires only long sightedness, perseverance and the order of priority. This matter (of getting into science) is of such great significance to the future of the Muslim Ummah that it should be regarded as vital as its security and stability itself. This issue is of no less importance if not more, or so it seems to us.

What should be the attitude of a Muslim scholar is no secret today. The great master, Muhammad (saws) has conveyed to it disciples in totality. What his disciples have acquired is very subtle and critical. What is critical is the use of skill, how to asses their potentialities and their limitations, how to improve, to rejuvenate.

- Scientific research method should be reviewed and integrated with Islamic thought.
- We need institutions for studies in Quran, Hadith, Shariah as well as science and technology in a mutual reinforcing environment.
- In reading the Quran and literature on Hadith of the Prophet (saws), the basic sources of information on Islam, one finds a great deal of emphasis on knowledge and the special position given to those with knowledge. One, therefore, wonders as to why the Muslims, professing
- Islam, do not appear to be the leaders in knowledge. In this case however it is not only necessary to understand why that may be the case but also to search for ways to correct the situation.
- The administration of science or engineering research centre can have a great influence on the quality of work done there. For the centre to be successful in the professional sense, at list a majority of the staff must have a sense of mission and must work toward the common good in line with Islamic values. This requires considerable self-discipline, suppression of self-interest,

and honest work for honest pay. Their goal should be advancing the state of knowledge, not personal advancement. They should recognize that the wealth and trappings of this world are nothing compared to the true rewards of service to science and service to community.

- A systematic plan should be discussed for The Muslim World to invest in the “knowledge business” the most prospering of all businesses.
- Textbooks can be written to teach science, at least in some areas, which carry an Islamic flavour. These text books can help a young scientist get a sense of his ideology and feel at home while studying science.
- The world civilization lacks very badly a universal benefactor. Islam can provide this. This is exactly the kind of negative environment. Islam came to correct. Any development on the part of Muslim countries must include such international leadership. Not only should the developing nations receive relief, the millions of common citizens of the West, who are tired of the vested interests in their midst, should feel relief and be grateful.

V. Overall Attitudes

One would say that it is in perfect with the spirit of Islamic philosophy as far as seeking of knowledge, evolving of new knowledge, sharing it with others and applying it to the betterment of mankind is concerned.

Most of the Muslim countries adopt or have adopted the research model followed by one of the developed countries which are, without exception, all secular in their approach to their life. This model may be suitable for a given developed nation from which it is borrowed. It may not be necessarily as effective for the country which borrows it if it is implemented without any modification suitable for its ideological and governmental objectives and to the needs of the society. In this context we must first understand what research is, how it is carried out in some developed countries, how and at what stages the Islamization can be instilled.

VI. Conclusion

No doubt, science and technology have rendered great services to man in raising his standard of living, and they have, above all, served the

need of satisfying man's quest of knowledge; there can be no two opinions on this issue. Yet, the absence of proper values to direct its development has led among other things, to an unprecedented arms race, producing enough arsenals to annihilate man's own existence. This is underscored by the fact that funds being spent on destructive capability by the major world powers are several times higher than those required for solving man's food, health and educational problems. All this should compel us to pause for a moment, search our consciences, and decide to do something in earnest to check our progress in directions that may ultimately destroy all progress. This brings us to the point of adopting a radically different approach.

The search for this approach has become all the more necessary in Muslim world, which finds itself sandwiched between the need for rapid progress in science and technology with a view to harnessing these for the basic needs of its teeming millions, on one hand, and the desirability of preserving the high ideals of its cultural, social and environmental systems, on the other. This can be done only by the way of Islamization of Science and Technology.

References

1. [1] Mehdi Golshani, "Philosophy of science: A Quranic Perspective" *Al-Tawhid (Tehran)* vol. 2 (1), 13, October 1984.
2. [2] Unus, Iqbal J., "Toward the Assimilation of Islamic Values in Scientific and Technological Development," 10th International Conference, Univ. Tech., Malaysia. p. 5, June, 1983.
3. [3] [12] M.Yameen Zubairi. "The Principle of Intrinsic Opportunity: It's Role in Islamization of Scientific Development," *Islamization of Attitudes and Practices in Science and Technology*, March 27, 1987.
4. [4] [7] [8] [9] Syed M. Amir, "Science Research in Muslim Countries," *Islamization of Attitudes and Practices in Science and Technology*, March 27, 1987.
5. [5] [10][11] Taha Jabir al Alwani. "Islamization of Attitudes and Practices in Science and Technology," March 27, 1987.
6. [6] Gibb, H. A. R., Bowen, Harold, *Islamic Society and the West*, vol. 1, Part-II, p.159-160, Oxford University Press, UK, 1957.
7. [12] Surah Al-Ghashiya 88: 17.
8. [13] Surah Ya Seen 36: 37-38.
9. [14] Surah Al-Imran 3: 190-191.
10. [15] Surah An-Nahl 16: 12.

11. [16] Surah Al-Mulk 67: 3.
12. [17] Surah Al-Baqara 2: 111.
13. [18] Surah Al-Anfal 8: 42.
14. [19] Surah An-Nisa 4: 63.
15. [20] Surah An-Nisa 4: 82.
16. [21] Ali Kyrala, "The Islamic Basis of the Coming Muslim Technological Renaissance," *Islamization of Attitudes and Practices in Science and Technology*, March 27, 1987.