

IS ISLAMIC SCIENCE POSSIBLE?

Muzaffar Iqbal

Enough has been said by the proponents of Islamic science and by those for whom even the term “Islamic science” is an oxymoron. In fact, too much has been said by both sides and the discourse has often spilled over to unrelated territories. Certain proponents of Islamic science find numerous recent scientific theories and even technological inventions in the Noble Qur’ān; some of their opponents reduce the eight hundred years of Islamic scientific tradition to a depot where Greek science was brought on horse-driven carriages and kept safe until it was recovered by its rightful heir—Europe. Some proponents of Islamic science see Darwin, Copernicus, Kepler, Newton, Harvey, and Einstein prefigured in al-Jāhīz, al-Bīrūnī, ibn Sīnā, Ibn al-Haytham, al-Ṭūsī, and Ibn Nafīs, while their opponents sarcastically ask what science Muslims have accomplished over all these centuries.

These are, admittedly, the extreme ends of the discourse, yet one of the most significant realities of the contemporary world is the fact that there is no such thing as “Islamic science” anywhere. So, even if there once existed a scientific tradition which can rightfully be called Islamic, and even if it existed for as long as it did, what remains to be proven is its relevance and applicability in the contemporary world; without such a demonstration all arguments for and against Islamic science are merely academic, dealing with a relic of the past, and while such debates are important for the history of science, their scope and relevance is limited. What is essential for this discourse to move forward is the actual emer-

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gence of a scientific tradition based on the foundational principles of the study of nature anchored in the Noble Qurʾān and the Sunnah.

These principles have been eloquently expressed by a small number of Muslim scholars over the last half century. Briefly stated, Islamic science is a science that takes the natural world as a sign (*āya*) of the One who created it in the first place and Who is continuously, singularly, and uniquely its Sustainer. Furthermore, it is a science that serves as a tool to utilize the bounties of nature for the benefit of humanity in a manner that is indicative of a deep awareness of the veritable relationship of humans to these bounties granted by the Creator Who placed human beings as stewards and *khulafāʾ* of all that He created. A third significant aspect of science practiced from within the traditional Islamic view of the natural world is the organic and dynamic relationship between scientific investigation and the real and true needs of humanity. It is possible to invest disproportionate resources on one particular aspect of science and its applications—such as high-tech weapons, space or deep sea explorations intended to meet certain needs of the defense industry, or medical techniques which would only be practically available to rich and influential people—such an orientation for scientific research does not reflect Islamic principles and values. These and other aspects of a new tradition of science and technology, firmly anchored in the Islamic *weltanschauung*, delineate and define differences both in theory and practice that set it apart from a science and technology not so grounded and rooted.

Given the unambiguous position of Muslim scholars on the nature of Islamic science, one would expect that by now a readily identifiable revitalized Islamic scientific tradition and, consequently, a community of Muslim scientists would have come into existence. Yet there is neither such a revitalized tradition nor such a scientific community. There are, indeed, thousands of distinguished scientists who are Muslim, but one cannot find Muslim scientists dedicated to the exploration of the natural world from within the Islamic worldview. Does this mean that all formulations of Islamic science are merely theoretical propositions with no real potentiality? In other words, are the claims of the opponents of Islamic science really true? Still another way of asking the same question is: Is Islamic science really possible in the contemporary world?

An affirmative answer to this question is not another book or article on Islamic science, but an actually discernible and living tradition of science that clearly stands out against the ubiquitously present science and technology based on the principles first outlined by Western philosophers

and scientists during the European Renaissance and since then put into practice by successive generations. This science and its applications have not only given humanity certain useful discoveries, techniques, and products, but has simultaneously reshaped life in its own image. It has done so by removing God from the center of the cosmos and by restructuring the entire rhythm of life against nature, against all that is profound and worthy of constant reflection. That it has done so needs no more proof than the loud and clear lament of the Earth. One needs only to look at the readily available data produced with the help of instruments and tools developed by this same science. This data is real, verifiable, and unambiguous in stating the sad tale of devastation suffered by mountains and oceans, rainforests, rivers, ecology, and the ozone layer.

That it is modern science and technology which have empowered human beings to cause a large-scale, unprecedented devastation to the natural world is uncontestable, but it can be—and has been—argued that it is the wrong use of science and technology and not merely modern science and technology per se, which has caused this destruction. This argument is, however, not valid, because a science severed from the Creator could have produced no other result. Such a science and its products cannot but be handmaidens to a greed-driven economy and devastating tools in the hands of those who possess them.

Modern science is not a stand alone enterprise; it is a subset of a larger system based on a particular view of nature and humanity. Those who have developed it have done so in a manner most befitting their concept of nature and humanity. It has been pressed into the service of the system from which it emerged. One needs only to feel in one's heart the agony and suffering of millions of human beings at the moment when their lives were being extinguished by deadly bombs dropped from the skies to understand the true nature of the modern enterprise of science and technology. It is simply not possible to invent a cruise missile and keep it in the closet. Those who make weapons of mass destruction and place them in the hands of men and women who command their use are equally responsible for the deaths of young babes and fragile old men and women who have been annihilated in the very act of living their everyday lives in their homes and places of work. Nations empowered by modern science and technology could not have behaved in any other manner than the particular way they have, for to possess power of this kind means its usage is most probable. And those who have discovered these scientific principles and developed these deadly technologies cannot escape the responsibility for what they have done.

If the large-scale devastation witnessed by humanity and natural habitats during the twentieth century has taught us anything, it is imperative that a new awareness must emerge in the scientific community. In order to reclaim a saner vision of life and death, the scientific community cannot continue to compartmentalize faith and science; rather, science and faith must form a single and unified spiritual, ethical, and moral commitment, the latter informing the former. While all believing scientists have a responsibility to reexamine what they have made possible by providing to certain people tools and means to wrought unprecedented destruction of human and natural life, Muslim scientists have an added role in this reexamination, for they are supposed to be the witnesses, the carriers, and the true examples of the message of the Noble Qur'ān.

At the practical level, the most significant impediment to the emergence of a global community of Muslim scientists—and hence Islamic science—is the severance of Muslim scientists from their own religious and intellectual traditions. Since they invariably emerge from secular educational institutions, their education and training alienate them from their own tradition. This is not to say that Muslim scientists are not pious Muslims, but to point out that they are not able to holistically integrate their faith and profession; their science remains firmly rooted in a vision other than that of Islam. *Madrasa*-trained 'ulamā', on the other hand, do not receive adequate scientific training to practice science as a profession.

An obvious and practical solution to overcome this impediment is to dedicate a certain number of *madāris* in the Muslim world as special institutions where traditional sciences are accompanied by a thorough study of various disciplines of science. This would be perfectly in line with past practice, when certain *madāris* served the dual purpose of being the centers of religious as well as natural sciences. The still-standing fabulous *madrasa* of Ulugh Beg in Samarqand is one such example. We have an inside account of the high level of religious scholarship accompanied by an equally high level of scientific investigations taking place at this *madrasa* in the form of a letter written by Ghiyāth al-Dīn al-Kāshī, a most accomplished mathematician and astronomer of the ninth/fifteenth century. Al-Kāshī wrote this letter to his father shortly after his arrival in Samarqand around 823/1420. The letter speaks of the “Sultan [Ulugh Beg] being extremely well-educated in the [sciences of] the Qur'ān, in Arabic grammar, in logic, and in mathematical sciences”. It mentions the presence of sixty or seventy astronomers and mathematicians in Samarqand at the Sultan's *madrasa*. Another account (by Kevin Krisciunas) states that “at the

time Ulugh Beg's observatory flourished, it was carrying out the most advanced observations and analysis being done anywhere. In the 1420s and 1430s, Samarqand was the astronomical and mathematical capital of the world". This is, by no means, an isolated example of the presence of such dual-purpose *madāris* in the Muslim world.

It might be advanced that science has expanded and changed so much since Ulugh Beg's time that it is no longer possible for a person to master even one of its branches and simultaneously be a master of religious sciences; that the students of *madāris*, if required to study natural sciences in addition to the traditional curricula, will be neither 'ulamā' nor scientists.

This objection is invalid for two reasons: (i) what is being proposed is a well-planned effort to institutionalize the study and practice of natural sciences in *certain* *madāris* in various parts of the Muslim world and not to turn *all* *madāris* into dual-purpose institutions. Thus even though these dual-purpose *madāris* may not produce enough religious scholars of the same caliber as they now do, there will be other *madāris* fulfilling that role; and (ii) granted that modern science has expanded and each of its branches has become extremely demanding, there is yet no proof that its study and practice is only possible at the expense of all other subjects; after all, contemporary scientists emerge from institutions where they study many other disciplines before specializing in a given branch of science. There is absolutely no reason why a person who has memorized the Noble Qur'ān at the traditional age of seven to ten, and who has acquired sufficient grounding in one of the areas of religious sciences by the age of twenty along with an elementary study of natural sciences, cannot dedicate the next ten years of his or her life to master chemistry or physics or astronomy in an institution where these sciences have become part and parcel of a new curricula based on the Islamic view of nature.

In any case, what is being proposed is not a fixed recipe but a practical solution that needs to be implemented through a creative and dynamic collaboration between serious and dedicated scientists, social scientists, and religious scholars. What is needed as a first step is the establishment of a new institution—a dual-purpose *madrasa*—where the vision of Islamic science can become a reality. This is certainly not too much to ask; ten or fifteen better-organized and better-funded *madāris* in moderately prosperous Muslim states such as Malaysia, Saudi Arabia, Kuwait, and Iran can be easily turned into such institutions. These newly established dual-purpose *madāris* can begin by attracting a certain number of accomplished scien-

tists, creative men and women trained as social scientists, and ‘ulamā, dedicated to the task of creatively exploring practical ways to establish a tradition of science anchored in the profound vision of Islam as a fulfillment of a *farq al-kifāya* that no one has undertaken so far. A serious and dedicated initiative of this kind can easily produce visible results within a short period of time and certainly by the time these dual-purpose *madāris* produce their first crop of ‘ulamā²-scientists by 2025.

Once sufficient creative links have been established between working scientists, ‘ulamā, Muslim thinkers, and social scientists, there would emerge natural affinities and intellectual links with the centuries-old tradition of Islamic science and the whole process will generate enough interest, momentum, and visible results that would stand out as viable alternatives to the results and products of profane science and technology that now dominate human existence in all parts of the world. Once the benefits of Islamic science become apparent, there will be sufficient and compulsive reasons for more and more scientists to join this effort.

Thus reclaiming its lost position, the reemerging tradition of Islamic science would prove, by its sheer existence, that those who have been its proponents in the lean years were not the inheritors of wind but harbingers of a science immensely more beneficial than the one which has brought humanity and the planet to its present abysmal state. In the presence of this conclusive proof of the viability and rigorous application of the Islamic vision of the natural world, all objections against the notion of Islamic science would be laid to rest forever.

Waʾllāhuʾl-mustaʿān, wa mā tawfīqī illā biʾ-llāh

Wuddistān

27 Dhūʾl Ḥijjah, 1429/December 26, 2008