

THE QUR'AN, SCIENCE, AND THE (RELATED) CONTEMPORARY MUSLIM DISCOURSE

by *Nidhal Guessoum*

Abstract. We discuss the special place of the Qur'an in the Muslim discourse in general and on science in particular. The Qur'an has an unparalleled influence on the Muslim mind, and understanding the Islamic treatise on science and religion must start from this realization. We explore the concept of science in the Islamic culture and to what extent it can be related to the Qur'an. Reviewing various Islamic discourses on science, we show how a simplistic understanding of the plan to adopt modern science within an Islamic revival program has been corrupted in the form of the theory of "scientific miraculousness of the Qur'an." We assess and dismiss this theory but use it to show how a serious misunderstanding of the nature of modern science and a narrow view of the Qur'an has led to that embarrassingly popular yet misguided theory. We conclude by promoting a multiplicity of readings of the Qur'an and show that this allows for an enlightenment of one's interpretation of Qur'anic verses, using various tools at one's disposal, including scientific knowledge. We uphold Averroes's principle of "no possible conflict," which can be used to persuade the Muslim public of a given idea not by proving that it can be found in the Qur'an but rather by showing that at least some readings of it are fully consistent with the given scientific theory.

Keywords: Islam and science; Qur'an and science; the Qur'an in the Islamic worldview; scientific exegesis

"In the beginning was the Qur'an." With this smart takeoff on the opening sentence of Saint John's Gospel, Fr. Georges C. Anawati,¹ an Egyptian Dominican scholar and specialist of Islamic thought, aptly and pertinently sums up the status of the Qur'an in Islam (Anawati 1979, 350).

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Many other authors have expressed in similar ways the extraordinary position the Qur'an occupies in the Muslim culture. Sachiko Murata and William C. Chittick, for instance, refer to it as "an event of overwhelming significance" and add: "The text is undoubtedly one of the most extraordinary ever put down on paper" (1994, xiv, xix). More recently, Reza Aslan adopted Kenneth Cragg's phrase, calling the Qur'an "the supreme Arab event" (Aslan 2005, 157). Aslan refers to the common Muslim view that the Qur'an is Muhammad's God-given miracle, noting that "In Muhammad's time, the medium through which miracle was primarily experienced was neither magic nor medicine, but language" (p. 156).²

In their daily lives, Muslims treat the Qur'an as a sacred book and object, both in the text it contains and as a package. Among the many examples one could cite in this regard are that the Qur'an is always supposed to be placed on top of a pile of books, it must never be put on the ground, no Muslim would carry even fragments of it into a bathroom, and one is supposed to touch a Qur'an only after having performed ablutions (the rites of cleaning that one undertakes, usually with water, before prayers).

Westerners often are surprised by the constant referral to Qur'anic verses by both Muslim scholars and lay persons on any topic of importance. In fact, referring to the place and role that the Holy Book occupies and plays in Muslims' lives today, Suha Taji-Farouki notes that not only do "millions of people refer to the Qur'an daily to justify their aspirations or to explain their actions" but further considers the scale of that kind of "direct reference" to be "unprecedented in the Islamic experience" (2004, 20).

Seyyed Hossein Nasr sums up the high position and role of the Qur'an in Islam: "As some Western scholars of Islam have noted, there is perhaps no single book that is as influential in any religion as the Qur'an is in Islam" (2004, 23). He also has remarked that even though the Qur'an can be compared to the Old and the New Testaments, the proper analogy to be made in Christianity is not with the Bible but rather with Jesus Christ himself. Indeed, both the Qur'an and Jesus can be defined as God's *logos*, sent by God in similar forms to Muhammad and to Mary. Furthermore, in Christianity both the spirit and body of Christ are sacred, in the same way that we have noted with regard to the Qur'an, that is, as text (in Arabic), as meaning(s), and as object. In fact, many Muslims regard the Arabic language itself as sacred in a way, for it carries the original word of God. That is why Nasr rejects the "rationalist and agnostic methods of higher criticism" that secular scholars propose to apply to the Qur'an as a text, just as Christians would object to having the remains of Jesus (were they to be found intact) dissected and subjected to "modern medical techniques" with the aim of determining whether Jesus was born miraculously or was the son of Joseph (Nasr 2004, 23).

Indeed, a defining feature of the Qur'an is the otherworldly quality it exhibits in its original Arabic version. In fact, the gap in quality that sepa-

rates the Arabic Qur'an from any and all translations is so huge that non-Arabic speakers often are both confused by the text in its translated form and bewildered by Muslims' claims that it is the most uniquely beautiful text ever to appear in the history of humanity. Aslan reminds us that to this day "Muslims of every culture and ethnicity must [in prayer recite] the Qur'an in Arabic, whether they understand it or not," recalling that "the message of the Qur'an is vital to living a proper life as a Muslim, but it is the words themselves—the actual speech of the one and only God—that possess a spiritual power known as *baraka*" (2005, 159). Murata and Chittick echo this sentiment: "only the Arabic Qur'an is the Qur'an, and translations are simply interpretations." They even go so far as to state that "The Arabic form of the Koran is in many ways more important than the text's meaning" (1994, xvii).

The Qur'an plays a central role in defining the beliefs, the lifestyle, and the worldview of Muslims. Cragg notes that Muslims regard it as "the groundplan of all knowledge" (1988, 15). He draws the essential conclusion, which we will use as an important principle in our discussion, that the Qur'an "is always the arbiter to which verdicts must appeal and whose support they will assume. *We may say that if Muslims are to be assured on any and every issue, they will need to be Qur'anically persuaded, however variously they invoke it*" (1988, 28; emphasis added).

The Qur'an cannot, however, be viewed as a classic book that expounds a given philosophy. Indeed, the Book describes itself as guidance for humans, one that is both spiritual and temporal. Nevertheless, as Anawati rightly notes, the Qur'an does present a certain philosophy of nature. Muzaffar Iqbal goes further and points to entire cosmological sciences, with "the Qur'an contain[ing] a significant number of verses that describe the origin of cosmos and life" (2002, 89). He even refers to "the cosmological data found in the Qur'an," which he does not mean literally but rather in the sense of "information" (p. 89).

The Qur'an makes an important distinction regarding existence and beings between the unseen, *ghayb*, and the visible, *shahada*, the latter referring to phenomena that take place in the physical world and thus can be perceived, described, and studied through our sciences, and the unseen referring to everything that cannot be known to humans except by divine revelation. In the classical Muslim understanding, the unseen encompasses not only the realm of the divine, including angels, paradise, and hell, but also future events, which only God knows. For a long time Muslims believed, on the basis on their literal understanding of some Qur'anic verses, that the gender of an unborn baby is only known to God, and the place and time of death of each one of us is likewise *ghayb*. Such literal understandings, when confronted with modern scientific (medical) knowledge, led many Muslims to realize that first-degree readings of the Qur'an can lead to contradictions and predicaments.

Considering the fundamental importance of the Qur'an in Islam, the art and science of interpreting the Qur'anic text is a central intellectual activity and area of debate in the Islamic tradition. Muslims have developed a suite of "sciences" around the Qur'an that are referred to collectively as *'ulum al Qur'an* (the sciences of the Qur'an). They include exegesis in its two forms, *tafsir* (literal interpretation) and *ta'wil* (allegorical interpretation), occasions of revelations (of each verse), chronology of revelation, readings (as there are slightly different ways of reading some verses), the art of recitation, and so on.

Although the Qur'an is unique and unified in its form, the meanings it presents are diverse and multiple. Murata and Chittick emphasize the importance of the variety of interpretations that can be produced from the Qur'anic verses: "One of the sources of the richness of Islamic intellectual history is the variety of interpretations provided for the same verses. Muslim thinkers often quote the Prophet to the effect that every verse of the Koran has seven meanings, beginning with the literal sense; and as for the seventh and deepest meaning, God alone knows that." These authors then add, between parentheses: "The Prophet's point is obvious to anyone who has studied the text carefully" (Murata and Chittick 1994, xiv). Mohamed Talbi, a contemporary historian and scholar of Islam, concurs: "There is not *one* reading key for the Qur'an, but rather *several* keys, all at the same time subjective and objective" (Talbi and Bucaille 1989, 13).

A strong confirmation of this possibility of multiple readings and interpretations of some of the Qur'an's passages can be found in the Qur'an itself. Indeed, Muhammad Asad refers to the following verse as "the key-phrase of all its key-phrases" (Asad 1980):

He it is Who hath revealed unto thee [Muhammad] the Scripture wherein are clear revelations—they are the substance of the Book—and others [which are] allegorical. But those in whose hearts is doubt pursue that which is allegorical, seeking [to cause] dissension by seeking to explain it [for their own goals]. None knoweth its explanation save Allah. And those who are grounded in knowledge say: We believe it; all of it is from our Lord. (Qur'an III-7)

Asad comments: "Thus, the Qur'an tells us clearly that many of its passages and expressions must be understood in an allegorical sense for the simple reason that, being intended for human understanding, they could not have been conveyed to us in any other way." He explains the reason for the allegorical form given to many of the Book's verses:

. . . all truly religious cognition arises from and is based on the fact that only a small segment of reality is open to man's perception and imagination, and that by far the larger part of it escapes his comprehension altogether. . . . How can we be expected to grasp ideas which have no counterpart, not even a fractional one, in any of the apperceptions which we have arrived at empirically? The answer is self-evident: By means of loan-images derived from our actual—physical or mental—experiences.

He supports this viewpoint with Zamakhshari's³ commentary on the XIII-35 verse: "through a parabolic illustration, by means of something which we know from our experience, of something that is beyond the reach of our perception. . . ."

No discussion of approaches to and readings of the Qur'an can be considered complete without mention of Mohamad Shahrour, a controversial Syrian thinker who burst on the scene in 1990 with a highly original book⁴ that was no less than an earthquake and may one day be considered the start of a revolution in Islamic thought. Indeed, Shahrour has been called "a Martin Luther of Islam" (Eickelman 1999, 140) and an "Immanuel Kant in the Arab World" (Nabielek 2000, 73). His groundbreaking book has been considered as potentially the Muslim equivalent of Martin Luther's 95 Theses (Taji-Farouki 2004, 16).

In this book, Shahrour produces an original reading and interpretation of the Qur'an that is based on the principle that each word in the Qur'an has a precise and unique meaning (there are thus no synonyms in the Book). Indeed, he dissects the text in an attempt to unlock a "semantic code" that then allows him to find connections between verses that produce a new and heretofore unexpected meaning. However, as Andreas Christmann remarks in his review of Shahrour's work, "The problem that lies in such a literalistic and essentialist approach to meaning is . . . that it prevents him from acknowledging any symbolic or metaphorical meanings, inasmuch as it does not allow any appreciation of the different usage of one term within the Qur'an" (2004, 272).

One of Shahrour's main principles is his differentiation between "the permanence of the textual form" of the Qur'an and "the movement of its content" (1992, 42–88). For him, the Book's uniqueness or "miraculousness" (*I'jaz*) lies in the dialectical relation between the permanence of the text's form and the movement of the text's content, which then allows not only for new readings to be made and new meanings to be found by humans of all ages but also for gradually obtaining a larger and larger share of the divine knowledge. In this way Shahrour rejects the traditional views regarding the Qur'an's "miraculousness," a feature of the Book that usually has been described either in terms of its form (aesthetic) or its content (guidelines and injunctions). Instead, the Syrian thinker finds uniqueness in the Qur'an's infinite potential for interpretations (*ta'wil*).

In another revolutionary move, Shahrour declares such interpretations to be open to everyone, specialists or not, Muslims or non-Muslims, Arabic speakers or non-Arabic speakers. Christmann comments:

Shahrour holds this view, which overturns everything that has previously been prescribed as the prerequisites for *ta'wil*, on the basis of his exegesis of Q III-7, which has led him to the conclusion that "those who are deeply rooted in knowledge" (*al-rasikhun fi al-'ilm*) are not, as conventionally assumed, the most learned and devout among the *ulama* and *fuqaha*, but "scholars and philosophers who

occupy the most eminent place in society. . . . Among the examples of such *ta'wil* which Shahrour cites are Newton's theory of gravity, Darwin's theory of evolution, and Einstein's theory of relativity. (2004, 282–83)

It is indeed a very novel and revolutionary approach to the Qur'an.

SCIENCE AND ITS PLACE IN THE ISLAMIC WORLDVIEW

The concept of science and its place in the Islamic tradition pose a fundamental problem from the start. Indeed, the word commonly used for science in Arabic today—and one that is found in the Qur'an—is *'ilm*. Many observers dispute the meaning of this term, pointing out that it did not originally (in the Qur'an and in the works of the classical scholars of Islam) have the same definition that it has acquired today, namely, the field and the methods of investigation of the world.

Some orthodox Muslim scholars, among them Farouq Ahmad Al-Dassouqi, insist that *science* must be defined broadly such as to include, and thus give equal status to, the “religious sciences” along with the natural sciences:

Some westernized and secularized thinkers refer to “religious sciences” as “religion” and limit the term “science” to “experimental sciences”; in fact this trend has almost made the practice the de facto definition of the terms, so that when they say “science”, it is clear that they mean “experimental science.” . . . And if “science” is the human knowledge that rests on evidence that leads to certainty, then the Islamic religious sciences do rest on such bases, and therefore we are not abusing the truth or being biased to the religion when we denote them as “sciences.” (Al-Dassouqi 1987, 104–5)

In stark contrast with this view is the insistence of some scholars on a clear and strong differentiation between “science” and *'ilm*, which is supposed to be understood more as “knowledge.” Such a necessary differentiation is expounded by two authors who have written books with the same title (*Islam and Science*) but with quite opposite perspectives: Pervez Hoodbhoy (1991), who defends the Western, secularist conception of science, and Muzaffar Iqbal (2002), who represents what we may call a neo-traditionalist Muslim vision of science. Hoodbhoy tells us that

enormous confusion surrounds the definition of *'ilm* (knowledge). Franz Rosenthal lists 107 definitions, and a 16th century Arab scholar has given 316. Muslim scholars have yet to give a definitive view on how to relate the various specializations of modern knowledge to the original Qur'anic interpretations of *'ilm*.” (1991, 137)

Iqbal notes,

Almost all reformers translated the Arabic word *'ilm* (knowledge) as “science” (meaning modern science) and framed their discourse on the necessity to acquire knowledge upon which the Qur'an insists and which has been made obligatory for all Muslims by the Prophet. . . . This reduction of the word *'ilm* was conveniently used to produce a new strand of Islam and science discourse. (2002, 244)

Iqbal decries the reformists' blindness to the "implicit worldview, philosophy, and metaphysical assumptions in [modern] science" (p. 265).

Nasr also rejects the presumed compatibility of (modern) science with the Islamic concept of *'ilm*; according to him, *'ilm* is knowledge in the religious or even sacred sense, and its pursuit is a duty, but modernists tend to deliberately conflate it with Western science, and this is most dangerous, for the latter tends to "corrod[e] the foundations of the citadel of Islamic faith" (Nasr 1982, 176). Hoodbhoy comments: "I believe that Nasr has indeed raised an important point by questioning an assumption which lies at the heart of the Islamic modernist thesis and is rarely explicated. But his strident rejection of modern science as anti-Islamic can only be accepted by the rigidly orthodox" (1991, 72).

Another important Islamic voice regarding modern science is Ziauddin Sardar, who argues that Islam's problem with modern science lies mainly in the latter's lack of ethical guidance and constraints but also, more generally, in an epistemology that is in conflict with the Islamic worldview. Sardar explains his vision of an "Islamic science" in various publications (Sardar 1984; 1989), including his autobiographical intellectual story *Desperately Seeking Paradise*:

What happens to modern science if its basic metaphysical assumptions about nature, time, the universe, logic and the nature of humanity are replaced by those of Islam? What if nature, for example, is seen not as a resource to be exploited but instead as a trust to be nursed and nourished? . . . How would science itself change when we consider human values, moral and ethical principles to be integral to the process of doing science? (Sardar 2004, 328)

Hoodbhoy finds Sardar's Islamic philosophy of science to be woefully naive. Regarding the above positions, he calls for "a truce . . . to be declared in the continuing [Islamic] opposition to modern science as an epistemological enterprise" (1991, 137).

To sum up, at the heart of the dispute is the issue of whether science, in its modern definition, is compatible with the traditional Islamic concept of *'ilm*. The positivist Hoodbhoy and the neotraditionalists Nasr, Iqbal, and others agree on one thing: that modern science is an intrinsically secular pursuit. Muslim reformists attempt to find some common ground between the Islamic worldview and the Western conception of science. Each of the two camps bases its philosophy on a particular, and quite coherent, reading and interpretation of the Qur'anic text. In my view, the central issue in the Islam-science discourse is the hierarchical positioning or place of the Qur'an in the scientific enterprise. To a non-Muslim or Western mind this may seem a strange issue to view as central. In the first section of this essay, however, we established the special place that the Qur'an occupies in the Muslim worldview and psyche, so this may be more understandable.

Do Muslims feel that they must pass the knowledge they gain by some methods through the Qur'anic filter to check for its validity, or does science carry its own rules for checks and balances that Muslims can go by? Does the Qur'an somehow carry primacy over all knowledge, or can science claim independence and internal consistency and completeness?

The answers of Muslim thinkers to these questions have varied over the ages and vary widely still today. The thinkers' stands usually reflect their attitudes regarding the Qur'an and the way it should be read and understood. Al-Dassouqi, representing a widely held distrusting attitude toward the social sciences in particular, essentially rejects any validity of these fields and proclaims the Qur'an and the Hadith to be the prime references for all questions that relate to humans. He writes: "The sciences of psychology, social life, education, history, politics, and economics, must spring from the Holy Qur'an; it is [religiously] unlawful for Muslims to adopt sources or references for these sciences other than the Qur'an and the Hadith" (1987, 113). Another very influential conservative writer and thinker, Anwar Al-Jundi,⁵ concurs:

The so-called human and social sciences are nothing more than human mental experiments that have sprung from particular environments, experiments that are limited and not universal and are directly related to their times and cultural and social settings; hence they cannot be considered as universal sciences that are valid for various societies and eras. . . . These human and social sciences were the products of a materialistic conception of man, a paradigm that is based on Darwin's theory and its interpretations by social scientists like Herbert Spencer, and later elaborations by people like Freud and Durkheim. . . . Islam rejects the application of the methodology of experimental sciences on human and social sciences, because these relate to man, who, unlike matter, cannot be subjected to experimental operations. (1978, 28)

Al-Jundi goes on to shed heavy doubts and suspicions on (and ultimately rejects) the experimental scientific method itself:

Islam has placed constraints and reservations on the western experimental science, its principles and applications. Indeed, western science springs forth from a deceitful arrogance, for it denies the creator of life and of the universe and replaces the "divine" with "nature," and this is western science's biggest mistake. Furthermore, it rests on a materialistic philosophy and thus denies all spiritual and moral aspects of man and of life, which leads it to miss important connections between man, science, and God. . . . Both Darwin's theory and the Big Bang are null and void; indeed the former has a 'missing link', yet how can a theory that is missing an important element be at the forefront of science and be the dominant paradigm for over a century; the latter (the Big Bang) lacks any evidence and is mere speculation, and the Qur'an rejects such speculation, particularly on the topic of the universe's creation.⁶ (1978, 32)

It is clear that the positions of the orthodox school betray a serious misunderstanding and ignorance of the methodologies of science.

The reformers, however, did understand the tensions that exist between the two spheres of knowledge. In a very honest reply to a speech by Ernest

Renan in 1883 on the “incapacity” of Islam to develop a modern science, the leader of the early twentieth century reformist movement, Jamal-Eddine Al-Afghani, wrote: “Whenever the religion will have the upper hand, it will eliminate philosophy [that is, science]; and the opposite happens when it is philosophy that reigns as sovereign mistress. So long as humanity exists, the struggle will not cease between dogma and free investigation” (Renan n.d., 59). Still, Al-Afghani proclaims his belief that in the end one will not encounter any “incompatibility between science and knowledge and the foundation of Islamic faith” because Islam “is the closest of religions to science and knowledge” (Keddie 1968, 107).

Indeed, one of the most ubiquitous ideas that one encounters in all of the Islamic literature is the claim that the Qur’an contains “all knowledge,” sometimes with the emphatic addition “of the ancients and the moderns.” The idea, which can be traced back at least to Al-Ghazzali,⁷ is usually justified by reference to the Qur’anic verse “We have neglected [or ignored] nothing in the Book” (VI-38). The modernists/reformers, however, interpret this verse to simply mean that the Qur’an contains general principles of all matters that are important for human beings to know.

A trend has thus appeared in the twentieth century: the claim that this Qur’anic encyclopedic completeness principle must also be applied to modern science and knowledge, so that everything true that humans will discover can somehow be found in the Qur’anic text, if explored properly.

There are two versions of this trend: (1) the “scientific exegesis” school, which stipulates that modern scientific knowledge must be used, along with other tools, to better comprehend some passages of the Qur’an that could not be properly interpreted in earlier times, and (2) the school of the “scientific miraculousness of the Qur’an” (*I’jaz*), which claims that many verses of the Qur’an, if read and interpreted “scientifically,” express in semi-explicit ways scientific truths that were discovered only recently and that therefore the Qur’an is scientifically miraculous, pointing to a divine origin. We explore this trend in some detail in the next section. A full treatment of the topic, however, would take us well beyond the scope of this essay; here we aim only to address one of the main themes of this article, namely, how the relation between science and the Qur’an became corrupted in large parts of the contemporary discourse on Islam and science.

MODERN SCIENCE IN THE QUR’AN?

In the autobiographical intellectual story that Sardar relates in *Desperately Seeking Paradise*, when he describes and defends his “Islamic science” thesis to one of his educated friends, the latter—highly skeptical of the whole concept—retorts: “Your idea of Islamic science has been hijacked by fundamentalists and mystics. The fundamentalists are looking for scientific miracles in the Qur’an. Everything from relativity, quantum mechanics,

big bang theory to the entire field of embryology and much of modern geology has been ‘discovered’ in the Qur’an” (Sardar 2004, 329).

We shall return shortly to this theory of the “scientific miraculousness of the Qur’an.” First, however, we examine the other approach, commonly referred to as “scientific exegesis,” which advocates using scientific (and other) knowledge in one’s interpretations of various passages of the Qur’an.

This school of interpretation is intimately linked to the reform movement, which emerged in the mid-nineteenth century with such leaders as Al-Afghani, Sayyid Ahmad Khan, and Muhammad Abduh, all of whom were seriously concerned both with “proving” a modern potential of Islam vis-à-vis the West and with producing a vibrant but genuine revival movement among Muslims, one built on modern attitudes of reason and progress. (Some authors claim that the great classical twelfth-century Qur’an commentator Fakhr al-Din al-Razi must be considered as a precursor of this school, for he used the scientific knowledge of his time to illuminate his exegetical efforts.) Khan and the reformers insisted that the Qur’an and nature must both be regarded as covenants between God and humans, and hence they not only cannot ever be in contradiction but must mirror each other in harmony. Khan was so eager to show a compatibility of Islam with Western Enlightenment principles that he reinterpreted many verses of the Qur’an in a way that erased any meanings of miracles or supernatural phenomena. Abduh, Al-Afghani’s disciple, produced a full-fledged commentary (*tafsir*) of the Qur’an, although he died before finishing it, in which he not only used science to reinterpret some concepts and events⁸ but, more important, gave science the final word on the meaning of any verse that dealt with natural phenomena. We shall come back to this point. Still, none of these reformers could be considered as pioneers of the “scientific exegesis” trend, for exegesis was not their main interest; they simply tried to harmonize the Qur’an with science in order to show the modernity inherent in Islam.

According to Rotraud Wielandt (2002), the “scientific exegesis” approach was started by Muhammad al-Iskandarani, a physician who around 1880 wrote two books that purported to “uncover the luminous Qur’anic secrets about heavenly and terrestrial bodies, the animals, the plants, and the metallic substances” (the title of the first book). He was followed by others, with bolder agendas, particularly that of Tantawi Jawhari, who in 1923 produced nothing less than a full Qur’anic encyclopedia of scientific subjects, complete with pictures and tables, proving point by point that the Qur’an contained “jewels” (*jawahir* in his title) of knowledge that preceded all modern discoveries.

Recent advocates of this approach include the French surgeon Maurice Bucaille (although he sometimes falls into the “scientific miraculousness of the Qur’an” trend⁹), Mustansir Mir, Jalees Rehman,¹⁰ Abd-al-‘Aleem Abdul-Rahman Khudr, and even Talbi to some extent. In a 2003 article on the

subject, Rehman cites the following as examples of “attempts to explain Qur’anic verses in the light of modern science”: “explanations of the flood in Prophet Noah’s time as a melting of ice caps” and “diseases associated with the consumptions of pork and alcohol.” Perhaps realizing the feebleness of such programs, he adds, “Many . . . authors [of such attempts] have the best intentions and often believe that showing correlations between the Qur’an and modern science produces Islamization of science.” He admits that “one danger of such attempts to correlate modern science with the Qur’an is that it makes a linkage between the perennial wisdom and truth of the Qur’an with the transient ideas of modern science” (2003, 245–52).

Many scholars have expressed objections to the whole approach. Wielandt (2002) summarizes them as (1) often assigning untenable meanings to some of the Qur’anic vocabulary; (2) downplaying the occasions of revelation (*asbab al-nuzul*) and the textual context of the verses under consideration; and (3) disconnecting the verses from the social and cultural context in which they were revealed. Sami Ahmed al-Musili (2001) adds two more critical remarks: (1) in “scientific exegesis,” the perfect Qur’an is subject to the imperfect knowledge of humans (science); and (2) this approach is elitist by nature and is not accessible to all Muslims.

None of these objections is serious, in my view; indeed, the first three disregard the idea that the Qur’an must not be culturally bound to seventh-century Arabia, that it must be relevant to all people, provided they make an intellectual effort to make it so, and all five ignore the main idea we are advocating here: that the Qur’an carries a multiplicity of meanings and can therefore be illuminated by—and by reflection enlighten—any reader, scientifically or literally inclined, rationally or spiritually minded.

In a more recent article, Mustansir Mir (2004) considers the viability of the “scientific exegesis” approach. Attempting to defend it in a reasonable way, he points out, first, that this type of exegesis should be considered as one approach to the Qur’an just like any other (linguistic, theological), and, second, that the “scientific” approach arose “in response to real and concrete needs. . . . Today the dominance of science and the scientific worldview would seem to encourage, even necessitate, the cultivation of *tafsir ‘ilmi* (scientific exegesis)” (p. 34). He justifies his guarded support on the following basis: “From a linguistic standpoint, it is quite possible for a word, phrase, or statement to have more than one layer of meaning, such that one layer would make sense to one audience in one age and another layer of meaning would, without negating the first, be meaningful to another audience in a subsequent age” (p. 38). He offers the following example: “The word *yasbahun* (swim or float) in the verse ‘And He is the One Who created the night and the day, and the sun and the moon—each “swimming” in an orbit’ (XXI-33) made good sense to seventh-century Arabs observing natural phenomena with the naked eye; it is equally

meaningful to us in light of today's scientific findings [i.e. celestial mechanics]" (p. 38). Mir is very critical, however, of many of the amateurish and ill-informed "scientific interpretations" that have appeared everywhere, particularly on Internet sites. He concludes that "no credible scientific exegesis of the Qur'an has so far been produced" and that "like Sufism, *tafsir 'ilmi* may have to wait for its Ghazali" (p. 38).

As to the Qur'anic *I'jaz 'ilmiy* ("scientific miraculousness" or "miraculous inimitability") theory, it has exploded and expanded to quickly occupy large parts of the cultural landscape of the Islamic world, particularly the Arab part, over the last few decades, so much so that a whole industry of "scientific content" in the Qur'an has sprung forth. A quick Internet search for such literature will bring up books with titles such as *Subatomic World in the Qur'an* (At-Turjumana 1981) and book chapters such as "Science and Sunnah: The Genetic Code," "The Grand Unification Theory (GUT): Its Prediction in Al-Qur'an," and "Islam and the Second Law of Thermodynamics" (Syed n.d.). Articles have been written to show, for instance, that the Qur'an foretold the invention of the telephone, fax, and e-mail (Gulen 1998), radio, telegraph, and television (Al-Jamili 2002); how the speed of light can be derived by combining a few Qur'an verses (Hassab-Elnaby n.d.) like algebra on a few equations, or how some prophetic hadiths have foretold genetics (Dahrouch n.d.). We should note, however, lest we appear to unfairly characterize and caricaturize this theory, that some of its advocates are not so outrageous and outlandish in their claims; indeed, many of them are highly educated persons¹¹ and, despite the objectionable nature of most of their propositions, they often try to make more reasonable assertions.

Authors have placed the origin of this trend as far back as the great classical theologians and jurists al-Ghazali (d. 1111) and al-Suyuti (d. 1505), who, perhaps in a hyperbolic flight of rhetoric and impressed by the verses "and We have revealed the Book to you as an exposition of all things" (XVI-89) and "We have not neglected anything in the Book" (VI-38), exclaimed that the Qur'an contained all thinkable knowledge and science. As Ahmad Dallal points out, however, both verses when read in their contexts more likely refer to knowledge of things in the hereafter; moreover, he insists, "despite their claims, neither al-Ghazali nor al-Suyuti proceeds to correlate the Qur'anic text to science, in a systematic interpretative exercise" (2004, 543). Dallal goes on to show that no such trend ever appeared in the golden age of Islam, even when science was at its peak.

We should add that others have found justification in this miraculous Qur'anic scientific content in the hadith (and other classical discourse) that makes the Qur'an "the Prophet's miracle."¹²

In recent times, the trend has received not only popular but official support and funding. A "Commission for Scientific Miracles of Qur'an and Sunnah" has been established in Mecca under the auspices of the World

Muslim League; to date it has published dozens of booklets on such topics as “Qur’anic miracles in geology” and organized at least five international conferences in various countries. A recent example of the popularity and official support for this school is the attribution of the Dubai International Holy Qur’an Award (DIHQA) of the “Islamic Personality of 2006”¹³ to Zaghoul Al-Naggar,¹⁴ one of the stars of this phenomenon. Al-Naggar, in many of his writings (2003; 2005; 2006), considers the Qur’anic *I’jaz* as an instrument in the confrontation with the unbelieving West.

Let me now address the important issue of the primacy of the Qur’an over scientific knowledge versus the independence of science in its methods and results. Two views can be found in this regard among the proponents of this theory: (1) one should not rush to try to find references in the Qur’an for scientific discoveries, for the latter are temporary and limited and the former is eternal and absolute; and (2) one can find definitive truths in science, and only those should be sought in the Qur’an.

An example of the first viewpoint is an article by Fahd Aberrahman Al-Yahya, a leading member in the aforementioned international commission on the scientific miraculousness of the Qur’an and the Sunnah, titled “Scientific I’jaz, regulations and limits.” The author warns those who try to find the space conquest in the Qur’an on the basis of the “doubts and rejections of the NASA claim of manned trips to the Moon by scientists—including one American . . . while Muslims know for certain that the Moon was split during the life of the Prophet (that is only centuries ago), yet none of the scientific theories [is] able to prove or explain that but claim knowledge of events going back thousands of light-years” (<http://www.nooran.org/O/15/15-8.htm>).

On the second viewpoint, one may cite Abdellah al-Mosleh, secretary general of the same commission, who, in an article titled “Regulations of research in the field of the scientific miraculousness of the Qur’an and the Sunnah” (<http://www.nooran.org/A/a4.htm>), lists the following criteria for the “validity” of any concordance to be found between scientific results and Qur’anic/Prophetic verses/statements:

1. Guarantee that a particular scientific discovery has been established as a “permanent and durable” fact by the specialists;
2. Exactness of the meaning of the text (Qur’anic or Prophetic) concerning the given (scientific) fact, without any overdue effort of interpretation of the text, while still showing that knowledge of that fact was impossible during the Prophet’s times;
3. The proof of the concordance between the above two points must be accomplished via the following steps:
 - a. Proof of the existence in the (religious) text of the scientific fact under consideration;
 - b. Proof, in the case of the Sunnah, that the Prophetic statement under consideration is absolutely authentic (established), and suffers no doubt in its having been uttered by the Prophet;

- c. Proof of the scientific “validity” of that fact;
- d. Proof that knowledge of that fact came only recently and was impossible during the times of the revelation;
- e. Proof of the concordance between the scientific fact and the religious statement.

It will not be difficult for anyone knowledgeable about science and its methods, not to mention the religious texts, to conclude that the establishment of the above “criteria” is objectively impossible.

For example, would one characterize the theory of gravity as “permanent and durable”? Would we consider Einstein’s theory of it (general relativity) as firmly established, as Newton’s was for more than two centuries? What theory(ies) would one then compare to the Qur’anic verses? And what exegesis would be needed to establish an *I’jaz* (in such a case or in any similar one)?

Another star of the *I’jaz* cultural phenomenon, Abdul-Majid Az-Zindani, has attempted to produce a theoretical framework for the “miraculously scientific and inimitable content of the Qur’an” (Az-Zindani n.d.). His approach consists of the following two methods: (1) A cosmic truth, already expressed in the Qur’an but not understood by Muslims, is discovered by science; this then puts an end to the multiplicity of interpretations of the verse or passage, unless there is a contradiction between the scientific conclusion and the obvious meaning of the verse; (2) Muslim scientists take “leads” from Qur’anic verses and pursue scientific research until new discoveries are made that corroborate the text. Note that Az-Zindani, not surprisingly for a very conservative leader, gives the Qur’an precedence and veto power over scientific discoveries and truths.

Such a bizarre theory with its repeatedly startling claims and ill-founded methodology is not exclusive to the Muslim world. Observers (see, for instance, Edis n.d.) have pointed out that similar defensive and apologetic discourse has existed among some Christian fundamentalist, creationist circles (see, for example, Morris 2000; 2003) as well as some Hindu fundamentalists.¹⁵

TOWARD A REASONABLE AND CREDIBLE MUSLIM DISCOURSE ON THE QUR’AN AND SCIENCE

We have shown that the Qur’anic *I’jaz* (scientific miraculousness) theory rests on erroneous and dangerous principles, two of which should be especially noted: (1) The interpretation of Qur’anic passages can be univocal and definitive, thus allowing for a comparison with specific scientific results and statements; (2) Science is simple and clear; it contains definitive facts that can easily be distinguished from conjectures.

We have emphasized that this theory is the product of confusion that took place, first gradually but today almost entirely, between the legiti-

mate and commendable attempt to infuse the scriptural exegesis enterprise with newly acquired human knowledge (which of course includes modern scientific discoveries and insights) and the principle that the scientific results, laws, discoveries, and inventions, from the general to the specific and arcane, can be found in the Qur'an and even in the Hadith, if only we make the effort to search and reexplain the verses in a "scientific" way. The *I'jaz* theory is a snowball that started out small and white but then rolled and collected rubbish (ignorant contributions); it has become a mass of dirty ice that easily melts under the intense light of objective and methodical scrutiny.

But if this theory was born from an interesting and valuable idea—making use of science in trying to understand some passages of the Qur'an—can it be salvaged, cleaned up, and redirected, at least for the general public, by reformulating it in a way that serves a new view and reading of the Qur'an for a new discourse on the relation between Islam (the foundational texts plus the human heritage built upon them) and science?

I believe that this is possible, and I attempt here a quick sketch of such an approach. We must "simply" replace the above erroneous principles with two more correct ones: (1) The Qur'anic text allows multiple and multilayered readings; (2) The scientific method and its philosophy must be fully comprehended before anyone puts forward any interpretation of religious texts that appear to have some relation with science.

The second principle is clear: One must study science, particularly its method and philosophy, very well and not use a superficial understanding of it. The first principle is even more important, in my view, for the Muslim world and its religious development. It can potentially alleviate various serious ills, from the *I'jaz* theory to fundamentalism—the claim of monopoly of truth by some leaders, scholars, or schools. The principle of multiple readings of the Qur'an is not new, and we presented aspects of it in the first section of this essay. This is not to be confused with Razi's (and others') view that natural phenomena may have multiple interpretations, on which the Qur'an is often neutral (see Dallal 2004). The idea of multilayered readings of a given Qur'anic verse or passage goes back to the classical era of Islam, particularly to Averroes (1126–1198), who had built large parts of his "relation/accord" between philosophy (today science) and religion on the principle that the reading of the Qur'an and the interpretation of the Law allow at least two levels: a general, superficial one that is accessible to the whole public, and a more profound and sophisticated one that only erudite, elite minds can attempt. In his "Decisive treatise on the connection/harmony between Religion and Philosophy," Averroes insisted strongly on the following verse, which, depending on the punctuation adopted in its reading (a highly important comma to be placed at one point or another), leads to two different interpretations:

It is He who hath revealed unto thee [Muhammad] the Scripture wherein are clear revelations. They are the substance of the Book, and others [which are] allegorical. But those in whose hearts is doubt pursue that which is allegorical seeking [to cause] dissension by interpreting it [in a biased way]. None knoweth its [true] explanation save Allah [,] and those who are grounded in knowledge[, they] say: We believe in it; the whole is from our Lord; but only men of understanding really heed. (Qur'an III-7)

Note how putting the comma at the first bracket position or the second changes drastically the role and importance of scholars. Note further that realizing the possibility of the two different punctuations and of the two different meanings is itself contingent on the sophistication of the reader. Indeed, the Qur'an is full of praise for "the people of knowledge/understanding," for instance: "Say [unto them, O Muhammad]: Are those who know equal with those who know not? But only men of understanding will pay heed" (Qur'an XXXIX-9).

There are many places in the Qur'an where the reading and the meaning change with the punctuation. The one cited by Averroes is particularly important in that it insists on the special comprehension of the religious texts by people of knowledge.

Taking these principles as the bases of one's approach to the Qur'an and Science, it becomes readily evident that one cannot insist on a particular reading and explanation of specific verses, much less declare them to already contain scientific truths. A "scientific exegesis" of the Qur'an, however, could constitute one possible reading of the Text, informed and enlightened with knowledge gathered through science by "men of understanding," a reading that is one among others, and an interpretation that only a high degree of knowledge of science could permit. Such an exegesis, no longer an *I'jaz*, then becomes nothing more or less than a collection of individual, personal interpretations, some of which will be more convincing (to people) than others. A large number of Qur'anic verses (of an allegorical nature, as stated in Q III-7 above) then lend themselves to this approach. Among such verses one can cite those that have so impressed the proponents of the *I'jaz* theory, for example those dealing with the cosmos (XLI-11, LXV-25) or with the development of the human embryo (XXIII-13-14, XXXIX-6).

Finally, we want to emphasize an idea that Bucaille develops in the closing sections of his book with Talbi: The Qur'an uses a different vocabulary each time it calls upon humans to observe or note a particular sign in nature, depending on whether the phenomenon is obvious or subtle. Indeed, depending on the situation, the reader is asked to "watch," "listen," "think," "reflect," or "exhibit wisdom," these being gradually higher and higher functions of the mind. Bucaille writes: "So many times the expression 'haven't you seen . . . ' comes back in the Qur'an, each time addressing people on items that offer themselves to our observation." Then Bucaille quotes verses that refer to "people who listen," to "people who reflect," and

to “people who remember,” and adds: “One degree further and it’s the call to reason that completes the preceding calls. . . .” Bucaille concludes: “Reflections on the observational data are asked of both ‘people of understanding’ (III-190, XXXIX-21) and ‘people of wisdom’ (XX-53-54). . . . The fifth verse of Chapter X tells us that God ‘exposes His Signs in detail for those who know’; this idea is repeated in VI-97 in similar manner. . . .” (Talbi and Bucaille 1989, 216–17).

SUMMARY AND CONCLUSIONS

The first major idea we explored in this article is the extraordinary place and influence that the Qur’an occupies and holds in the lives and on the minds of Muslims. This strong emphasis aimed at several objectives: (1) to explain why the Muslim discourse on science and religion (and other social and political issues) often tends to be filled with references to the Qur’an; (2) to explain how the emphasis on the Qur’an led to a dangerous distortion and derailment of the discourse into a “scientific miraculousness of the Qur’an”; (3) to show that for a credible and reasonable discourse on science and Islam to have a chance to be well received by the public as well as by the elite, it must at least ensure a Qur’anic “acceptability” (or non-objection) to the ideas being put forward, if not full compatibility.

The second major idea that we developed is that despite the Qur’an’s many injunctions to humans to observe and reflect on the phenomena of nature and their relation to the Creator, one finds difficulty in relating the concept of science (in the modern sense) to the Qur’anic discourse. Indeed, one must first note that the Qur’an repeatedly draws one’s attention to the general predictability of the world’s physical phenomena. For example, “The sun and the moon follow courses [exactly] computed; and the stars and the trees both prostrate in adoration; and the Firmament has He raised high, and He has set up the balance” (LV-5-7). Furthermore, the Qur’an continually encourages people to reflect and search: “Say travel through the earth and see how Allah did originate creation” (XXIX-20); “Behold! in the creation of the heavens and the earth, and the alternation of night and day, there are indeed Signs for men of understanding, Men who celebrate the praises of Allah, standing, sitting, and lying down on their sides, and reflect on the creation in the heavens and the earth, [with the thought]: Our Lord! Not for naught Hast Thou created [all] this! Glory to Thee!” (III-190-91). Mohammad Hashim Kamali (2003) considers “scientific observation, experimental knowledge and rationality” as “the principal tools that can be employed in the proper fulfillment of [Man’s] mission [on earth],” that is, the “vicegerency (*khilafah*),” which is the Qur’anic doctrine of humanity being placed as trustee and custodian of the earth. Referring to the great Indian Muslim philosopher Muhammad Iqbal (1877–1938), Kamali adds that the Qur’an led to the birth of the “inductive

intellect” by making it “an obligation therefore of every Muslim to master the inductive method to uncover the laws of nature and society” (p. 122).

Nevertheless, the concept of science in the modern sense cannot easily be found in the Qur’an or indeed in most of the classical Muslim heritage; rather the concept of “knowledge” is developed. The confusion between the two concepts has often been made by Muslim thinkers and educators alike. Indeed, the word *‘ilm* is today routinely used for “science,” although it is quite certain that it originally stood for “knowledge,” perhaps even “religious knowledge” as opposed to “worldly knowledge.” This has led to strong disagreements, essentially along the traditional versus reformer lines, regarding the possibility (or not) of building a case for a Qur’anic basis for “science,”¹⁶ with the latter taking several possible definitions ranging from “sacred science” to “traditional knowledge,” “Islamic science,” and (a theistic version of) “Western science.”

The position we are advocating is simply a rejection of all extreme positions. Clearly the “scientific knowledge” (“scientific miraculousness”) in/of the Qur’an is to be rejected, for the variety of reasons exposed here. Instead we promote a multiplicity of readings (with multilayered nuances) of most if not all of the Qur’an, an approach that allows for intelligent enlightenment of one’s interpretation of various Qur’anic verses using various tools, including scientific knowledge, at one’s disposal. This approach meshes well with that of some of the most intelligent scholars of Islam, from Ibn Rushd (Averroes) to Talbi. The latter has written that

reading, interpreting, and reflecting upon the Qur’an in the light of the sciences that we have here and now is . . . an enduring tradition within Islam.

. . . Each approach to the Qur’an must take into account the fact that it is, by the continuous reading of the signs that it asks to undertake, a constant revelation that is incessantly being disclosed to us concurrently with our discovery of the Universe. The Qur’an asks us to observe and to read. Yet, how could one observe or read . . . without science?! (Talbi and Bucaille 1989, 66, 71)

We also have seen how Shahrour broke with traditional rules of interpretation, not only constructing a very original and radical new approach to the Qur’an but also opening the gates of interpretation to anyone who has the intellectual capacity to do so, including non-Muslims and non-Arabic speakers. Furthermore, he views the inclusion of modern science and philosophical theories in our reading as one way to expand some of the Book’s potentials as well as to help a given society unite and harmonize its knowledge with God’s truths.

The Qur’an cannot be turned into an encyclopedia of any sort, least of all of science. We must keep in mind, however, that if it is to be taken seriously and respectfully, we must uphold Averroes’s “no possible conflict” principle (between the word of God and the work of God). Bucaille has written that

no Qur'anic statement can be found that is manifestly contrary to modern knowledge, an important remark to be underlined when one recalls the number of wrong notions that prevailed regarding the natural phenomena in general and the earth in particular, notions which men had thought they had found justifications for in their observations. (Talbi and Bucaille 1989, 184)

In practice this principle can be turned into a “no objection” or “no opposition” approach, whereby one can persuade the Muslim public of a given idea (say, the theory of biological evolution) not by proving that it can be found in the Qur'an but rather by showing that at least one intelligent reading and interpretation of various passages is fully consistent with the scientific theory.

NOTES

1. Fr. Georges Chehata Anawati (1905–1994) was the Director of the Dominican Institute of Oriental Studies in Cairo, Egypt, which was a leading center for the Christian study of Islam and for Christian-Muslim dialogue.

2. By “magic” and “medicine,” Aslan is alluding to the miracles of Moses and Jesus, respectively.

3. Zamakhshari (d. 1144), a great classical Qur'anic exegete who belonged to the rationalist Mu'tazila school, wrote the famous commentary *Al-Khashshaf*.

4. Shahrouf's first and the most important of his four books was *Al-Kitab wal Qur'an: qira'atun mu'asirah* (The Book and the Koran: A Modern Reading) (1992).

5. Anwar Al-Jundi (1906–1989) was a prolific Muslim apologetic writer and polemicist; among his many books are *Islamic Lighthouse* (50 volumes), the *Encyclopedia of Curricula* (10 volumes) and *Under Focus* (50 volumes). <http://www.milligazette.com/Archives/01032002/0103200204.htm>.

6. Qur'an XVIII:51: “I made them not to witness the creation of the heavens and the earth, nor their own creation; nor choose I misleaders for [My] helpers.”

7. Abu Hamid Al-Ghazzali (1058–1111) is probably the most influential theologian and jurist in the history of Islam.

8. For example, the supernatural creatures known as *jinn*s became “possibly” microbes, the birds that shot the Avicennian invader of Mecca the year Prophet Muhammad was born could have been swarms of flies carrying diseases and infecting the army, and so on.

9. See, for instance, how he starts out enlightening with his scientific knowledge the verse “Have We not made the earth as a wide expanse, And the mountains as pegs?” (LXXVIII–6–7), writing: “The pegs mentioned here are those used to hold a tent to the ground (going to the roots of the Arabic term). Modern geologists describe folds in the ground, allowing landscape reliefs to take hold with variable sizes going from kilometers to dozens of kilometers. From this folding results a stability of the terrestrial crust.” But then he veers into the “miraculousness” trend as he adds, “I don't believe that anyone had such notions of geology fourteen centuries ago.”

10. Jalees Rehman is a cardiology fellow at Indiana University School of Medicine.

11. Among the leaders of this theory we must mention Zaghoul al-Naggar, an Egyptian retired university professor of geology who received his higher education in the United Kingdom and published a number of papers in international venues; Bechir Torki, a Tunisian university professor of physics; Abdelmajid al-Zandani, a Yemeni religious and political figure who received education in pharmacology; and Harun Yahya (the pen-name of Adnan Oktar), a Turkish prolific writer in this field (<http://www.harunyahya.com>).

12. For instance, it has been narrated of the Prophet to have said: “Each prophet has been given ‘signs’ (or miracles), and what I have been given is the Revelation (the Qur'an).”

13. http://www.quran.gov.ae/content/view/43/49/lang_english/

14. Zaghoul Al-Najjar is described as an Egyptian scholar, “a prominent figure in scientific miraculousness in the Quran,” “the chairman of the Committee of Scientific Miraculousness in the Holy Quran,” and “a member of the Supreme Council of Islamic Affairs in Egypt.” *Gulf News*, 28 September 2006. <http://archive.gulfnews.com/articles/06/09/28/10070739.html>.

15. Hoodbhoy reports that the respected Indian astrophysicist J. V. Narlikar pointed out that “during the time that the Steady State theory of creation of the universe was in vogue, abundant scriptural evidence was gathered by religious Hindus to show how this was in perfect accord with the Vedas. Alas, this theory was eventually discredited and replaced by the Big Bang theory of creation. Not the least discomfited, Hindu fundamentalists quickly found other Vedic passages which were in perfect accord with the newer theory and again proudly acclaimed it as a triumph of ancient wisdom” (Hoodbhoy 1991, 66–67).

16. When translating the verse (L–11), that is, “Allah will exalt those of you who believe, and those who are given knowledge, in high degrees,” the Qur’anic interpreter Yusuf Ali adds the word *mystic* between parentheses before “knowledge”; other commentators could easily have replaced “those who are given knowledge” by “men of science.”

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