the Qur’an and its philosophy of knowledge/science

‘Islam is a culture grounded on a book, the Qur’an.’

Massimo Campanini

the Qur’an in the Islamic culture

‘In the beginning was the Qur’an.’ With this smart take-off on the opening sentence of St. John’s Gospel, Fr. Georges C. Anawati, an Egyptian Dominican scholar and specialist of Islamic thought, aptly and pertinently sums up the status of the Qur’an in Islam.

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 ‘is undoubtedly one of the most extraordinary [texts] ever put down on paper.’ More recently, Reza Aslan adopted Kenneth Cragg’s phrase, calling the Qur’an ‘the supreme Arab event.’ Furthermore, Aslan refers to the common Muslim view that the Qur’an was Muhammad’s God–given miracle, noting that ‘[i]n Muhammad’s

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1 Fr. Georges Chehata Anawati (1905–94) was the Director of the Dominican Institute of Oriental Studies in Cairo, Egypt, a leading center for the Christian study of Islam and for Christian–Muslim dialogue.
time, the medium through which miracle was primarily experienced was neither magic nor medicine, but language.

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

Westerners are often surprised by the constant referral to Qur’anic verses by both Muslim scholars and laymen on any topic of importance. In fact, referring to the place that the Holy Book occupies and the role it plays in Muslims’ lives today, Suha Taji-Farouki notes that ‘millions of people refer to the Qur’an daily to justify their aspirations or to explain their actions’ and considers the scale of that kind of direct reference to have in contemporary times reached levels that are ‘unprecedented in the Islamic experience’.

Seyyed Hossein Nasr has remarked that even though the Qur’an can be compared to the Old and the New Testaments, the more proper analogy to be made 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, which He sent in similar forms to Muhammad and to Mary. Furthermore, in Christianity both the spirit and the body of Christ are sacred, in the same way that I have noted with regard to the Qur’an, that is as text (in Arabic), as meaning(s) and as an object. In fact, many Muslims regard the Arabic language itself as sacred in a way, for it carries the original word of God. And 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 miraculously intact) dissected and subjected to modern medical techniques, with the aim of determining whether Jesus was born miraculously or was the son of Joseph.

One defining feature of the Qur’an is the otherworldly quality it exhibits in its original Arabic version. In his standard textbook *Characteristics of the Noble Qur’an* (now in its tenth edition), Fahd Ar-Rumi, professor of Qur’anic Studies at the College of Teachers in Riyadh, Saudi Arabia, takes at least 40 pages to review just the style of the Qur’an. One may summarise the many characteristic features that the author presents in the following: rich in

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11 By ‘magic’ and ‘medicine’, Aslan is alluding to the miracles of Moses and Jesus, respectively.
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vocabulary (which is said to be about five times more diverse than a typical book in Arabic), with some words carrying one, two or multiple meanings; striking in its musical tone and rhythm; effective in addressing laymen and elites alike across ages and eras; balanced in addressing both the mind and the heart; simultaneously using a literary and a scientific style\textsuperscript{iii}; concise in expression and yet full in meaning(s)\textsuperscript{iv} and extensive in the usage of imagery and metaphors.\textsuperscript{v} But, the gap in quality which separates the Arabic Qur’an from any and all translations is so huge that non-Arabic speakers are often both confused by the text in its translated form and bewildered by Muslims’ claims that it is the most uniquely beautiful text to ever 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\textsuperscript{vii}. Murata and Chittick abound in the same sense: ‘Only the Arabic Qur’an is the Qur’an, and translations are simply interpretations’. They even go so far as to state, “The Arabic form of the Koran is in many ways more important than the text’s meaning\textsuperscript{vii}.

The Qur’an then plays a central role in defining the beliefs, the lifestyle and the world view of Muslims. Kenneth Cragg notes that Muslims regard it as ‘the groundplan of all knowledge’\textsuperscript{vii}. He draws the following essential conclusion, one which I will use as an important principle in our discussion: 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’\textsuperscript{viii} (emphasis added).

It should be clear, however, that the Qur’an couldn’t 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

\textsuperscript{iii} Examples are the verses ‘And [man] makes comparisons for Us, and yet forgets his own creation’, He says, ‘Who can give life to bones when they have rotted away?’ Say: He will revive them Who produced them at first, for He is well versed in every kind of creation!’ (Q. 36:78–79).

\textsuperscript{iv} An example is the verse ‘There is nothing whatsoever like Him’ (Q. 42:11).

\textsuperscript{v} Example: ‘and they put behind them a heavy day’ (Q. 76:27) and ‘Allah has not made for any man two hearts within him’ (Q. 33:4).
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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'.

interpretation of the Qur'an

Considering the fundamental importance of the Qur'an in Islam, the art and science of interpreting the Text is one of the most central intellectual activities and areas of debate in the Islamic tradition. Muslims have developed a suite of 'sciences' around the Qur'an, collectively referred to as 'ulum al Qur'an (the sciences of the Qur'an), which includes 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, etc.

Now, while the Qur'an is one Book, it is diverse and multiple in the meanings it presents. Murata and Chittick emphasise the importance of the variety of interpretations that can be produced from the text: 'One of the sources of the richness of Islamic intellectual history is the variety of interpretations provided for the same verses'. These and other Muslim thinkers often quote the Prophet to the effect that every verse of the Qur'an has seven meanings, starting with the literal sense and ending with the seventh and deepest meaning, which 'God alone knows'. Murata and Chittick then add, 'The Prophet’s point is obvious to anyone who has studied the text carefully'. Mohamed Talbi, an important 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' (emphases in the text).

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, the highly respected Muslim scholar from Eastern Europe, who converted from Judaism, refers to the following verse as 'the key-phrase of all its key-phrases': '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

vi Muhammad Asad was born as Leopold Weiss in today's Ukraine in 1900, converted to Islam in 1926, and died in 1992; among his most celebrated books are Road to Mecca, The Message of the Qur'an, and Islam at the Crossroads.
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’ (Q 3:7). Asad then 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’. He adds: ‘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’s commentary on the Qur’anic verse 13:35:

‘Through a parabolic illustration, by means of something which we know from our experience, of something that is beyond the reach of our perception’.

Mohamed Talbi has gone somewhat beyond the reformers’ modernist approach to the Qur’an; he has described his methodology as ‘intentionalist’, which consists of an attempt at finding in the Revelation God’s underlying intentions on various topics, general or specific. He insists, however, that ‘the intentionalist reading of the sacred text is not a hasty new invention, for it has its helpful [intellectual supports] in the past; these today need new momentum and spirit. [The analogical reasoning – *qiyas* – employed by the legal scholars was one such support.] The intentionalist reading of the sacred text, though, goes beyond this analogical reasoning – which many legal scholars in the past rejected – and I prefer the intentionalist reading to the analogical reasoning, without rejecting analogy in all circumstances’.

Finally, no discussion of approaches to the Qur’an today can be considered complete enough without the mention of Mohamad Shahrour, the

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

**viii** Qur’an 13:35: ‘The parable of the Garden which the righteous are promised: underneath it flow rivers, perpetual is the enjoyment thereof, and the shade therein; such is the reward of the Righteous; and the requital of Unbelievers is the Fire.’
controversial Syrian thinker who burst on the scene in 1990 with a highly original book\textsuperscript{19} that was no less than an earthquake and that may one day be considered the start of a revolution in Islamic thought. Indeed, Shahrour has already been called ‘a Martin Luther of Islam’\textsuperscript{21} and an ‘Immanuel Kant in the Arab World’\textsuperscript{22}; his groundbreaking book has been considered as potentially the Muslim equivalent of Martin Luther’s 95 \textit{Theses}\textsuperscript{23}.

In his important book, Shahrour produces a very original reading and interpretation of the Qur’an, one 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 Holy Book). Indeed, he dissect the text in an attempt to unlock a ‘semantic code’, one which then allows him to find connections between verses that produce a new, heretofore unexpected meaning. However, as Andreas Christmann remarks in one of the best reviews 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 [...]’\textsuperscript{24} 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’. For him, the Holy Book’s uniqueness or miraculousness (\textit{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 meanings to be found by humans of all ages but also for gradually obtaining a larger and larger share of the divine knowledge.

In another revolutionary move, Shahrour declares such interpretations or hermeneutics (\textit{ta’wil}) 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 \textit{ta’wil}, which has led him to the conclusion that “those who are deeply rooted in knowledge (\textit{al-rasikhuna fi-l-‘ilm}), are not, as conventionally assumed, the most learned and devout among the ulama [religious scholars] and fujaba [Muslim jurists], but “scholars and philosophers who occupy the most eminent place in society”’. Christmann further explains: ‘Among the examples of such \textit{ta’wil} which Shahrour cites are Newton’s theory of gravity, Darwin’s theory of

\textsuperscript{15} Mohamad Shahrour’s first and most important of his four books was \textit{al-Kitab wal Qur’an: qira’a mu’asirah} (‘The Book and the Koran: a modern reading’) (Damascus: al-Ahaly li-Tiba’a wa-Nashr wa-Tawzi’, 1990).
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evolution and Einstein’s theory of relativity. It is indeed a very novel and revolutionary approach to the Qur’an.

the Qur’an’s philosophy of knowledge

‘And were every tree that is in the earth (made into) pens and the sea (to supply it with ink), with seven more seas to increase it, the words of Allah would not come to an end. . . .’

Q 31:27

Typical to the standard Islamic literature and teaching on the subject, Fahd Ar-Rumi tells us that the Qur’an comprises all kinds of knowledge, which he summarises in the following main branches:

- **Theology**: Proofs for the existence and unicity of God, and description of His attributes.
- **Linguistics**: The rich and complex vocabulary and syntax of the Qur’an has allowed scholars to build Arabic on a clear, solid and common foundation.
- **Literature**: The Qur’an has contributed much to poetry: metrics and music, as well as metaphors and idioms.
- **Ancient history**: At least partially constructed from the many stories related about prophets and nations of old times.
- **Jurisprudence**: From principles to detailed rulings, based on the many injunctions and explanations given in the Qur’an for different cases and circumstances.
- **Natural science**: Due to the many verses (some 750) dealing with natural phenomena, and due to the needs of the Muslim life (prayer times related to the sun’s position in the sky at various times, month of fasting related to first-crescent visibility, etc.).

Now, as many Muslim thinkers have emphasised, the Qur’an presents a complete world view: a philosophy of knowledge, a philosophy of nature and perhaps (in the view of some) a philosophy of science as well. A few contemporary authors have given this topic much thought and written about it with erudition and passion: Mehdi Golshani, Ghaleb Hasan, Muntasir Mujahid and Muzaffar Iqbal. I shall make extensive usage of their works, particularly Golshani’s *The Holy Qur’an and the Sciences of Nature* and Hasan’s Arabic book.
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The Theory of Knowledge/Science in the Qur’an, where I have rendered the Arabic/Qur’anic fundamental concept/term of ‘ilm as ‘knowledge/science’, as indeed the term is ubiquitous and all-encompassing in the Qur’an, and deciphering its meaning(s) is the start of any construction of a philosophy of knowledge/science in the Qur’an.

The first principle that the Qur’an presents in its philosophy of knowledge is that man has been endowed with the capacity to learn and comprehend. Indeed, this is what makes him God’s khalifah vice-regent (or viceroy or deputy) on the earth. The first act of God towards humans shortly after their creation was to teach Adam ‘all the names’ (concepts) and to ask him to restate them, which he did successfully, thereby proving to the angels that humans had a distinct capacity that made them superior to all other creatures and thus worthy of carrying God’s mission on the earth. Indeed, the concept of reasoning appears in the Qur’an 49 times, always in the active form, not as an abstract idea or passive human ability. (I am rebutting the view that conservative religious scholars often put forward, namely that the original meaning of ‘aql, reason, was ‘restraint’.) Man can thus learn anything – in principle. Conversely, this means that nature can be understood. Furthermore, knowledge is vast and encompasses many fields.

Golshani insists on the fact that, contrary to what many religious scholars have proclaimed, ‘ilm as described in the Qur’an is much wider than – and is not limited to – the religious fields that may be more obligatory upon Muslims to know about. In fact Golshani simply rejects the traditional classification of knowledge into religious and non-religious; he notes that in the Qur’an (e.g. Q 39:9, 96:5, 16:70) ‘ilm is presented in its most general sense; he further refers to the Prophetic statement to ‘seek knowledge even in China’ and remarks that ‘the Prophet couldn’t have been asking Muslims to seek religious knowledge in China’. Finally, he adopts the twentieth-century Iranian scholar Murtaza Mutahhari’s principle: ‘Islam’s comprehensiveness and finality as a religion demands that every field of knowledge that is beneficial for an Islamic society be regarded as a part and parcel of the ‘religious sciences’.

Other writers have pointed to the concept of hikmah (wisdom), as in the verse ‘and Allah has revealed to you the Book and the wisdom, and He has taught you what you did not know, and Allah’s grace on you is very great’ (Q 4:113) as implying that wisdom is ‘the science that embraces any possible

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x Hasan states that the term ‘ilm’ and its derivatives are used 900 times in the Qur’an; Golshani says there are 780 such occurrences.
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knowledge. Muzaffar Iqbal identifies 'ilm with science but considers it to be of very wide applicability and relevance: ‘Unlike Greek and Latin, Arabic does have a specific word for science: al-‘ilm. This word as well as its derivatives frequently occurs in the Qur’an. It is used to denote all kinds of knowledge, not just the knowledge pertaining to the study of nature.

In the many Qur’anic verses, which relate to knowledge and its acquisition, one finds a variety of terms pointing to a hierarchy of methods, words such as listening (in the sense of understanding), observing, contemplating, reasoning, considering, reflecting, etc., most of which occur a dozen times or more.

In the closing sections of his book with Mohamed Talbi, Maurice Bucaille develops this idea more fully: The Qur’an, he notes, uses a different vocabulary each time it calls upon humans to observe or notice 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: ‘Oftentimes the expression “haven’t you seen . . . ” comes back in the Qur’an, each time addressing people on items that offer themselves to our observation’. He then 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 which completes the preceding calls’. Bucaille concludes: ‘Reflections on the observational data are asked of both “people of understanding” (Q 3:190, 39:21) and “people of wisdom” (Q 20:53–54). [. . . ] Verse 10:5 tells us that God “exposes His Signs in detail for those who know”; this idea is repeated in 6:97 in similar manner.

Golshani divides the sources of human knowledge according to the Qur’an into three parts: (1) the senses, which allow humans to conduct observations and measurements; (2) the intellect, which allows men of ability to ponder, reflect, reason etc. and (3) divine revelation, which either directly brings knowledge unknown to people (e.g. news of ancient peoples) or helps minds to reach truths, by means of parables, intuition, sudden enlightenment etc. According to Golshani, such God-assisted acquisition of knowledge can occur by way of meditation, intellection or normal observation that does not miss crucial information. Our author, however, reviews many Qur’anic verses

xi Examples include: ‘It is He who has made for you the night that you may rest therein, and the day to make things visible (to you). Verily in this are signs for those who listen’ (Q 10:67); ‘And He has subjected to you, as from Him, all that is in the heavens and on earth: Behold, in that are Signs indeed for those who reflect’ (Q 45:13).
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but cannot exhibit any clear and explicit one to show that this channel is not restricted to prophets and saints but can extend to simple humans; all he can find is ‘That is God’s grace; He grants it to whom He pleases’ (Q 62:4). He then supports his view by referring to the idea of ‘inspiration’ (kāshf or ilham, hadas), something that many thinkers and scientists have claimed to exist as a nonrational way of reaching some truths, including scientific ones; Golshani quotes Avicenna and Charles Townes (the Nobel prize winning inventor of the laser), both of whom emphasise the importance of intuition in making discoveries.

One can also infer from Qur’anic verses different levels of knowledge, each characterised by a different term, such as believing, doubting, thinking, understanding, envisioning, realising, ascertaining etc.xii

I must also note here that the Qur’an draws attention to the danger of conjecturing without evidence (‘And follow not that of which you have not the (certain) knowledge of...’ Q 17:36) and in several different verses asks Muslims to require proofs (‘Say: Bring your proof if you are truthful’ Q 2:111), both in matters of theological belief and in natural science. In many instances, the Qur’an/Allah argues with the unbelievers and cites examples/arguments to try to convince them; for instance, ‘Or, Who originates the creation, then reproduces it, and Who gives you sustenance from the heaven and the earth? Is there a god beside Allah? Say: Bring your proof if you are truthful’ (Q 27:64).

But what constitutes proof in the Qur’an’s philosophy? Ghaleb Hasan extracts the following methodology from the Qur’an. First, ‘proof’ in the Qur’anic context means convincing evidence or argument; it must be clear and strong. Secondly, proof is not achieved by relying on tradition or forefathers’ views (what we today call the argument from authority): ‘And when it is said unto them: Come unto that which Allah hath revealed and unto the messenger, they say: Enough for us the ways we found our fathers following. What! Even though their fathers had no knowledge whatsoever and no guidance?’ (Q 5:104). Thirdly, both assertions and rejections require proof; e.g. ‘O mankind! Verily there hath come to you a convincing proof from your Lord: For We have sent unto you a light (that is) manifest’ (Q 4:174).

xii Examples are: ‘To Solomon We inspired the (right) understanding of the matter: to each (of them) We gave Judgment and Knowledge’ (Q 21:79); ‘Nay, were ye to know with certainty of mind, (ye would beware!’ (Q 102:5); ‘If you obeyed most of those on Earth, you would be misled far from Allah’s way. They follow naught but conjecture, and they do but guess’ (Q 6:116).
Finally, it is important to note that the Qur’an distinguishes several
groups among humans with regard to their abilities and willingness to learn,
to understand, to penetrate to deeper truths or conversely to stubbornly
reject truths even in the face of proofs. According to Hasan, the Qur’anic
discourse addresses five categories of people: (1) the most general audience;
(2) the community of Muslim believers; (3) the people of knowledge (as in Q 30:22, 29:43); (4) the righteous people, i.e. those who go beyond faith
to an eagerness to live, behave, and think according to the laws that God
has decreed and (5) people of certainty, those who do not doubt.

Golshani does not present a clear categorisation and hierarchy of audience
but nonetheless divides people according to the attributes they are labelled
with when addressed by the Qur’an, e.g.: the believers; the pious; the
mindful (or God-conscious); the listeners to the truth; the meditators; those
of understanding; the learned; those who have purified their intellects; the
wise and the people of certainty. It is also important to note that Golshani
puts much emphasis on the moral dimension of the ‘people of knowledge’;
he insists on the purification of one’s intellect as an important criterion
for achieving high knowledge and wisdom, and for this he cites the Qur’an
(Q 2:282) and Prophet Muhammad (‘No servant [of God] devotes his full
forty mornings to (the service of) God but the springs of wisdom flow from
his heart to his tongue’), and quotes Ali: ‘One who does not render his
heart clean does not benefit from his intellect.

Golshani also lists the ‘impediments of cognition’: pollution of the intel-
lect (as in the above paragraph); lack of faith (Q 63:3, 30:53, 10:101) and
subjectivity (Q 45:23), which can be due to ambition, arrogance or prej-
udices of various sorts; acceptance of conjectures and past beliefs without
proof or following authorities (as we’ve explained above).

And last but not the least, the goal of such knowledge, as one can start
to infer from the above categorisations, is to move up the ladder from mere
belief to knowledge, then righteousness, and certainty in one’s awareness of
God. This overarching goal of knowledge and truth in the Islamic world view
is stated and emphasised by all Muslim thinkers and built upon Qur’anic
references; for instance, ‘And truly are God-conscious among His servants
those who are possessors of knowledge’ (Q 35:28).

xiii Ali (ibn Abi Taleb) was the Prophet’s cousin and son-in-law; more impor-
tantly, he became the fourth caliph of Islam, the last of the ‘rightly guided
caliphs’ and is the first of the Imams of Shiism. For Shiites he is, after
Prophet Muhammad, the most important human ever; for Sunnis he is one
of the most important ones, but without any special religious significance.
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I have not yet defined ‘science’. This will be discussed in detail in the next chapter, where an overview of the philosophy of science will be presented as well as a review of the various critiques that have been levelled at the scientific enterprise. For now, let us limit ourselves to the study of the natural world, that is leave aside the study of the human species and society, and thus define science as ‘the methodical study of nature in the aim of understanding its phenomena’.

In his latest book, Muzaffar Iqbal makes the following assertion: ‘The Qur’an itself lays out a well-defined and comprehensive concept of the natural world, and this played a foundational role in the making of the scientific tradition in the Islamic civilization’ . In the end, Iqbal could not support the first part of his statement with convincing evidence, he barely gave a few verses of some relevance; the second part, however, was exemplified by al-Biruni’s writings, which Golshani similarly cited, and which I quote in the next paragraph. Iqbal, however, adopts a Nasrian view of Islam, nature and science, which considers ‘the Qur’anic view of nature [as] characterised by an ontological and morphological continuity with the very concept of God – a linkage that imparts a certain degree of sacredness to the world of nature by making it a Sign (ayah, pl. ayat) pointing to a transcendental reality’. I should stress that this view, although upheld and strongly expounded and publicised by a few prominent thinkers, represents a school of thought that is marginal in the general intellectual landscape of Islamic thought; I shall come back and describe this school and its views more completely, in Chapter 4.

Muhammad Iqbal (the illustrious nineteenth-twentieth century Muslim poet–philosopher, whom we shall meet closely in Chapter 7) considered the Qur’an’s methodology and epistemology to be empirical and rational. The Holy Book discusses nature at length and considers the amount of information that can be gleaned from its study and description to be (metaphorically) infinite. According to many Muslim authors , one can count some 750 verses (out of about 6,300) in the Qur’an dealing with natural phenomena. In many of the verses, the exploration and study of nature is highly

xiv The number of verses in the Qur’an is not universally agreed upon, as some do count the ‘Basmallah’ (‘In the Name of Allah, the Merciful the Compassionate’), which starts in 113 of the 114 ‘suras’ (chapters), some do not; some divide some verses and count them as two, etc.
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encouraged and recommended\(^{45}\). Golshani remarks: ‘In fact the main reason that our great scholars, in the glorious period of Islamic civilization, paid attention to foreign (especially Greek) sciences was due to the Qur’an’s emphasis on the study of nature. . . . al-Biruni has explicitly stated that the motive behind his research in the scientific fields is Allah’s Words in the Qur’an: “Those who reflect on the creation of the heavens and the earth (and say): Our Lord! Thou hast not created this in vain! Glory be to Thee” (Q 3:191)\(^{44}\). Similarly, the illustrious astronomer al-Battani (Albategnius 850–929) has written: ‘By focusing attention, observation, and extensive thought on astronomical phenomena, one is able to prove the unicity of God and to recognize the extent of the Creator’s might as well as His wide wisdom and delicate design’\(^{45}\).

From the above remarks, two main interrelated principles emerge as a Qur’anic philosophy of science: (1) The exploration of nature, from mere observation to full scrutiny, should clearly point out the order and purpose of the cosmos; and (2) the study of nature should point to a certain unity and thus lead to a (greater) faith in the Creator. Golshani emphasises the theistic objectives of the study of nature according to the Qur’an: “The Qur’an does not approve of such cognitions which aim at nothing except satisfying one’s own curiosity. On the way of understanding nature, one should not busy oneself with the means and forget the ultimate end”\(^{46}\).

Ghaleb Hasan further extracts some important philosophical principles of science from the Qur’an; he summarises them in the following three points: (1) unity, (2) generalisation and (3) prediction. He cites various verses in support of his view; for instance: ‘For you shall not find any alteration in the ways (laws?) of Allah; and you shall not find any change in His ways’ (Q 35:43). He adds that ‘science’ in the Qur’anic philosophy is meant as the act of interpreting the observed signs (\textit{ayat}) of God, just as – one may add – exegesis is the ‘science’ of interpreting God’s written verses (also \textit{ayat}). Regarding prediction, he notes that the Qur’an points out the regularity in the phenomena of nature and further explains that the computability and predictability of such phenomena is for human benefit: ‘It is He Who made the sun a shining brightness and the moon a light, and ordained for it phases that you might know the computation of years and the reckoning (of time)’ (Q 10:5). Mujahid finds the concept of cosmic laws in the following Qur’anic verses: ‘And the sun runs on to a term/resting-place determined for it; that is the decree of the Exalted in Might, the All-Knowing. And the Moon, We have ordained for it mansions/stages till it becomes again as an old dry palm branch’ (36:38–39), where the terms ‘determined’, ‘decree’
and ‘ordained’ are understood to imply a ‘natural law’. Mujahid draws the same conclusion from the verse: ‘Verily We established Zulqarnain’s power on earth, and We gave him the ways and the means to all ends’ (Q 18:84), highlighting the words ‘ways and means’.

Muzaffar Iqbal identifies the three Qur’anic concepts of tawheed (unicity), qadr (measure) and mizan (balance) as ‘not only central to the teachings of Islam but also of immense importance for understanding the relationship between Islam and science’, a statement and position to which I subscribe wholly.

Iqbal stresses further that ‘God’s ways and laws are unchanging’, citing the Qur’anic verse ‘That was the way of Allah in the case of those who passed away of old, and you will not find for the way of Allah any changes’ (Q 33:62), and adds: ‘Thus the entire world of nature operates through immutable laws that can be discovered through the investigation of nature’.

Campanini has also pointed out that the Mu’tazilite (rationalistic) theologians ‘linked the arranged structure of the universe by God with the exactness of demonstrative proofs; he refers to ‘Abd al-Jabbar (ca. 1024), one of the school’s most powerful and influential thinkers, who held that God operates according to rational laws. On this basis, the Mu’tazilites went so far as to severely limit the occurrence of miracles as ‘irrational occurrences’ that could only be performed by God in order to vouchsafe the claims of his prophets (Moses, Jesus, etc.).

Other thinkers of different philosophical propensities adopt a very different view, however; Campanini reminds us that the Egyptian thinker Sayyid Qutb (1906–66) ‘denies, on principle, any interaction between faith and technical knowledge; the Qur’an is all about the route to salvation, while science deals with other issues’. That is why Campanini calls Qutb’s position ‘galilean, for [Qutb] is adamant in distinguishing the religious dimension from the scientific’.

Hasan then summarises the general objectives of science according to the Qur’an as follows:

1. Satisfying our human desire to understand what is around us. Here

Hasan cites Prophet Abraham’s experience, when the Patriarch kept

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XV. Sayyid Qutb is more famous today for being the pioneer of radical political Islam, one who was tried and executed by the Egyptian powers in 1966, but he should be known for his impressive literary exegetical work *Fi Dhilal al-Qur’an* (‘In the shades of the Qur’an’).
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misidentifying God with the great celestial objects (sun, moon, etc.); Muntasir Mujahed also refers56 to the human ‘pre-disposition’ (fitrah) for knowledge and the soul’s tendency and capacity to fulfil itself with contemplation of the cosmos, seeking – among other nourishments – beauty57; in fact Mujahed makes it a duty on humans to search, pointing to Qur’anic verses and citing the famous Egyptian writer and historian Abbas al-‘Aqqad, who wrote a whole book titled Thinking/Reasoning: an Islamic Obligation.

2. Improving the world, for the Qur’an insists that nature has been put at man’s service, and the cosmos can be perfected, as it has been prepared to be developed further.

3. Identifying the ‘First Principle’ (the cause of this glorious universe), in other words reaching and connecting with God.

Golshani also insists on the utilitarian aspect of science in Islam. To that effect he cites Prophetic statements (‘the best fields of knowledge are those which bring benefits’) and quotes Ali (‘there is no goodness in knowledge which does not benefit people’)58.

Finally, both Hasan and Golshani and many other Muslim thinkers insist on the ethical dimension of science in the Qur’an (and in Islam more generally). Hasan starts by noting that the Qur’an presents the act of creation as mercy (‘The Most Merciful (Allah)! He Who has taught the Qur’an. He has created man and taught him expression. The sun and the moon follow courses (exactly) computed. The stars and the trees prostrate in adoration. And the firmament He raised high, and He set up the balance’ (Q 55:1–7)). He then picks the following verse as the nexus between science and ethics in the Qur’an: ‘And follow not that of which you have no (definite) knowledge; verily the hearing and the sight and the heart, all of these (you) shall be questioned (responsible) about’ (Q 17:36).

for a hermeneutical approach to the Qur’an

In the book’s prologue and after I introduced our iconic figure and thinker Ibn Rushd, I briefly stated what can be considered the core principle of his philosophy: that religion and philosophy (which he refers to as hikmah, wisdom, and which can thus be enlarged to any truthful knowledge, including science) can never be in contradiction, for they are ‘bosom sisters’ and express the same truth in different ways. But there do occur frequent instances of
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at least apparent contradictions between the religious proclamations on a
given issue and the results derived from profane knowledge; what does one
then do? Averroes, as we have seen, then explicitly called for metaphorical
interpretation of the religious text\textsuperscript{59}, strongly basing himself on the Qur'anic
verse 3:7.

For these reasons, Campanini calls Ibn Rushd 'one of the fathers of philo-
sophical hermeneutics [\textit{ta\\'wil}, interpretation of religious texts] in Islamic
thought'\textsuperscript{60}. This Averroesian specialist further explains that '[our philoso-
pher's] idea of \textit{ta\\'wil} does not refer to a secret, concealed and esoteric meta-
physical level which is beyond literal meaning, as for the Shi'is, but to a
linguistic level in which the concept, or even the being, shows itself in
words'\textsuperscript{61}. Qur'anic verses, therefore, carry various meanings, some of which
are literal, and others are symbolic in nature. Campanini also emphasises
the role of the interpreter in the hermeneutical process: 'The role of the
interpreter is central: it is the interpreter who decodes the meanings of the
text'.

Two contemporary Arab thinkers have also insisted on the multiplicity of
readings and meanings in the Qur'an: Mohamed Talbi and Hasan Hanafi.xvi
I have already quoted Talbi, who explicitly wrote, 'There is not one reading
key for the Qur'an, but rather several keys, all at the same time subjective
and objective'\textsuperscript{62} (emphases in the text). Similarly, Hanafi stated, 'There
is no true or false, right or wrong understanding. There are only different
efforts to approach the text from different motivations... There is no
one interpretation of a text... An interpretation of a text is essentially
pluralistic'\textsuperscript{63}.

Also referring to another Arab thinker, Nasr H. Abu Zayd,xvii who has
been insisting on hermeneutics, Campanini concludes that 'if religious texts
are normal linguistic texts and accordingly may undergo hermeneutic anal-
ysis, ipso facto the Qur'an cannot be interpreted literally as a scientific text'\textsuperscript{64}
(emphasis by the author). He adds, 'The biological or cosmological hints of

\textsuperscript{xvi} Hasan Hanafi (1935--) is a professor of philosophy at Cairo University who
is often identified with the 'Islamic left' movement; he is also an expert
on Islamic thought and a prolific writer (his CV lists 24 books, at least
three of which deal primarily with exegesis: http://www.ispionline.it/
it/documents/CV_Hanafi.pdf).

\textsuperscript{xvii} Nasr Hamid Abu Zayd (1943--) is described in Wikipedia as 'an Egyptian
Qur'anic thinker and one of the leading liberal theologists in Islam. He is
famous for his project of a humanistic Qur'anic hermeneutics': http://en
.wikipedia.org/wiki/Nasr_Hamid_Abu_Zayd (September 2009).
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the Qur'an are not properly scientific. However, they can be symbolically interpreted by a shrewd textual hermeneutics. And further, 'The linguistic system of the Qur'an constitutes a fixed text, but the intentions of the interpreter can disclose a plurality of meanings: philosophical hermeneutics may perceive the foundation of science in the Qur'an without arguing that the Qur'an is a scientific text.

This is indeed a philosophical and religious position I fully subscribe to.

summary and conclusions

The first major idea I have tried to emphasise in this chapter is the extraordinary place and influence that the Qur'an occupies in the lives and minds of Muslims. That strong emphasis aimed at the following objectives: (a) to explain why the Muslim discourse on science and religion (and other social and political issues) tends to often be filled with references to the Qur'an; (b) 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) of the ideas being put forward, if not fully compatibility and (c) to explain that this can be achieved by a hermeneutical approach, which is indeed part of the Islamic tradition.

The second major idea that we have uncovered is that one must note that the Sacred Book repeatedly draws one’s attention to the general predictability of the world’s physical phenomena. Furthermore, the Qur’an continually encourages people to reflect and search. Mohammad H. Kamali 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]’, i.e. the ‘vicegerency (khilafah)’. Referring to Muhammad Iqbal (the Indian philosopher), Kamali adds that the Qur’an leads 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’.

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; 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.
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(as opposed to knowledge of the world). 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, xviii with the latter taking several possible definitions ranging from ‘sacred science’ to ‘traditional knowledge’, ‘Islamic science’ and (a theistic version of) Western science, as we shall see.

The position I advocate is simply a rejection of all extreme positions. The idea of ‘scientific content’ in the Qur’an is to be rejected, for a variety of reasons that I shall expose in Chapter 5. Instead, I have emphasised and promoted a multiplicity of readings (with multilayered nuances) of most, if not all, of the Qur’an, an approach which allows for an intelligent enlightenment of one’s interpretation of Qur’anic verses, using various tools, including scientific knowledge, at one’s disposal. I have argued that this approach meshes well with that of some of the most intelligent scholars of Islam, from Ibn Rushd (Averroes) to Mohamed 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’69. Furthermore, ‘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?!’70

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

To summarise, while the Qur’an cannot be turned into an encyclopaedia of any sort, least of all of science, one must keep in mind the fact that if the Qur’an is to be taken seriously and respectfully, one must uphold the

xviii When translating the verse (50:11), i.e. ‘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 have easily replaced ‘those who are given knowledge’ by ‘men of science’.
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Rushdian principle of ‘no possible conflict’ (between the word of God and the work of God). In practice this principle can be turned into a ‘no objection’ or ‘no opposition’ approach, whereby one can convince 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 its verses is fully consistent with the scientific theory in question.