

Science and religion:

why setting new foundations for the dialogue should matter for Muslims.

A few years ago, a video featuring a Saudi cleric, Sheikh Bandar al-Khaibar, created a buzz on the internet. In a lecture in the United Arab Emirates, this Islamic scholar — a purported representative of average Middle East scholars — attempted to disprove the motion of the Earth with a number of arguments already present in Aristotle's works, now updated with evidence from planes and international travels. Many web surfers and social media activists, including Muslims from all around the world, later showed the folly of this cleric's arguments.

The video popped up after the release of two series of breath-taking images of ground-breaking astronomical observations that also created a buzz: the close-up images taken by the ESA Rosetta probe and the landing of Philae on Comet 67P/Churyumov-Gerasimenko in November 2014, and the first fly-by of Pluto by the NASA probe New Horizons in July 2015. In both cases, sophisticated devices reached their very distant targets, after about a ten-year travel through the solar system, on the strength of elaborate calculations of the motions of bodies in gravitational fields that involved not only the Galilean law of inertia that our sheikh seems to have forgotten (if possibly he has been taught it), and the laws of Newton, but also the trajectory corrections based of Einstein's General Relativity. The probes reached their destinations with exquisite precision, and transmitted images of these distant lands. The knowledge utilized by modern scientists about the world and the position of this Saudi cleric posed a striking contrast.

Sheikh Bandar's video is another example of the difficult and chaotic relationship of many Muslims, whether clerics or laymen, to modern science. We could cite many examples that have had a much greater impact on Muslims than this short clip. If one searches the phrase "*Islam and science*" on Google, many of the top sites returned point to sites that claim to refute the theory of the Big Bang with arguments that show the superficiality of the knowledge of the field. Other sites accept the Big Bang theory, that is, cosmic and geological evolution, but deny any type of biological evolution. Still other sites claim that modern science is consistent only with Koranic revelation and not with the Bible, and that the Big Bang theory is proven by the text of the Koran. Countless low-cost books and brochures on the same topics can be found in Islamic libraries.

I can assess the impact of such messages through the lecture courses I give in various parts of the Islamic world, and to various kinds of audience, including Muslim clerics, university students in science or in theology, and high-school teen-agers. What strikes me most is not so much the attempts to discuss scientific theories or to propose philosophical interpretations of those theories, but rather the scientific and philosophical illiteracy of these discussions and interpretations, as well as the presumptuous tone with which they are proposed. Of course, trivial discussions about scientific results or philosophical perspectives have always existed. The difference in our modern age is that the trivial ideas that emerge spread quickly through social networks where everyone thinks he or she has the right to give his or her opinion on any subject including the most technical ones. Unfortunately, by attempting to refute science with (poor) religious proofs, and with so little scholarly apparatus, Muslims do much

damage not only to the way their readers could understand science, but to their ability to understand the spiritual meaning of revelation, and to build a solid theological reflection on all of the knowledge at our disposal.

Sheikh Bandar would have upset 'Ali Qushi, the astronomer of the 15th century who worked in central Asia and later in Istanbul, and who discussed Aristotle's classical arguments against the motion of the Earth, disproved them, and was led to the conclusion that the motion of the Earth through space was possible. If 'Ali Qushji was able to do so, it was because he was sceptical about the power of Aristotelian philosophy to describe nature, and he was willing to consider arguments from empirical data and from philosophy separately.ⁱ During the Middle Age—the golden period of Islam—, Muslim thinkers, and especially theologians, criticized the Aristotelian version of causality in which effects happen necessarily when the natural causal antecedents are present. These Muslim critics of Aristotle argued that God creates the world anew at each instant and thus viewed regularities in nature (*'âdât*) as a consequence of God's will rather than the powers of natural substances. On this view, the human mind can contemplate natural phenomena as God's signs (*âyât*) and reflect upon them and their meaning.

In spite, or perhaps *because*, of their theological commitment to God's presence as the "first cause," they could see secondary causes as a tribute paid to the perfection of a renewed creation: "No want of proportion will you see in the creation of the Most Gracious. So turn your vision again: do you see any flaw?"ⁱⁱ The contribution of Muslim astronomers to science has been recently submitted to a revised evaluation by internationally-renowned scholars. The translation into Arabic of almost all non-literary texts during the period of the early Abbassid caliphate at the end of the 8th and beginning of the 9th centuries, was due to a strong appetite for all kinds of knowledge, according to the saying of Prophet Muhammad (Peace be upon him): "Seek for knowledge even in China". For Dimitri Gutas, "the Graeco-Arabic translation movement of Baghdad constitutes a truly epoch-making stage, by any standard, in the course of human history. It is equal in significance to, and belongs to the same narrative as, I would claim, that of Pericles' Athens, the Italian Renaissance, or the scientific revolution of the sixteenth and seventeenth centuries".ⁱⁱⁱ The translations triggered a very strong interest in science that lasted for centuries. Muslim scientists corrected the errors in the original manuscripts, accumulated astronomical observations, made catalogues of all kinds of objects, and invented new technical instruments as well as new mathematical tools to describe the world. If we consider just the field of astronomy, for instance, George Saliba showed that Arab-Islamic astronomy developed over a long period of time, from the classical period of the 9th century, up to the 13th and 14th centuries that he considers as the golden age of original elaborations,^{iv} and we are just discovering now how important this Arab-Islamic science was for paving the way to Copernicus.^v

So why don't Muslims just continue on this wake, and pursue the quest for knowledge in all its aspects, that is, not only religious knowledge, but also knowledge of the world, as they are prompted to do so by so many Koranic verses and sayings of the Prophet, and by the examples of their forefathers? When I talk with imams and young Muslims to whom I give lecture courses to make them more familiar with these topics, I frequently get the following response: there is a prejudice according to which modern science as it is currently practiced would necessarily lead to atheism.

It is true that “atheists” may use science to support an updated version of philosophical ideas that originally developed in Greece more than 25 centuries ago. Maybe one of the most striking examples of this use of science is given by Stephen Hawking’s book, *The Grand Design*, where this famous scientist proposes a complete worldview allegedly based on physics, in which science, after having taken the place of philosophy, concludes that there is no place for God. In a nutshell, according to Hawking, the laws of physics are able to explain why the universe appeared out of nothing, without the need for a Creator. “Because there is a law such as gravity, the universe can and will create itself from nothing. Spontaneous creation is the reason there is something rather than nothing, why the universe exists, why we exist”.^{vi} This book was welcomed by Richard Dawkins, another famous author, who uses evolutionary biology to promote atheism. But, it was largely criticized too, by many scientists who considered that contemporary science is not able to provide a complete and consistent account of reality, by philosophers who criticized Hawking’s philosophical naivete, and by religious thinkers who underlined Hawking’s theological illiteracy. If we assume that the universe actually appeared from the law of gravity and Quantum Mechanics, where does the law of gravity and Quantum Mechanics, as well as the quantum vacuum, which are *not* nothingness, come from?

In his essay *Al-Munqidh min-ad-Dalal*, in which he examines the various ways towards knowledge, Abu Hamid Al-Ghazali, one of the most famous Islamic thinkers in the history of Islamic theology, philosophy and spirituality, condemned “those who believe they defend Islam by rejecting the philosophical sciences”, and “actually cause much damage to it.” However, he also identifies two risks in the practice of the rational inquiry: On the one hand, because philosophers are too proud, and too sure of themselves, they often venture beyond the field where reason applies, making statements about God and religious matters which are not sound. On the other hand, common believers, after seeing the excesses of these philosophers, are led to reject rational knowledge indiscriminately.^{vii} These considerations were written almost one thousand years ago about philosophers, but they are still applicable today when it comes to the work of scientists such as Hawking or Dawkins, who venture to affirm final statements about the “grand design”.

Muslim thinkers could easily be inspired from the lessons of the past, and, as Al-Ghazali did for the knowledge of his times in the 11th century, engage and indeed provide leadership in contemporary sciences in order to discriminate between theories, speculations, philosophical interpretations, and the oversimplifications so common in public discourse. The answer to those who attempt to hijack science in order to support a given philosophical worldview is not ignorance or contempt, but knowledge of science and philosophy that will help us develop sound theological reflections by combining the reading of the *naql*, that is, the holy texts that are the spiritual legacy of Islam, with the practice of the *‘aql*, that is, the rational inquiry which is mindful of reasons limits.

As a matter of fact, the dialogue between science and religion, two of the major forces that have been shaping the world for centuries, is of paramount importance for the 21st century. It represents a revival of the long-lasting “debates” between reason and faith on the way to knowledge, that took place in Jewish, Christian and Islamic philosophy and theology from Saint Augustine to Kant, through Averroes and Maimonides: old and venerable debates for the most part, but now considerably renewed in the context of the new knowledge made available through science. To my eyes, a revived interest in the

dialogue between science and religion could bring much benefit to Muslim theologians and thinkers, provided it is founded on high standards.

Muslim thinkers should try to understand the methods, results, and discourse of modern science in order to develop their reflections on the world of today. Science has considerably enlarged our view on a cosmos that is very extended and very old: we now contemplate vast expanses of space populated by billions of galaxies, and billions of billions of stars and planets, and we track the long-term cosmic, geological and biological evolution that produced our galaxy, our solar system, and the Earth and the millions of species it hosts. A believer is seized by a sense of awe and gratefulness in front of the majesty and beauty of the cosmos, as well as by the simplicity and subtlety of the laws of physics, which are our human way to describe the regularities in Nature set forth by the Creator.

But science is not of interest only for its success. It has identified fundamental limits of the rational inquiry from within itself. The theorems of incompleteness proposed by Gödel, Turing or Chaitin, are probably the most striking examples of the power of science that is able to prove that some mathematical statements are neither provable nor disprovable. And last but not least, the failed attempts by scientists (such as S. Hawking or R. Dawkins) to provide a full and final explanation for the universe and its workings, are lessons on the power and limits of the human mind to grasp a reality that unveils and veils itself. All that is of great interest for a religious thinker.

It is clear that there may be easy “ways out” to address the dialogue between science and religion, and none of them seems to be fruitful. An easy “way out” would be to take all that science is telling about “the fundamental level of matter” as absolute truth and simply add God as a personal option. This would not be a God-of-the-gaps but rather a superfluous God, who would be discrete enough not to interfere with the scientific workings of the cosmos. Many scientists and maybe many theologians may be sympathetic with this viewpoint. But not everything is perfectly clear in science, and it is an act of “faith” to postulate that it will be so in the future. Moreover, such a viewpoint neglects the fundamental mystery of the spiritual experience. If Al-Ghazali was so critical about the philosophers, it was also because he had a personal experience of God’s presence that moved him deeply, and made him refuse to be limited to the cold pursuit of rational knowledge. Another easy “way out” is exactly the opposite: it would argue that the personal experience of God’s presence is so strong that all scientific knowledge becomes vain and useless. Paradoxically, Al-Ghazali would also oppose to this view: because God is the warrant of the accuracy of the sound practice of reason, we should not disdain it, and Al-Ghazali practiced it well enough to be considered as one of the philosophers, whereas he was criticizing them.

It is true that science challenges some of the traditional interpretations of the holy texts. But Muslim theologians have to consider these challenges as a purification of the ideas we have about God’s action in Creation. God does not cease to act, but not as other created agents act. He is different from His creatures, and His absolute transcendence makes His presence in the world possible without any alteration of His transcendence. “There is nothing whatever like unto Him, and He is the One that hears and sees”.^{viii} From the dialogue between science and faith, we can address fundamental issues on metaphysics, and question our views on ontology.

To cut a long story short, what is needed is a higher level of intellectual requirement. The problem with the improper relation of many Muslims with science and faith is a lack of knowledge of the past and the present, as well as a lack of awareness of the harm that can be done to young people by propagating misconceptions on scientific theories or religious teachings out of context. Hawking should not deter us from becoming leading thinkers in Quantum Mechanics or General Relativity, nor Dawkins in evolutionary biology, as well as in the philosophical debates around these theories. Our aim must be to enlarge our understanding of the universe as a way to glorify God.

There are also more practical incentives that would encourage the interest in science. Science influences societies through technology, and gives birth to new things and new possibilities, as well as to new ethical issues that theologians have to address. We cannot leave in a modern society without understanding how things work. Considering technical devices are mere black boxes that make our lives simpler is not a good attitude. It is just “magic thinking”. We collectively need to become more educated, so that we can develop reflective ethical positions on whether a given technology is really useful for society.

In this context, the dialog between science and religion is a way of renewing the interfaith dialogue, by prompting us to talk together not only on the majesty and beauty of the Creator appearing from the beauty and majesty of His Creation, but also on our common patrimony, our planet Earth now endangered by severe environmental issues. These issues are discovered and identified by science, with its ability to measure and model complex systems, and are connected to technology, whose improper use produced the current unbalance, but whose proper use might help solve the issue. As a matter of fact, in their deep origin, environmental issues are intimately linked to spirituality. The outer desertification process parallels the inner deserts that harm our hearts. What is at stake is our vision of the cosmos as created by God, and our responsibility as God’s “vice-regents on Earth”. These fundamental Koranic teachings are recalled by the Islamic Declaration on Global Climate Change issued by a group of Muslim scholars^{ix} that echoes the recent encyclical *Laudato Si* published by Pope Francis.^x

As a conclusion, it is imperative that Muslims participate in the dramatic challenges of the 21st century. We thus must set the foundations of a renewed dialogue between science and religion in the Islamic thinking, inspired by the lessons of the past. Of course, this endeavour, because of its technicalities, has to be a *collective* effort, in which scientists and theologians, in their field of expertise, talk and work together with respect and modesty. And, for sure, it would seem highly desirable that the agenda and the topics for this revived dialogue should be fixed “by Muslims, and for Muslims”. But there is here a strong caveat: what is at stake now is simply the survival of the human-kind during the 21st century, in a context of growing environmental threats, resource exhaustion, loss of biodiversity, pollution of lands and soils, and increase of population, as it is reminded in the above-mentioned Christian and Islamic references. Contemporary philosophical and theological reflections should now be made with this challenge in mind. Problems are worldwide and solutions have to be worldwide. Here again, any initiative that would not converge into a *collective* effort to address this daunting challenge would be of little use. So Muslims should rather open their minds, and work with all the people of good will.

In the current state of the world, there is no easy way to be taken in order to reach this goal, neither theoretically, nor practically. We have to avoid self-pride and vainglory in front of the problems, and we must start with modesty and humility. The situation seems to be difficult, but there is also a great hope that the current turmoil may provoke a new awareness. *Wa-Llahu a'lam*.

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ⁱ F. Jamil Racep, « Copernicus and his Islamic predecessors: some historical remarks », *Filozofki Vestnik*, vol. XXV, n° 2, 2004, p. 125

ⁱⁱ Koran, 67, 3.

ⁱⁱⁱ Dimitri Gutas, *Greek Thought, Arabic Culture*, Routledge, 1998.

^{iv} George Saliba, *A History of Islamic Astronomy*, New York University Press, 1995.

^v George Saliba, *Islamic Science and the Making of the European Renaissance*, MIT Press, 2011.

^{vi} Stephen Hawking and Leonard Mlodinow, *The Grand Design*, Bantam Books, 2010, p. 180.

^{vii} Abu Hamid Al-Ghazali, *Al-Munqidh min ad-Dalal*. Beirut.

^{viii} Koran, 42, 11.

^{ix} Islamic Declaration on Global Climate Change, 2015, retrieved from <http://islamicclimatedeclaration.org/islamic-declaration-on-global-climate-change/>

^x Pope Francis, *Laudato Si. Encyclical Letter on care for our common home*, Libreria Editrice Vaticano, 2015.