Colliding Epistemologies: Reflections on Nidhal Guessoum

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Abstract

Modern sciences and Islam are oftentimes perceived (or presented) as irreconcilable or even as mutually exclusive poles. In attempting to re-establish the dialogue on the topic and to find contemporary approaches that might enable one to keep personal religious beliefs while also engaging with modern sciences, this article discusses the works of contemporary physicist Nidhal Guessoum. Guessoum not only critically examines current developments in the realm of science in the Muslim world, but also provides the reader with a solution to what seems to be a problem of colliding epistemologies: reconciling the two traditions. According to Guessoum, both traditions – although using different methods – work towards advancing knowledge and should thus both be upheld and progressed. To illustrate his approach to scientific methodology and thinking, the article also provides an analysis of Guessoum's videos on COVID-19 and thereby addresses a current topic which clearly proves the need for reliable modern science.

Keywords

Sciences – Islam – Epistemology – Nidhal Guessoum – Ibn Rushd – Theistic Science

1 Introduction

Modern sciences and Islamic religious studies¹ live in an uneasy relationship today. One of the issues frequently discussed in this context is, e.g., Darwinian evolution theory,² where Islamic religious beliefs seem to meet (or for some: rule out) scientific observations. Islamic writings on scientific issues very often betray utter ignorance of methods of thought in the sciences and the results of scientific research. The need to establish a genuine conversation between Islam and science³ has been expressed again and again – such conversation, however, has not yet taken place on a large scale. Integrating scientific results into public discourse and promoting their value for society is today – with the threat of a global pandemic – more pressing than ever. Nidhal Guessoum might be one of the few contributors to the discourse on the relationship between Islam and science, who furthermore took up the topic of Coronavirus in his scientific argument. This article introduces his approaches, discusses the (limited) reception of his work among fellow researchers and eventually sheds light on the way he exemplarily presents science, scientific methods and scientific thinking in his account on COVID-19.

2 Colliding Epistemologies

2.1 *Nidhal Guessoum*

Nidhal Guessoum is specialized in astrophysics and professor of physics and astronomy at the American University of Sharjah, United Arab Emirates.⁴ Guessoum has (co-)authored many scientific articles in first-rate journals and other publications in the field of physics and astronomy. To name but a few of these publications, we may mention articles on positron astrophysics,⁵ on gamma-ray bursts,⁶ pulse density distribution,⁷ the imprint of a kilonova or

1 It has recently been noted that different understandings of the concept of religion lead different concepts of the future of the conversation about Islam and science (cf. Feyzbakhsh, *Theorizing Religion*).

2 Cf. the recent study by Mohsen Feyzbakhsh, *Theorizing Religion*, and the discussion of a recent case of declaring the acceptance of the evolution theory as a reason for unbelief (*kufṛ*) by Shoaib Ahmed Malik/Elvira Kulieva, *Does Belief in Human Evolution Entail Kufr?*

3 Cf. Khani, *Islam and Science*.

4 Guessoum, *Personal Website*.

5 Guessoum, *Positron astrophysics*.

6 Zitoui/Guessoum/Azzam, *Revisiting the Amati and Yonetoku correlations*.

7 Abukhaled/Edward Allen/Guessoum, *Testing pulse density distribution*.

supernova,⁸ mathematical modeling of light curves⁹ or gravitational wave events.¹⁰ Other fields covered by Nidhal Guessoum are the search for astronomical observatory sites in the MENA region,¹¹ and the call for the renaissance of Arab astronomy by establishing new observatories.¹² As a believing Muslim, Guessoum devoted some pages in a book to the appearance of the new moon (*hilāl*), a crucial problem for Muslims, especially during the time in the month of Ramadan since the beginning of this month depends on the appearance of the moon, which makes it a fundamental problem of Islamic timekeeping.¹³ Guessoum may be understood as a well-versed, internationally acclaimed scientist *cum* believer who applies his undeniable scientific competence to a new way of reflecting on religious matters. A first attempt to illustrate his approach may be a review he wrote of a book on *Islam and Biological Evolution*.¹⁴ Guessoum writes:

The compatibility between Islamic doctrine(s) and the theory(ies) of biological and human evolution is one of the most important topics facing Islamic culture today. Indeed, this question is tied to two crucial issues for Muslims today: a) the role and place of scientific evidence in Islamic thought and theology; b) the relative authority between scientific knowledge and scriptural references. These two aspects of the problem determine how a Muslim thinker considers the acceptability of evolution (and its consequences).¹⁵

Guessoum states that there is a specific agenda underlying this work. The author of the reviewed book limits the possible Islamic positions to those of an Islamic 'mainstream' and to 'orthodox' Islamic theology, excluding any other positions on evolution. The author, Guessoum says, sees no paradox in relying on

views of scholars of a thousand years ago when discussing issues that have only become understood in, at earliest, the past century, thus completely disregarding the intellectual, scientific, philosophical, and

8 Guessoum/Zitouni/ Mochkovitch, *Detecting the imprint of a kilonova*.

9 Abukhaled/Guessoum/Alsaed, *Mathematical modeling of light curves*.

10 Almualia/Coughlin/Anand/Alqassimi/Guessoum/Singer, *Dynamic scheduling*.

11 Cf. Abdelaziz/Guebsi/Guessoum/Flamant, *Search for Best Astronomical Observatory Sites*.

12 Cf. Guessoum, *Time for an Arab Astronomy Renaissance*, pp. 161–164.

13 Cf. Qessūm/al-'Utbi/Mezyān, *Ithbāt al-shuhūr al-hilālīyya*.

14 Guessoum, *Review of Islam and Biological Evolution*, pp. 476–479.

15 Guessoum, *Review of Islam and Biological Evolution*, p. 476.

theological developments that humanity has witnessed in recent times. One can thus readily imagine ‘what a general Islamic perspective on evolution could be’ on the basis of that approach.¹⁶

Guessoum summarizes that the author does not reject biological evolution but “falls short of accepting its results”.¹⁷ He quotes the book he reviewed with a statement of the author implying that whatever the results of assessing theories on evolution may be, this will have no implications for the belief of Muslims. This review provides insights into the epistemological problem arising. Either the scientific findings and theories of the last two centuries are accepted or these findings and theories are rejected based on an understanding of Islamic theology in accordance with a modern – lack of (see below) – understanding of the epistemological status of science and Islamic studies in pre-modern Islamic literature.

2.2 *Islam’s Quantum Question*

In his comprehensive book *Islam’s Quantum Question* (2011),¹⁸ Guessoum conceptualizes this epistemological problem, frames his take on science and thereby reopens the discussion on how knowledge of natural sciences and knowledge of Islamic traditions can be brought together without disregarding the methods for knowledge gain inherent to each of the two cultures. Throughout the book, Guessoum argues that portraying religion and science¹⁹ as two contrasting, irreconcilable poles is too simplistic. He states that “[a]n intelligent discourse at the Islam – science interface is possible [...]” and suggests that a “[...] modern harmonious synthesis [...]” between the two “[...] in the form of a theistic version of science [...]”²⁰ could be attempted. Four theses that guide Guessoum’s work, as presented in the first book discussed in

16 Guessoum, *Review of Islam and Biological Evolution*, p. 476 et seq.

17 Guessoum, *Review of Islam and Biological Evolution*, p. 478.

18 Guessoum, *Islam’s Quantum Question*. In addition to this book, Guessoum has published several articles on the topic, e.g., Guessoum, *Religious Literalism and Science-related Issues*; Guessoum, *Nidhal Guessoum’s Reconciliation of Islam and Science*, which will partly be included in this paper as well.

19 Since Guessoum refers to Ibn Rushd’s intellectual legacy at the beginning of his work, he associates philosophy with science, in accordance with the temporal context of Ibn Rushd, and contrasts both with religion. Guessoum explains that ‘philosophy’ in the works of Ibn Rushd refers to what can be attained with meticulously applied reason (*Islam’s Quantum Question*, p. xx) – a concept that thus shows parallels to what is today understood by the term ‘science’. However, as the book progresses, Guessoum speaks of the relation between science and religion and not of philosophy and religion.

20 Guessoum, *Islam’s Quantum Question*, p. 13.

this article, shall be directly reproduced to help grasp the main pillars of his arguments: a) “[s]cience is important and relevant to Islam [...]”; b) “science can help make progress not only materially [...] but also intellectually, culturally and religiously”; c) “science evolves, and theology should also progress”; d) “looked at properly, there is nothing (except pure materialism) that can oppose science and Islam”.²¹ Guessoum’s introduction to core Islamic concepts not only aims at familiarizing non-Muslim readers with Islam’s religious traditions, but also attempts to prove to Muslim scholars that the author is highly aware of these traditions and puts great emphasis on treating them respectfully. He arrives at the conclusion that attempts to fully grasp God, the purpose and way of the creation of life seem to somehow be related to considerations and methods similar to those of science.²²

Guessoum describes the outstanding position and importance of the Qur’an in the Muslim world and in the daily life of Muslims.²³ He develops the view 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 [...]”.²⁴ Guessoum draws on the works of several scholars to debate the meaning (and importance) of *‘ilm* in the Qur’an,²⁵ different levels of knowledge,²⁶ possible ways of acquiring knowledge and of attaining ‘proof’.²⁷

21 Guessoum, *Islam’s Quantum Question*, p. xxv.

22 E.g., on p. 46 (*Islam’s Quantum Question*), Guessoum again refers to the concept of God as the Creator, and states that this concept implies further questions regarding “[...] how creation was performed, how the world, life and humans evolved [...]”. He arrives at the conclusion that “[...] the question of God is intimately related to science (and philosophy) [...]” (*Islam’s Quantum Question*, p. 46).

23 Guessoum, *Islam’s Quantum Question*, p. 47 et seq.

24 Guessoum, *Islam’s Quantum Question*, p. 63. With this theory, Guessoum builds up on a concept first introduced by Ibn Rushd: Ibn Rushd put forth the thesis that, if conducted conscientiously, knowledge obtained through religious approaches cannot be in opposition to knowledge obtained through philosophical approaches (*Islam’s Quantum Question*, p. xiv). Referring back to Ibn Rushd’s concept of ‘no possible conflict’, introduced at the beginning of this summary, Guessoum comes up with the principle of ‘no objection/opposition’ (*Islam’s Quantum Question*, p. 65). This concept implies that one might successfully convey an idea, initially informed by results from natural sciences, to a Muslim audience “[...] 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” (*Islam’s Quantum Question*, p. 65).

25 For the detailed discussion, see *Islam’s Quantum Question*, p. 54 et seq. and pp. 101–107.

26 Guessoum lists the following as levels of knowledge: “[...] believing, doubting, thinking, understanding, envisioning, realizing, ascertaining” (*Islam’s Quantum Question*, p. 56).

27 On p. 56 (*Islam’s Quantum Question*), Guessoum explores the concept of ‘proof’ in the Qur’an in great detail.

He eventually concludes that “[...] 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 [...]”.²⁸ However, the concept of knowledge can *certainly* be found in the sacred text.²⁹ While Guessoum refuses to understand the Qur’an as a comprehensive reference book for science,³⁰ he *does* stress the importance of a respectful dealing with it. Guessoum eventually suggests four characteristics that circumscribe science. They are directly copied from his text to ensure his understanding of science is conveyed correctly: Scientific methods are “systematic, objective, quantitative, and falsifiable”³¹ and are applied to study the (natural) world. He furthermore argues for a careful application and handling of science:

[...] [S]cience has always had and continues to have a potent effect on the world view and the general beliefs of a society. For this reason at least, science needs to be handled with care, meaning that its philosophy, methods and limits need to be carefully understood and delineated [...].³²

While literalistic readings of texts have become highly popular among the Muslim public, Guessoum highlights one exception to this trend – that he nevertheless opposes just as much: *ʾiʿjāz*.^{33,34} He translates this term as ‘miraculous

28 Guessoum, *Islam's Quantum Question*, p. 63.

29 On p. 53 et seq. (*Islam's Quantum Question*), Guessoum discusses several aspects of the Qur’an’s philosophy of knowledge, e.g. the assumption that humans were created with the ability to learn, the concept of *hikmah* and *ʾilm*, and the sources of knowledge and levels of knowledge as stated in the Qur’an. He furthermore explores the concept of ‘proof’ in the Qur’an, before eventually leading over to the section on the Qur’an’s philosophy of science on p. 58 (*Islam's Quantum Question*). See also p. 63 et seq.

30 Guessoum, *Islam's Quantum Question*, p. 64.

31 Guessoum, *Islam's Quantum Question*, p. 81.

32 Guessoum, *Islam's Quantum Question*, p. 99.

33 Throughout the book, Guessoum generally uses the term *ʾiʿjāz* to refer to the theory of ‘miraculous scientific content’ in the Qur’an. However, in the chapters specifically dedicated to the concept (*Islam's Quantum Question*, pp. 148–165), he differentiates between *tafsīr ʾilmī* and *ʾiʿjāz ʾilmī*. The phenomenon of *tafsīr ʾilmī* and *ʾiʿjāz ʾilmī* is still in need of a thorough analysis. Cf. Shavit, *Scientific and Political Freedom*, for an overview; for an empirical analysis of Muslim discussions on Islam and science, cf. Unsworth, *Discourses on Science and Islam*. For other dimensions of *tafsīr ʾilmī*, cf. Campanini, *The Qur’an: Modern Muslim Interpretations*.

34 In his introduction, Guessoum lists several events that have taken place over the last few years and thereby supports his argument of the popularity of *ʾiʿjāz*. He lists e.g. the “Eighth Conference on Scientific *ʾiʿjāz* (Miraculous Aspects) in the Qur’an and the Sunna” in December 2006 in Kuwait, organized by the *World Authority on Scientific ʾiʿjāz in the Qur’an and the Sunna*, which provided a platform for authors to present their papers on

scientific content' that proponents of the theory assume to be contained in the Qur'an and/or the Sunnah. In his article published in 2012, he states that this trend "[...] now enjoys an unprecedented and alarming popularity, even more so than even five years ago when I started writing my book [...]"³⁵

According to Guessoum, there are two misconceptions on which the 'theory' is based: firstly, it propagates that "[t]he interpretation of Qur'anic passages can be univocal and definitive, thus allowing for a comparison with specific scientific results and statements", and secondly, it assumes that "science is simple and clear; it contains definitive facts that can easily be distinguished from 'theories'".³⁶ Following the author, the theory of *i'jāz* is evidently based on a misunderstanding of science and leads to misconceptions about interpreting the Qur'an.³⁷ In order to rectify these erroneous ways (or at least to make a start on countering this trend), Guessoum suggests allowing for multiple interpretations of the Qur'an³⁸ and to guarantee a comprehensive understanding of the philosophy of science before diving into *i'jāz*-readings.³⁹ Two subforms of *i'jāz* are explained: *tafsīr 'ilmī* and *i'jāz 'ilmī*. *Tafsīr 'ilmī*, on the one hand, is translated as a 'scientific exegesis' of the Qur'an.⁴⁰ Such an exegesis would typically start with a Qur'anic verse that in some way is related to phenomena in nature, which is then followed by "[...] mustering all the scientific knowledge at one's disposal and trying to draw the most reasonable explanation [...]".⁴¹ Following the author, this approach could certainly be helpful to read certain verses in the light of scientific knowledge and could then produce a certain interpretation of Qur'anic verses – one possible reading among many others.⁴² *I'jāz 'ilmī*, on the other hand, is – in brief – explained as an approach that assumes

the subject. In 2007, a conference on "Qur'anic Healing" was organized in Abu Dhabi, with several university professors contributing with talks and presentations to the topic (*Islam's Quantum Question*, p. 6 et seq.). Further examples are listed in the subchapter "A Growing Cultural Phenomenon", *Islam's Quantum Question*, pp. 146–148.

35 Guessoum, *Nidhal Guessoum's Reconciliation of Islam and Science*, p. 370.

36 Guessoum, *Islam's Quantum Question*, p. 166.

37 Guessoum, *Islam's Quantum Question*, p. 166.

38 Guessoum, *Islam's Quantum Question*, p. 174.

39 Guessoum, *Islam's Quantum Question*, p. 167.

40 While members of the reform movement in the middle of the 19th century, e.g. Muhammad Abduh and Jamal Eddine al-Afghani, proposed the concept of (some form of) 'scientific exegesis' of the Qur'an, Guessoum does not consider them as supporters of the *tafsīr 'ilmī* trend. Among contemporary scholars supporting the trend, Guessoum lists Maurice Bucaille, Waheed ad-Deen Khan and several others (Guessoum, *Islam's Quantum Question*, p. 150).

41 Guessoum, *Islam's Quantum Question*, p. 150.

42 Guessoum, *Islam's Quantum Question*, p. 152.

that certain verses would contain recently found scientific knowledge.⁴³ While Guessoum considers *tafsīr ‘ilmī* as a possibly helpful approach, he declares *i’jāz ‘ilmī* a utopia.⁴⁴ After clearly rejecting the *i’jāz* trend and several other ones discussed in his book, Guessoum argues for the concept of ‘theistic science’ that, in brief, would account for a theistic world view, allows scientists to keep up with their personal religious beliefs, while at the same time adhering to principles and methods of modern science.⁴⁵ With reference to what he calls a “growing trend”,⁴⁶ Guessoum thus states:

Attempting to develop science with a theistic cloak is not necessarily going to destroy its pillars and its beautiful high constructs and achievements, if one does it with a full understanding of its various aspects, such as to distinguish the metaphysical facets from the methodological parts.⁴⁷

We will come back to – what one could understand as – a re-conceptualized approach to science – ‘theistic science’ – after the analysis of the videos in chapter 2.6.

2.3 *Young Muslim’s Guide*

After the introduction of his book titled *Islam’s Quantum Question*, in which he developed some basic concepts that could frame a new relationship of Islamic religious thought and science, another one of his publications shall be discussed: This second book is titled *The Young Muslim’s Guide to Modern Science*,⁴⁸ and is dedicated to “high schoolers, university students and teachers, and anyone wanting to understand what modern science says”.⁴⁹ The Introduction of

43 Guessoum, *Islam’s Quantum Question*, p. 152 et seq.

44 One of the reasons Guessoum lists for the rejection of *i’jāz ‘ilmī* is the fact that certain Qur’anic verses that are often taken as proof for the assumed knowledge they contain seem to be only related to “[...] knowledge about the afterlife” and not to universal knowledge and facts. For a more detailed account on why Guessoum rejects this trend, see Guessoum, *Islam’s Quantum Question*, p. 153.

45 See the chapter on ‘theistic science’, Guessoum, *Islam’s Quantum Question*, pp. 94–98. In his article from 2012, Guessoum reacts to reviewers of his book and clarifies that (1) theistic science is not his invention, and (2) that “[...] ‘theistic science’ is simply an *interpretation* of modern science [...]” [original emphasis]; he thereby makes clear that the adoption of scientific methodology and theories comes first, and the addition of a theistic interpretation second (Guessoum, *Nidhal Guessoum’s Reconciliation of Islam and Science*, p. 378).

46 Guessoum, *Islam’s Quantum Question*, p. 97.

47 Guessoum, *Islam’s Quantum Question*, p. 175.

48 Guessoum, *The Young Muslim’s Guide to Modern Science*.

49 Cf. the cover text of Guessoum, *The Young Muslim’s Guide*.

the *Guide* states “that there is a huge need for improved scientific literacy in the Arab-Muslim world”.⁵⁰ The problem he tackles is the “return of a religion-based anti-science standpoint”,⁵¹ esp. by Islamic preachers and high-ranking clerics. Due to the “largely obsolete curriculum”,⁵² these individuals ignore basic scientific facts to be taught at elementary school level. Guessoum requests a reform of the curricula in Islamic teaching institutions introducing not only basic science, but skills in hermeneutics that go beyond literalist readings of Islamic sources and in critical analysis.⁵³ “Otherwise many youngsters will be exposed only to the anti-science/anti-modern viewpoint, and many have become convinced by it not having heard the opposing arguments”.⁵⁴ In the following chapters, he explores methodological aspects of scientific thinking. Turning to critics of science, he discussed some Muslim critiques of science, esp. Seyyed Hossein Nasr⁵⁵ and William Chittick. As a position contrary to these traditionalist views,⁵⁶ Guessoum mentions Ziauddin Sardar⁵⁷ and Mohammad Hashim Kamali. Kamali advocates, he says, the positive view of inductivism in Islam.⁵⁸ Guessoum continues by presenting the state-of-the-art results in physics, astronomy, and biology. He introduces the paragraphs with the essentials of every set of disciplines and ends the chapter with the prospects of the future development of these disciplines. Interestingly, the last quotes of the chapter are from Shakespeare and Karl Popper.

Turning to Islamic views on science topics, Guessoum states: “The first and most essential thing that we must clarify and stress is that facts cannot be denied on any basis [...]. Whatever has been confirmed by objective methods [...] must be accepted”.⁵⁹ Starting from this basic assumption methodologically explained in the previous chapter, Guessoum makes a crucial distinction:

- 1) The Qur'an, being a book of guidance, is entirely concerned with issues of purpose and of human life, which relates and exists within nature and the universe; that is how the many Qur'anic verses on nature and the cosmos must be viewed and understood. Then, 2) Science and the Qur'an

50 Guessoum, *The Young Muslim's Guide*, p. 15.

51 Guessoum, *The Young Muslim's Guide*, p. 14.

52 Guessoum, *The Young Muslim's Guide*, p. 15.

53 Guessoum, *The Young Muslim's Guide*, p. 15.

54 Guessoum, *The Young Muslim's Guide*, p. 15.

55 Lohlker, *Reflection on Science and Religion in Islam*, pp. 217–224.

56 Sedgwick, *Against the Modern World*, and his blog *Traditionalists*.

57 Dalton, *The Contribution of Ziauddin Sardar's Work*, pp. 599–610; Stenberg, *Seyyed Hossein Nasr and Ziauddin Sardar on Islam and science*, pp. 273–287.

58 Guessoum, *The Young Muslim's Guide*, p. 54.

59 Guessoum, *The Young Muslim's Guide*, p. 97.

have very different methodologies [...]. The two approaches and goals are complimentary, but they cannot trespass on each other's turf, and they certainly cannot overrule each other.⁶⁰

Starting from this distinction, Guessoum is able to discuss issues like climate change, energy issues, or genetically modified organisms in a scientifically grounded way and opens up Islamic perspectives on these topics. Resorting to Ibn Rushd (Averroes), he gives an answer to the question whether it is possible to solve the problem that in all appearances the Qur'anic text may contradict scientific findings. He says that Ibn Rushd (Averroes) in these cases advocates a metaphorical reading of the Qur'anic text, leaving space to genuine scientific discourse.⁶¹ To summarize his arguments in the *Guide*, Guessoum writes:

To sum up, science, at least in the parts that one must regard as established, must be accepted and upheld by all believers and non-believers, particularly educated people. Believers must strive to make faith, spirituality, and religion, as sophisticated, and up-to-date (with the latest knowledge) as possible. Then (and only then) can science and religion have much to bring to one another in cohesion and to humanity.⁶²

Hence, Guessoum's presenting of genuine scientific knowledge is based on the idea that this knowledge will further the sophistication of Islamic religion and spirituality. He does not need to argue with *ahādīth* or Qur'anic references. His quest for scientific knowledge is inspired by religious conviction and does not influence his scientific thought.

After this attempt of grasping Guessoum's stance towards science and Islam, the following section takes a look at the (scarce) reception of his works among other scientists and at other articles by Guessoum.

2.4 *Scientific Discussions*

A series of articles in the journal *Zygon* was devoted to a discussion of the issue of science and Islam. In an article published in 2010, Guessoum discusses Islamic religious literalism and issues related to science in modern Islamic discussions.⁶³ He made a distinction between literalist approaches and another approach more helpful to respect scientific views. Guessoum

60 Guessoum, *The Young Muslim's Guide*, p. 100.

61 Guessoum, *The Young Muslim's Guide*, p. 101.

62 Guessoum, *The Young Muslim's Guide*, p. 163.

63 Guessoum, *Religious Literalism*.

distinguishes between the “elite-level, academic discourse”⁶⁴ and “the second level of encounter between modern science and religion”.⁶⁵ The second level is often dominated by religious preachers and Guessoum states that there is a very weak role for scientists in the public discussions at this level. The discourse at this level is much more important and widespread than the first one. The methodology of the second level discourse is identified by Guessoum as literalism, characteristically a less studied field with an almost complete lack of scientific literature. We will not delve into the distinctions Guessoum makes while analyzing Islamic literalism. The conflict of literalism as a method and scientific methodology in contemporary Islamic debates may be described – following Guessoum – as a conflict of epistemologies.

Since Guessoum does not discuss the heuristics of sciences, he comes up with an alternative to Islamic literalism to solve this conflict. Guessoum’s solution is a *masālih*-based approach. He hints at the Andalusian Islamic scholar Abū Ishāq al-Shātibī (d. 1388) as the proponent of a turn from earlier deductive approaches in Islamic religious studies of law to an inductive approach: “Start from the text (and, some scholars insist, from the practice/tradition of the people) and extract more general principles that transcend both the text and the past practices; from those principles, one could then reason and address any new case”.⁶⁶ Following Guessoum, this

general approach can have some indirect impact on the more conceptual issues, such as the question of evolution – first, by stepping above the literalist approach, thus producing a mindset and a general methodology that urges people to look at the issues in a more conciliatory way toward science, and, second, by insisting on the ‘preservation’ or ‘embellishment’ of reason and intellect and thus giving the latter more weight in considering such topics. In anticipation of such a major role of reason and intellect, Al-Shatibi addressed the question of what one should do if reason saw benefit in some action but the Islamic law had not decreed it. He argued that one should refer that benefit to the general principles and objectives of Shari’ah and see if one finds accord or discord therein. This is a sound general approach for our science-related issues and more global purposes.⁶⁷

64 Guessoum, *Religious Literalism*, p. 817 et seq.

65 Guessoum, *Religious Literalism*, p. 818.

66 Guessoum, *Religious Literalism*, p. 832.

67 Guessoum, *Religious Literalism*, p. 835.

Complimentary to Guessoum's *falsafa*-based reliance on Ibn Rushd to define the two realms of knowledge, al-Shatibi offers an approach deeply imbued with the Islamic religious tradition defining a methodological turn to inductive thinking that creates leeway for a constructive cooperation of religious ideas and sciences.

Zygon published another series of articles on Hinduism, Buddhism, and science. Hence, religion(s) and science is an issue often discussed in the journal. Other articles are dedicated to a debate on Guessoum's approach; some of these are review articles. John Hedley Brooke writes about parallels in Islamic and Christian approaches to science and the hermeneutic principles of Guessoum. He understands Guessoum's book on *Islam's Quantum Question* as a call for Muslims to embrace sciences. In this review, the more interesting aspect is Brooke's interpretation of the concept of *tawhīd*, roughly to be translated as unity, to imply "unity of truth and knowledge, the unity of creation, the unity of life, and the unity of humanity".⁶⁸ Salman Hameed looks at Guessoum's *Quantum Question* as the promotion of a specific version of theistic science.⁶⁹ Rana Dajani focuses – praising Guessoum's book for its achievements – on evolution theory. She states that there is an apparent contradiction between Islam and science.⁷⁰ Zainal Abidin Bagir compares Guessoum's approach to the approach of Ian Babour,⁷¹ a proponent of critical realism and often regarded as the founder of Christian discourse on science and religion.⁷²

The second article of Guessoum presents some further arguments in the ongoing discussion. He acknowledges a rise in research on Islam and science. Three fields of research are mentioned: 1) the history of sciences in the Islamic world, 2) the practical application of science in Islamic life, and 3) conceptual discussions on Islam and modern science. Guessoum writes:

it is in the 'conceptual' dimension that the tug-of-war really occurs, challenging the traditional religious principles and worldviews with naturalistic methodologies and theories, as well as new results that force us to review our conception of nature, humans, history, creation, and God's relation to all that.⁷³

68 Brooke, *Reconciling Religious Tradition*, p. 330 et seq.

69 Hameed, *Walking the Tightrope*, pp. 337–342.

70 Dajani, *Evolution and Islam's Quantum Question*.

71 For a discussion of several Islamic approaches to the issue at hand and the thought of Barbour cf. Bigliardi, *Barbour's Typologies*.

72 Bagir, *Practice and the Agenda of 'Islam and Science'*.

73 Guessoum, *Issues and Agendas of Islam and Science*, p. 368.

By giving an overview of the Islam and sciences debate of the last decades, the *ījāz*-literature, and creationism in Harun-Yahya-style, Guessoum refers to his article published in *Zygon* in 2010 and his critical analysis of literalism in these discourses. He then transitions to the Arab Spring as an experiment and positive sign for the discussion on Islam and science, esp. the increasing investments in scientific institutions in the Muslim world, the increasing enrollment in universities, and increasing number of female students who show interest in sciences as well.

Guessoum's response to the reviews of his *Islam's Quantum Question* in *Zygon* is very detailed. We will restrict our reflections to the aspect of 'theistic science'. Guessoum stresses the need to tackle the problems arising from teaching sciences in a religious society. This leads to a two-step approach he borrows from the review of his book by Bagir: "The heart of the proposal consists of two steps: first of all, accept the methodology and theories of modern science in general and, second, one may add a theistic interpretation of the theories".⁷⁴

'Theistic science', as briefly referred to above and as understood by Guessoum, means to accept scientific methodology that allows for rigorous independent research according to scientific methodologies and enveloping it in a theistic worldview. Thus, science is set free to do research without any religious assumption.⁷⁵ This approach informs his views on COVID-19 which we will return to in the last chapter of this article.

2.5 *Discussing Guessoum: Indonesian Islamic Studies Journals*

There is a limited response among Muslim writers beyond the journal *Zygon* to the ideas of Guessoum. We will take two examples from Indonesian Islamic journals to analyze this response. In Indonesian Islamic journals, the debate on *ījāz 'ilmī* and *tafsīr 'ilmī*, as explained above, is widespread.⁷⁶ Hence, these articles may indicate a critical position in this ongoing debate. According to Soleh in an article⁷⁷ that analyzes the thought of Guessoum, he points to the role of Ibn Rushd as a thinker inspiring Guessoum's ideas and his influence among Christian and Jewish authors in Europe. Soleh analyzes the attempt of Ibn Rushd to harmonize philosophy, Qur'anic revelation, and reason.⁷⁸

74 Guessoum, *Issues and Agendas of Islam and Science*, p. 378. For Bagir cf. the article discussed above.

75 The latter may be left for Guessoum to a future Islamic natural theology. For a thorough discussion of the theological aspects, cf. Guessoum, *Kalam's Necessary Engagement with Modern Science*.

76 A thorough analysis of this debate is still needed.

77 Saleh, *Pendekatan kuantum dalam*.

78 Cf. Adamson/Di Giovanni, *Interpreting Averroes*; Najjar, *Faith and Reason in Islam*.

Soleh follows Guessoum's critique of contemporary approaches to reflect the relation of science and religion.⁷⁹ Guessoum, according to Soleh, offers his quantum approach as a tool to harmonize religion and modern science – creating a scientific-theistic worldview. Another article⁸⁰ presents a view that is Qur'anocentric and focuses on the moral values taken from the Qur'an and to be integrated into the life of the believers. At the time, the article argues for a harmonization of this Qur'anocentric view and Guessoum's quantum approach. In both articles, the potential of Guessoum's approach for a reconfiguration of the theo-scientific field is not yet seen. Starting from these articles and discussions with Muslims today who know about the approach of Guessoum,⁸¹ we may expect a growing influence of the ideas of Guessoum on contemporary Islam among Muslims reflecting upon epistemological problems. Apart from his traditional publications introduced above, Guessoum uses media platforms like *Twitter* to spread scientific ideas among an Arabic speaking audience, also joining initiatives on the politics of science in the USA.⁸² Another platform he uses is YouTube.⁸³

2.6 *Scientific Literacy and COVID-19*

In addition to his written publications, Guessoum runs a Youtube channel which has about 382,000 followers.⁸⁴ In the following sections, two of his videos about COVID-19 and the raging pandemic, published in March and August 2020, will be analyzed to illustrate the role he attributes to science, scientific methods and scientific thinking, and to help grasp his concept of science by reference to this current example. The first video under analysis is titled "Coronavirus – a simple scientific explanation".⁸⁵ Guessoum starts by stating that he was asked to do a video on the spreading virus, which he initially refused to do because of his lack of knowledge in this specific field and the great responsibility that comes with publishing such a video. However,

79 This analysis is similar to the one we presented above.

80 Faizin, *Kisah Al-Qur'an dalam Tinjauan Sains*.

81 Evidence from personal discussions (RL).

82 For *Twitter* cf. Murthy, *Twitter*.

83 For *YouTube* cf. Burgess/Green, *YouTube*.

84 His channel is named "Nidhal Guessoum نضال قسوم" and was set up on Dec 17, 2015 in the United Arab Emirates; to this date [May 2, 2021], his channel has 382,000 followers and he has published more than 190 videos.

85 The original Arabic title of the video, as it was uploaded to Youtube on March 15, 2020, is فيروس الكورونا: شرح علمي مبسط.

after having published an article on the “[...] need for scientific literacy”,⁸⁶ he says that he understood that there is a need for promoting a “scientific culture”, scientific knowledge and methods. He describes some of the measures that countries around the world are taking against the spread of the virus and sets out to discuss what the virus (or *a* virus) is, why we do not yet have treatment for the disease the Coronavirus causes, and why we have vaccines against influenza but not yet against this version of the virus. Guessoum describes the structure of a virus and the differences between viruses and bacteria. He introduces ways of how viruses in general can be fought and speaks about death rates of patients in relation to their age and how pre-existing medical conditions negatively affect the recovery of those infected.

Apart from the headlines of articles that Guessoum has published on the website of *Arab News* and on his own, he also shows a map by Johns Hopkins University, illustrating the spreading of the virus around the world.⁸⁷ Clips that show animated images are included⁸⁸ in several instances to demonstrate how viruses or cells circulate in the body. Guessoum backs up his argumentation by stating specific numbers (e.g. of patients who have to be treated in hospitals)⁸⁹ and by referring to studies and scientific reports throughout the video.⁹⁰ Guessoum ensures that correct scientific terminology is used and thus clarifies what the terms Coronavirus, SARS-CoV-2 and COVID-19 specifically refer to.⁹¹

The second video analyzed for this paper is titled “Is the vaccine ready? Or when [is it]?”.⁹² Guessoum recounts Putin’s proclamation of having developed a vaccine in August 2020 and the global reactions to this announcement. He discusses the necessary steps for a vaccine to be safe to be tested on citizens and why he thinks the Russian vaccines, as presented by Putin in August 2020, could be dangerous (or at least ineffective). He exemplarily presents the stages of testing and experiment until a vaccine can be approved as safe and effective, and explains why insufficient testing and shortened steps in the experiment are dangerous. He elaborates on the need of having reliable scientific data, of

86 The full title of the article is shown in the video at 0:53: “Coronavirus outbreak exposes need for scientific literacy”. According to the picture shown in the video, the article was published on *Arab News* on March 1, 2020.

87 E.g. in minute 2:15.

88 E.g. in minute 8:28.

89 E.g. in minute 15:11.

90 E.g. in minute 15:19.

91 E.g. in minute 6:00.

92 The original Arabic title is “هل صار لقاح الكورونا جاهزاً أم متى؟”, the English titles used throughout this paper are translations by the authors. The video was uploaded on August 15, 2020.

following trustworthy scientific methods and of cooperating with the scientific community and international health organizations in the development of vaccines. Especially at the beginning of this video, newspaper headlines are presented and graphics shown. The sources of these animations (e.g. “2020 Nucleus Medical Media”) are stated on the screen throughout the clips. In his explanation, Guessoum uses as little medical terminology as is necessary to convey the messages in a professional manner, and seems to address a broader, not necessarily specialist audience. He provides examples from everyday life,⁹³ and clearly speaks to the general public and not specifically to medical staff or academia.

The analysis of the two videos shows that Guessoum clearly strives to promote scientific methods and argues that, in this case about Coronavirus, it is only scientific knowledge – and ‘scientific literacy’ – that can help to overcome this crisis. Deducing from the analyses above and in coherence with the views he expressed in his books discussed in this article, Guessoum seems to consider trustworthy, diverse sources, correct terminology, distinct and differentiated language, and a clear distinction between scientific facts and assumptions we do not have scientific evidence for, as the necessary basis for reliable science. One could furthermore assume that his intention with these videos is to not only give information on the current situation and correct dealing with the virus, but also to use the topic as an example to show how scientific methods generally work, what they can provide and what their limitations are, and how science and its findings are directly related to the life (and wellbeing) of every individual. What could be pointed out as remarkable here is that in these two videos, Guessoum does not seem to see the need for including references to Islamic traditions or religious belief systems, but purely follows – what could be considered – commonly agreed on methods of science and scientific thinking. One could assume that he does not see religious thought and belief and modern science as two competing poles in this example. When we assume that he follows the concept of ‘theistic science’, as explained in his book and as introduced above, he considers scientific methodology in the natural sciences as running parallel to religious sources and the methods of dealing with these, and not as running in the same lane.

93 For instance, when he explains how people could be harmed if they wrongly assumed they are protected by vaccine, in minute 12:20.

3 Conclusion

The goal of this article was two-fold. First, the works and approaches of a contemporary scientist, Nidhal Guessoum, whose publications have so far only received little attention, were discussed. As a natural scientist and Muslim, Guessoum explores ways of how modern science and Islamic religious thought could be brought together – or else, how each of them can be framed so that both cultures can be treated respectfully and without viewing them as mutually exclusive. Guessoum's publications impressively demonstrate the dangers that literalistic readings of sources, a lack of knowledge of scientific methods and a rejection of either religious thought or science bring about. Deducing from the current discussions of his approaches as presented in this article, one may assume that his work will have lasting influence on discussions of science in the Muslim world.

Second, the article aimed at illustrating Guessoum's approach *to* or concept *of* science – what he terms as 'theistic science' or a 'theistic version of science' – by analyzing his videos on Coronavirus. The fact that he did not draw on religious sources in these videos might indicate that he views this topic as one that can purely be approached from a scientific viewpoint and one that does not require (or does not leave room for) the inclusion of religious perspectives. Scientific facts and religious views do not seem to compete for the same position here. Guessoum's approach to COVID-19 may thus be read as an outcome of his epistemological distinction between scientific convictions that are informed by results attained through globally agreed on, verifiable scientific methodology, and religious convictions that are based on the interpretation of and reasoning in sources following traditional methodology unique to this realm.

Guessoum's approaches eventually prove that a coexistence of the two seemingly 'colliding epistemologies' is possible without giving up the traditions and methodologies of either one and without having to choose between one or the other. He argues that science and religious thought differ in their methodologies but share the goal of wanting to advance knowledge and thinking, which is why both believers and non-believers should work towards upholding and progressing both.

Biography

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