

# Science, Pseudo-Science, and Fiction

with Alexandra Prince, "Stirpiculture: Science-Guided Human Propagation and the Oneida Community"; Ismael Apud, "Science, Spirituality, and Ayahuasca: The Problem of Consciousness and Spiritual Ontologies in the Academy"; Ankur Barua, "Investigating the 'Science' in 'Eastern Religions': A Methodological Inquiry"; Stefano Bigliardi, "The 'Scientific Miracle of the Qur'an,' Pseudoscience, and Conspiracism"; and E. Allen Jones III, "A Terminator, a Transformer, and Job Meet: Creator-Created Relations in Film and Scripture."

## THE "SCIENTIFIC MIRACLE OF THE QUR'ĀN," PSEUDOSCIENCE, AND CONSPIRACISM

by Stefano Bigliardi

*Abstract.* This article, after tracing a precise classification of the exegetical trend known as *i'jāz 'ilmī*, summarizes and discusses the criticism leveled at it and examines how the "scientific interpretation" of the Qur'ān is liable to blend with pseudoscience and conspiracy theories to the detriment of a solid harmonization of science and religion and of a genuine appreciation of natural science. Furthermore, the article offers some practical ideas that can be implemented in order to effectively and fairly address *i'jāz 'ilmī* in the Muslim world.

*Keywords:* Maurice Bucaille; conspiracy theories; *i'jāz*; pseudo-science; Qur'ān; scientific miracle of the Qur'ān

---

According to a popular exegetical trend, the Qur'ān contains scientific notions, described with amazing accuracy despite the fact that those very notions were completely unexplored in the Prophet's time: such presence is thus a sign of the text's divine origin. This trend, which has antecedents in the nineteenth century, was popularized by the works of a French author, Maurice Bucaille (1920–1998), and currently flourishes on the Internet as well as in TV programs. The line of interpretation it follows reformulates the traditional doctrine of the formal inimitability of the Qur'ān (*i'jāz*) in terms of "scientific inimitability" or "scientific miraculousness" (*i'jāz 'ilmī*). The same line is sometimes extended to the *hadith* (the literature reporting statements of the Prophet expressing his views on various matters). Frequent reference to natural phenomena in the Qur'ān is

Stefano Bigliardi is an assistant professor of philosophy at Al Akhawayn University, Ifrane, Morocco. E-mail: S.Bigliardi@aui.ma.

a fact. On the one hand, the producers of such line of interpretation (usually lacking formal theological training) express a genuine and, from a confessional viewpoint, laudable desire to harmonize religion and science. On the other hand, their efforts present major methodological flaws as well as blatant mistakes and have accordingly been criticized.

This study has a threefold ambition. First, it offers a detailed overview of *i'jāz 'ilmī*, whose sub-genera are identified and analyzed, as well as the criticisms leveled at it. Second, it refines the analysis of *i'jāz 'ilmī* by showing its strong family resemblances and ties with conspiracism. Conspiracism is broadly defined as the contemporary sub-culture aimed at the identification and discussion of occult and sinister agents that allegedly bring about major historical events or social trends and at the same time create gigantic cover-ups in order to hide their very agency. It is shown that conspiracist authors rely on, and encourage, a flawed style of argumentation as well as the miscommunication of science in a way that is strongly reminiscent of *i'jāz 'ilmī*. It is shown as well that *i'jāz 'ilmī*, pushed to its extreme consequences, entails conspiracist thinking. The joint study of the two phenomena is unprecedented in scholarly literature. Finally, the article suggests educational strategies to *critically address i'jāz 'ilmī* by siding with teachers who are interested in the harmonization of Islam/religion and science as well as the communication of the scientific method proper. Such strategies are also identified by drawing upon the suggestions of scholars and educators who study and oppose conspiracism. In other words, the author is writing from two integrated perspectives. The first viewpoint is that of a scholar interested in a deeper understanding of *i'jāz 'ilmī*. The second one is that of an educator who, respecting the need to integrate science and religion, also wants to teach that natural science is the construction of knowledge about the natural world through repeatable experiments, mathematical models, and acceptance of results after peer review.

The first section traces a taxonomy of *i'jāz 'ilmī* with a particular focus on material that can currently be located on the Internet. The second section summarizes different lines of criticism of *i'jāz 'ilmī*. The third section makes a diversion in order to describe the essential features of conspiracism. The fourth section examines how *i'jāz 'ilmī* overlaps and merges with conspiracism. The fifth section draws the critical conclusions and contains some suggestions concerning how to address *i'jāz 'ilmī*.

#### ONE OR MANY SCIENTIFIC MIRACLES?

Classically, the term *i'jāz* indicates the “invalidation of a challenge,” the impossibility of imitating the Qur'an as to its content and form. In other words, the term refers to the theological doctrine according to which a sign of the divinity of the Qur'an is its incomparability or impossibility to be

replicated; the like of the Qur'ān could not be produced even in a joint effort by human beings and supernatural ones. This teaching is rooted in Qur'ānic passages such as 17:88: "Say, 'if mankind and the *jinn*<sup>1</sup> gathered in order to produce the like of this Qur'ān, they could not produce the like of it, even if they were to each other assistants.'"

In the contemporary debate over Islam and science, *i'jāz* is mainly used as a short form for *i'jāz 'ilmī*. The adjective *'ilmī* derives from the noun *'ilm* that broadly refers to knowledge and can be interpreted as specifically referring to natural science. The expression *i'jāz 'ilmī* can thus be translated as "scientific miracle" (or "scientific miraculousness") of the Qur'ān. It denotes an exegetical trend rather than a specific theological teaching. From now on I will use such expressions interchangeably.

In the *i'jāz 'ilmī* the traditional doctrine of the inimitability of the Qur'ān is reformulated in terms of "scientific inimitability." In other words, the exegetes who uphold and produce *i'jāz 'ilmī* identify a correspondence between some passage of the Qur'ān and "scientific data" or "facts" to argue that such correspondence is proof of the divine origin of the Qur'ān itself. The basic line of the argument is that, given that such accuracy (or the specific piece of information) could not be available to (or achieved by) either the Prophet or the scientifically best-informed people at the time of the revelation, the text clearly must have divine origin. A "scientific miracle" therefore is not a supernatural deed (an example of a supernatural miracle can be Moses' or his brother Aaron's staff turning into a snake, mentioned both in the Old Testament and in the Qur'ān<sup>2</sup>) but the structure of the argumentation with which "scientific" and supernatural miracles are illustrated is *analogous*. In both cases it is about an extraordinary, amazing occurrence (cf. the etymology of the term *miracle*, Latin *mirari* "to be amazed") that cannot or could not be performed (nor repeated) by human beings alone, and whose occurrence implies or demonstrates the existence and power of divinity.

By "occurrence" one should understand in this context the match between a Qur'ānic passage and "scientific information" and *not* the specific content of the "scientific information" *per se*. In other words, the "scientific miracle" of the Qur'ān is *not* aimed at the description of natural phenomena as miracles of God (albeit this kind of statement is *also* present at various levels of the debate over Islam and science, including *i'jāz*). It should also be emphasized that *i'jāz 'ilmī* is *not* an attempt at explaining miraculous narratives as natural processes either (e.g., arguing that the parting of the Red Sea was a natural albeit extraordinary or unique hydrogeological phenomenon). Furthermore, *i'jāz 'ilmī* is *not* a theory according to which a scientist who is confronted with alternative theories should choose the most Qur'ānic-compatible one, nor is it related to the discussion of religious guidelines for the ethics of scientific research.

The specific points made, or lines followed, by the advocates of *i'jāz 'ilmī* vary according to what they present or perceive as “scientific.” They can be classified as follows:<sup>3</sup>

- (a) The Qur'ān contains passages coinciding with scientific *theories*; for instance, the theory of an expanding universe.<sup>4</sup>
- (b) The Qur'ān contains passages that describe *natural phenomena* currently ascertained by science but unknown at the time of revelation; for instance, the development of the fetus in the mother's womb.<sup>5</sup>
- (c) The Qur'ān contains passages that accurately describe *specific, circumscribed facts, events or occurrences* currently ascertained by scientific investigation (possibly but not necessarily unknown at the time of the revelation); for instance, the preservation of the mummy of the Pharaoh who pursued Moses.<sup>6</sup>
- (d) The Qur'ān contains passages that foretell *contemporary scientific-technological developments or inventions*; for example, the exploration of space.<sup>7</sup>
- (e) The Qur'ān displays numerical patterns that correspond to the *numerical patterns exhibited by natural phenomena and/or occurring in scientific laws*. This might be called numerological *i'jāz*. For instance, it is claimed that the terms for “sea” and “land” occur, in the Qur'ān, in the same numerical proportion as sea and land are actually present on earth, or that the Qur'ān hints at significant dates (e.g., Q 54:1 is interpreted as pointing at the year of the Moon landing).<sup>8</sup>
- (f) Qur'ānic/*hadith* prescriptions concerning, for example, hygiene and diet have a medical rationale that contemporary medicine can explain.<sup>9</sup>

There are also further cases, which we might call cognate ones, that can be mentioned as relevant in the contemporary debate on Islam and science (at least on a popular level) but are less apt to be categorized under *i'jāz* because they do not directly reference the Qur'ān. The first is when *permanent or widespread natural phenomena* (e.g., the shape of the continents or of an animal's skeleton) match some proper *symbols or terms* of Islam, such as the *shahāda* (i.e., the declaration of one's belief in the oneness of God and the acceptance of Muhammad as His Prophet), the name of God, or the positions of the prayer.<sup>10</sup> The second case, analogous but distinct, is the one in which it is claimed that *specific configurations of circumscribed natural phenomena are said to recall or match symbols or terms proper of Islam* (e.g., when the name of God is said to appear in a sliced fruit or in the clouds).<sup>11</sup> We might call these, paradoxically, “*i'jāz* without Qur'ān.” We can also register those cases in *which supernatural (or at least highly*

*anomalous*) phenomena are said to recall symbols and terms proper of Islam, such as the case of the narrative, circulating on the Internet as early as 2009, of Qur'anic verses appearing on a baby's skin in Dagestan.<sup>12</sup> However, the identification of religious symbols in ephemeral natural phenomena as well as the claim that religious symbols suddenly appear on objects and bodies is not exclusively a Muslim trend.<sup>13</sup>

Since this article is broadly concerned with pseudoscience, for the sake of completeness we should also mention the existence of the discussion of *Qur'anic para- or pseudo-technology*. It has been claimed, for instance, that the Qur'an has special powers that can be intercepted, channeled, transmitted, and used through technological devices (Guessoum 2011, 5–6).<sup>14</sup> Finally, we can list the resort to medical “techniques” that are actually empirically unwarranted but allegedly “Islamic,” for instance, cupping.<sup>15</sup> These forms of pseudoscience are not exclusively Muslim either, and surface time and again in different societies with a mystique of “exoticness,” “antiquity,” or “tradition” that is not always religious.

Let us resume the discussion of *i'jāz stricto sensu*. If we consider the points from (a) to (f) we can see that *'ijāz ('ilmī)* and the “scientific miracle of the Qur'an” (or “of Islam”) appear to be umbrella expressions under which rather different lines of exegesis can be pursued. Each interpreter can emphasize one or more of the points above. For instance, one might highlight the alleged accuracy of some descriptions of natural phenomena in the Qur'an but ignore (or even reject) numerological interpretations thereof. It should also be pointed out that the different lines can merge due to the nature of the (allegedly) scientific matter mentioned (that, e.g., may involve theoretical as well as factual elements that are not always separable).

A point frequently stated in the context of *i'jāz* (but not exclusively in it) is that the Qur'an invites observation of natural phenomena and to consider them as signs of God. The mention of natural phenomena as signs (Ar. *āyāt*) in the Qur'an is a fact; however, the advocates of *i'jāz* may emphasize the frequency of such references as well as their accuracy. It can be debated if such a point taken in isolation is *sufficient* to detect the presence of *i'jāz*. One might also ask, especially after considering point (a): if an author believes (say) in biological evolution and he or she states that the Qur'an *supports* it, or that it is in *harmony* with it, is that classifiable as an expression of *i'jāz*? A possible response to such questions is that we may only talk of *i'jāz* when it is explicitly stated or implied that there is a *match* between the Qur'an and “science” and that such match *demonstrates* the divine origin of the Qur'an. However, the shortcomings which the present article warns about concern, as I will later argue in greater detail, all the cases of the spectrum, and in this sense we can stick to the usage of the term *i'jāz* without further qualifications.

The thesis of the scientific precision of the Qurʾān can be supported together with the thesis that Jewish and Christian scriptures are not as accurate or are even untenable from a logical or scientific perspective, due to the errors interpolated by the humans who have transmitted or manipulated such texts. In this sense *iʿjāz ʿilmī* can go hand in hand with the doctrine of *tahrīf*, the “distortion” or “alteration” of Jewish and Christian scriptures (Lazarus-Yafeh 2013). However, this is not always the case.

Attempts at “scientifically” reading the Qurʾān date back at least to the efforts of the Egyptian Tantāwī Jawharī (1862–1940), author of *Jewels in the Interpretation of the Holy Qurʾān, Containing Marvels of the Beauties of the Creation and Wonderfully Luminous Divine Signs* in 26 volumes. However, as Majid Daneshgar recently showed, such reading is not necessarily tantamount to subscribing to the thesis of the “scientific miraculousness.” What Tantāwī Jawharī was rather engaged in, according to Daneshgar’s interpretation, was the *understanding* of Qurʾānic verses through scientific data (Daneshgar 2014). It is however likely that an enthusiastic or unsophisticated reader might easily confuse the theoretical framework and purpose of the two interpretations.<sup>16</sup>

Another term used almost interchangeably with *iʿjāz (ʿilmī)* is *Bucaillism* (or *Bucailleism*), after the name of the French physician Maurice Bucaille (1920–1998). In his immensely popular book *The Bible, the Quran and Science* (1976) as well as in other writings and conferences, Bucaille expressed the idea of harmony between Qurʾānic content and “scientific” data with unprecedented clarity and the aura of a Western convert and a successful medical doctor (Bigliardi 2012). Bucaille especially stressed that the Qurʾān was astonishingly accurate about the causes of death of the Pharaoh who pursued Moses during the exodus, whose mummy he was convinced in identifying as among those conserved at the Egyptian museum in Cairo. He was also an advocate of the thesis of the corruption of Jewish and Christian scriptures, which he emphasizes in his works. The identity of the mummy and the match with Qurʾānic verses is presented in his main book as his own finding, but his works contain plenty of examples of a match between Qurʾānic verses and scientific information that he might have taken from pre-existing texts (or perhaps learnt indirectly through conversations). We currently are not in a position to explain in detail which other works may have influenced Bucaille, albeit it seems clear that he did rely on predecessors. However it must be emphasized, in the interest of accurate scholarship and historical reconstruction, that *iʿjāz ʿilmī* is *not* Bucaille’s invention, that the ideas he popularized in his writings *included, but were not limited to*, the “scientific miraculousness” of the Qurʾān, and also that Bucaille *did not pursue all of the exegetical lines* listed above: for example, numerological speculations are absent from his writings (Bigliardi 2014b, 181–83).

Bucaille's work inspired a flood of similar work, usually produced by authors trained in natural science or engineering and with no formal theological training. Analogous to Bucaille's case, and still referred to, is Keith L. Moore (b. 1925), a Canadian anatomist who in 1986, after having worked in the Embryology Committee of the King Abdulaziz University (Saudi Arabia), published a paper arguing that the Qur'an contains precise embryological notions that cannot be explained in the light of human knowledge at the time of the revelation (Moore 1986).

Nowadays *i'jāz* is a popular genre that flourishes not only in print but also on TV and on the Internet. Contemporary successful, that is, highly visible advocates of *i'jāz* include the Egyptian geologist and TV personality Zaghoul El-Naggar (b. 1933) who even works within a Commission *ad hoc* funded, *inter alia*, by the Egyptian government (Bigliardi 2014b, 103–32);<sup>17</sup> the Turkish religious leader and TV preacher Harun Yahya (pen name of Adnan Oktar, b. 1956), who contributes to spreading such ideas together with his vocal criticism of Darwinism (Rixinger 2008; Ross Solberg 2013; Bigliardi 2014b, 41–52; Bigliardi 2014d);<sup>18</sup> and the Indian preacher (with a background in medicine) Zakir Naik (b. 1965).<sup>19</sup>

While these pages are being written (January 2016) a simple Internet search for “scientific” “miracle” “Quran” yields 354,000 results. Conferences are regularly organized on the topic in several Muslim countries (Guessoum 2015, 857). *I'jāz*-related discussion (as well as, more generally, pseudomedicine in Islamic garb) have occasionally found their way into peer-reviewed publications proper, although more as a result of a failure of the peer review process on behalf of editors and referees rather than because of the scientific acceptance of the claims contained in such pieces (Loukas et al. 2010), as well as in peer-reviewed-*looking* journals (cf. Ahmadi, Schwebel, and Rezaei 2008; Khenenou et al. 2013; Ahmed 2015).

#### CRITICISM OF *I'JĀZ*, OLD AND NEW

*I'jāz* has been both studied and criticized by Muslim and non-Muslim authors alike. One of its earliest academic observers, Johannes J. G. Jansen, stated that

one cannot help admiring the courage of certain scientific exegetes of the Koran. Whereas in Christianity it took centuries before the Churches “admitted” certain scientific truths, often after bloody struggles, many modern Moslem scientific exegetes of the Koran boldly claim that the Koran, the backbone of Islam, already contains the modern sciences and their principles, and all this with a courage and vigor that deserves a nobler aim. (Jansen 1974, 54)

A harsh Muslim critic of *i'jāz* is Ziauddin Sardar, according to whom Bucailleism is “apologia of the worst type” (Sardar 1989, 31); more specifically, in Sardar's opinion Bucaille's first book was “essential reading for

Muslims with a larger-than-life inferiority complex” (Sardar 1989, 33). Sardar followed several, albeit complementary, lines of criticism directed at Bucailleism. First of all, according to him, Bucailleism relies on a naively positivistic vision of science as neutral, static, and universal, and made the supposed demonstration of the Qur’ān’s divinity dependent on shaky scientific truths or facts. Second, it sacralized science and undermined any criticism thereof. Third, Bucailleism in Sardar’s opinion often resulted in far-fetched interpretations of the lexicon of the Qur’ān that went hand-in-hand with oversimplified (or simply wrong) notions presented as scientific. The Qur’ān should not be treated as a database, Sardar pointed out: it provides motivation for the pursuit of knowledge that begins with it but does not end in it (Sardar 1985; Sardar 1989, 30–37).

Taner Edis, who is rather critical about the possibility of harmonizing religion and science, states that Bucailleism reduces science to a “stamp collection” (Edis’s 2007, 101). Edis’s position is very similar to Pervez Hoodbhoy’s who, both in his monograph *Islam and Science: Religious Orthodoxy and the Battle for Rationality* (Hoodbhoy 1991) and in numerous press articles, has been attacking pseudoscience especially in Pakistan (Hoodbhoy 2015).

Recently, a group composed of the physicists Mehdi Golshani, Mohammed Basil Altaie, Bruno Guiderdoni, and Nidhal Guessoum has been defined as a “new generation” of authors engaged in the debate over Islam and science. These authors, who approach such debate in their capacity as natural scientists, aim at a theistic interpretation of science based on Islamic concepts rather than at a reformation of the scientific method. Although they share such a general goal, they do differ as to specific philosophico-theological stances (Hameed 2012; Bigliardi 2014a; Bigliardi 2014b; Edis 2014; Guessoum 2015).

All the authors of the “new generation,” however, take critical stands toward *i’jāz*. Golshani warns about the identification of scientific notions in the Qur’ān for at least three interwoven reasons. He points out that this kind of exegesis should not be favored over the direct investigation of the natural world; he remarks that it wrongly provokes the treatment of the Qur’ān as a catalog of scientific facts and not as a book of guidance; and he recalls that scientific theories change so that the supposed correspondence of the Qur’ān and science cannot be taken as decisive validation of the Qur’ān itself. Altaie mainly criticizes the incompetence of those authors who embark on the identification of scientific notions in the Qur’ān and, concerning various (not better specified) claims by El-Naggar, he observes that some are not verifiable, some are correct if contextualized, and others are plainly wrong. Altaie particularly expands on the problem that, more often than not, the facts supposedly harmonized with the Qur’ān or the *hadith* are not scientific at all, such as the alleged finding of a giant skeleton that demonstrated the size of humans in Adam’s times as mentioned in



the *hadith*.<sup>20</sup> He states as well that the Bucaillean approach has allowed a majority of “ordinary” people to acknowledge “the Qur’ān’s scientific and intellectual expression.” Guiderdoni maintains that Bucaille was sincere in his approach; however he describes Bucailleism as shallow or “bad science” and “bad theology” that inverts “the way things should be done.” According to Guiderdoni, scientific facts should be the object of a properly scientific enterprise, and theology in its turn should not be exclusively reduced to the identification of scientific notions in the Qur’ān (Bigliardi 2014b, 189–91).

Guessoum has a more articulate interpretation, and one that has been evolving over the past years. In a 2008 article published in *Zygon*, he insists on the distinction between “scientific interpretation” (*tafsīr ‘ilmī*) and “scientific miracle” (*i’jāz ‘ilmī*) of the Qur’ān. The former is the kind of exegesis that is aimed at illuminating the content of at least some Qur’ānic passages that mention natural phenomena, by referring to up-to-date scientific knowledge; the latter is the identification of specific scientific notions, inventions, and discoveries supposedly foretold in the Qur’ān. However, Guessoum recognizes that Bucaille’s work stands midway between the two trends. Guessoum acknowledges as well that some advocates of this trend are highly educated and sincere in their approach and describes *i’jāz* as “a snowball that started out small and white but then rolled and collected rubbish (ignorant contributions); it has become a mass of dirty ice that easily melts under the intense light of objective and methodical scrutiny.” At the same time, he believes that it is possible to salvage, clean up, and redirect such an approach, “at least for the general public,” by rejecting “all extreme positions.” Guessoum’s position is also original in that he levels some counter-objections to other critics of the scientific interpretation and scientific miracle of the Qur’ān. Other critics, Guessoum points out, have stated that it leads to assigning untenable meanings to Qur’ānic vocabulary, that it downplays occasions of revelation as well as the sociocultural context of the revelation, that it projects onto the perfect Qur’ān the imperfection of human sciences, and that it is an elitist approach. However, Guessoum regards all of these objections as “not serious” since in his view they disregard that the Qur’ān is not bound to the specific context of seventh-century Arabia and is always open to multiple interpretations by readers with different intellectual inclinations or mindsets (Guessoum 2008, 420–28).

In conversation with me following the *Zygon* article by a few years, the Algerian physicist recognized that Bucailleism can have an “allure” for less scientifically informed minds, as he himself was before taking up his physics studies. In this sense, and given that a sophisticated comprehension of science and religion are not open to everybody, Bucailleism seems, in Guessoum’s reconstruction at least, to naturally fulfill or express a cultural role or need. However, in that very conversation Guessoum shortly

expressed harsh remarks about the “scientific miraculousness” of the Qurʾān that he defines as “dangerous philosophically and intellectually, even dangerous Islamically” (Bigliardi 2014b, 155). More recently, and once again in a *Zygon* article, Guessoum has described *iʿjāz* as a major challenge for the “new generation,” emphasizing the pseudofacts that are referenced in this kind of exegesis, as well as the institutional and academic support that *iʿjāz* obtains in Muslim countries (Guessoum 2015).

I have analyzed the logic behind Bucaille’s discourse, and emphasized that it is especially contradictory regarding the concept of a miracle. Whereas the French author states that he scrutinizes the sacred scriptures with a scientific mind, he is also eager to take supernatural narratives at face value (Bigliardi 2011). I have also examined Yahya’s works, pointing out how his usage of pictures and stylistic elements typical of scientific popularization proper characterizes the works by the Turkish author as a new and more sophisticated form of *iʿjāz* (Bigliardi 2014d). Finally, I have pointed out the nuances in the new generation’s positions concerning *iʿjāz*, describing their discussion because of the subtle arguments employed as a “Mikado match” rather than a “titanic struggle”; I have also invited fellow scholars to collect more sociological data concerning the consumption and production of *iʿjāz* in order to avoid generalizations. In particular I point out that data about state funding allocated to conferences and publications dedicated to *iʿjāz* are still a *desideratum* (Bigliardi 2014b, 191–93).

Josep Lluís Mateo Dieste, who has conducted fieldwork at an *iʿjāz*-dedicated conference in Tétouan, Morocco (Third Conference on the Scientific Miracles of the Qurʾān and the Sunna, Faculty of Sciences, University Abdelmalek Essaadi, September 17–19, 2010), pointed out not only how *iʿjāz* itself goes hand in hand with anti-Darwinism, but also emphasized its deep, *implicit anthropocentrism*. Commenting upon the words of one of the conference delegates, a professor who had stated *inter alia* that everything in the universe from planets to particles moves counter clockwise around a center analogously to the pilgrims around the Kaʿaba, Mateo Dieste observes:

During the interview I could also detect the usual criticism of Darwinism employed by most of the authors who produce this kind of literature, characterized by a remarkable pedagogical effort at synthesizing and popularizing, with the same argumentations repeated over and over again in self-produced booklets and brochures provided with illustrations and frequent caricatures of Darwin with an ape’s body. However, some aspects emerged in the interview that are not always easy to identify in the materials and written documents examined: for example, the idea that the world has been designed by God for the humans. There emerges in this discourse, in my opinion, an unsuspected anthropocentrism although formulated in terms of “divine objectivity.” (Mateo Dieste 2014; see also Mateo Dieste 2015)

The emergence and enduring success of *i'jāz* may be explainable through a number of historical and social factors. The present article is more concerned with theoretical issues, but we can at least advance some hypotheses, especially drawing upon the criticisms that we have just observed. *I'jāz* acts as an antidote to the (incorrect) perception of contemporary science and technology as Western/non-Muslim ("non-Muslims have technology and science; but Muslims have had them all along"). It also projects onto the Qur'an the prestige of natural science perceived in its turn as the highest form of knowledge and the yardstick of truth (e.g., Bucaille complemented the discovery of scientific notions in the Qur'an with the deconstruction of the Old and the New Testament in the light of science itself). More in general, the whole emergence of the very debate about the harmony of Islam and science (including but not limited to *i'jāz*) has been described as a result of the weakening of traditional, theologically trained religious authorities and the emergence of new authors who self-identify as Muslim and strive to reshape Islam in the light of modern science while affirming themselves as new authorities (Stenberg 1996).

Another related factor to be taken into account is that the easiness of finding "science" in the Qur'an has been immensely expanded by the encyclopedic possibilities disclosed by the Internet to non-specialists. Whereas an author like Bucaille needed at least a smattering of different disciplines acquired through readings and conversations, access to the world wide web allows one to rapidly "fish" "scientific information" from the most different sources and pair it with Qur'anic passages that can be, in their turn, rapidly selected through a search by relevant terms. Software whose usage does require minimal skills allows a rapid and plethoric production of texts that can be immediately sent out in the virtual world and made available to everybody, bypassing peer and editorial review. Especially what I have called "*i'jāz* without Qur'an" seems to be a rather amateurish, homemade product; it requires minimal or even non-existent theological and scientific knowledge to be produced and its existence and emergence can be related to the increasing availability of computer programs that allow easy manipulation and circulation of images. *I'jāz* producers can be students, practitioners, or professionals who, in creating and spreading this kind of discourse, can feel that they are re-appropriating religion after having pursued a career that has taken them far from the study of the sacred text. I am not claiming that such exercise is not creative, creativity being in fact rather difficult to measure, but that its results are rather easy to imitate and spread.

Finally, a hypothesis that needs to be explored further is that the scientific exegesis of the Qur'an can also be perceived as a more efficacious tool in proselytizing, especially when the Qur'an is predicated to non-Arabic speakers who are unable to perceive the hiatus between Qur'anic language

and ordinary Arabic, and hence are less likely to understand the doctrine of *i'jāz* classically formulated as linguistic inimitability.

### CONSPIRACY THEORIES

We shall make a diversion here in order to describe a contemporary phenomenon that scholars have analyzed in detail as a major vehicle of pseudoscience. Its analogies and ties with *i'jāz* will gradually emerge in the discussion. To begin with, the expression “conspiracy theories” (that from now on I shall use interchangeably with “conspiracism” and “conspiracist thinking”) must be kept distinct from the study, in historical terms, of conspiracies proper, a “conspiracy” being defined as a secret plan by a group to carry out harmful deeds or the implementation thereof (Byford 2011, 2). Conspiracism, that in its modern form began developing after the French Revolution (Byford 2011, 43), is a contemporary subcultural phenomenon (Byford 2011, 5), a fallacious style of debate (Byford 2011, 4–5) that assumes the existence of some event and describes it as the result of an occult agency that not only brings it about for its sinister purposes, but is also engaged in a major cover-up aimed at deleting the traces of the very agency’s role in causing such event (Byford 2011, 2). No event is immune from conspiracist thinking, and new conspiracist theories are born on a daily basis. Notable examples include conspiracist theories about John Fitzgerald Kennedy’s assassination (1963), the Moon landing (1969), Marilyn Monroe’s death (1962), Lady Diana Spencer’s death (1997), the 9/11 terrorist attacks (2001), the world financial crisis as intentionally steered by a group engaged in the construction of a new world order, an alien race secretly dominating the world through various forms of manipulation, the very existence of aliens kept secret by governments, the spraying of “chemtrails” made by poisonous substances, vaccines that cause autism or other diseases, HIV as non-existent, and AIDS as a synthesized disease used to bring about a genocide in Africa, and so on.

Conspiracism is characterized by a distinct, and logically flawed, style of argumentation rather than by a specific content or debate. It is generally fueled by/revolving around *pseudofacts* or *factoids* that result respectively from plainly *false statements* (e.g., “No corpses were found at Shanksville”<sup>21</sup>), and from *falsely interpreted facts* (e.g., “Building Seven collapsed because of a controlled demolition”<sup>22</sup>) that in any case would not stand up to meticulous fact-checking and/or reasoning along logical and physical principles.<sup>23</sup> Conspiracist “hypotheses” are based on self-sustaining arguments, since pseudofacts or factoids are used to point at the existence of the conspiracy, but the very absence of proof by definition confirms the existence of a cover-up (Byford 2011, 35–37). Emphasis on the existence of an occult agency can entail not only disregard of fact-checking for each “fact” used in the discussion, but also disregard for the contradictions among alleged

facts. It has been demonstrated that conspiracists believe, for instance, that Diana Spencer faked her death *and* that she was murdered by MI6, or that Bin Laden was already dead when his compound was raided *and* that he is still alive (Wood, Douglas, and Sutton 2012). The consumers of conspiracist discourse are described as characterized by feelings of dispossession, alienation, and disenchantment with politics; conspiracism thus offers “a simple explanation for existential and status-related problems” (Byford 2011, 129–30).

Conspiracist thinking currently flourishes on the Internet (Jolley and Douglas 2013, 37; Byford 2011, 10–11) and it is produced by some leading authors specializing in one or more of its theories; consumers of conspiracy discourses have been demonstrated to usually believe in more than one conspiracy theory at a time (Wood and Douglas 2013). Conspiracism, as we have observed, is a rhetorical style that can be picked up relatively quickly rather than a practice one can be academically trained for and involving the development of a real expertise. Therefore conspiracism consumers are induced to become authors themselves, for instance, by opening their own blogs, or they might feel that they are producing the discourse through their own “research” while they actually are mediating it.

Conspiracism has also taken a pseudo-academic form. Conspiracists have adopted stylistic devices typical of academic texts—for instance, quotations that actually never exceed texts within the conspiracist discourse itself (Byford 2011, 90 and 101) and founded venues for such exchanges that are similar to academic ones (such as conferences and journals (Byford 2011, 89). Conspiracism presents itself in a scientific garb in that it offers and discusses “proofs”: this is the so-called “rhetoric of scientific inquiry” (Byford 2011, 66). In fact, conspiracist authors usually claim an authority that is not matched by their academic credentials or professional expertise (e.g., journalists expanding on the physical laws explaining the 9/11 collapses or those supposedly violated in a lunar mission). Moreover, conspiracism is based on or promotes a sheer misunderstanding of scientific and academic practice. “Investigation” as it is carried out by conspiracist authors and consumers is rather the accumulation of “facts” collected on the Internet than genuine fact-checking (Byford 2011, 88). As I have already observed, self-referential quotes are favored over fact-checking while peer review and independent control are ignored. Despite the value apparently conferred on “expertise” and “credentials” within conspiracist discourse (Byford 2011, 9), if any other experts (be they genuine or not) report some piece of information that seemingly confirms the main thesis, they are eagerly quoted in order to buttress it; but if their information contradicts the main thesis they are deemed to be biased and hence discarded (either by claiming they are influenced by prejudice or that they are on the occult agency’s payroll; Byford 2011, 13). It must also be noted that, as in the case of the 1998 article in *The Lancet* by Andrew Wakefield that started the

conspiracist discourse about vaccines causing autism (and that was actually heavily flawed and therefore retired), sometimes the “information” referred to in conspiracist discourse did appear in scientific venues proper as a result of a failure in the peer review process (Jolley and Douglas 2014, 1).

Seemingly, conspiracist thinking stems from, represents, and invites a critical consideration of politics and social phenomena. In fact, conspiracism is harmful to the correct communication of science (be it meant as natural science or in a broad sense as the construction of knowledge based on sound arguments and peer review): “Because they harbor suspicion about any official source of knowledge, conspiracy theories stand in opposition to science, medicine and other forms of mainstream academic enquiry” (Byford 2011, 144). First, conspiracist discourse spreads a number of specific pseudofacts. Second, belief in such pseudofacts can result in harmful behavior (e.g., failure to vaccinate children or to take adequate protections against STDs). Psychological research has demonstrated that exposure to conspiracy theories concerning climate change decreases intentions to engage in politics and to reduce one’s carbon footprint (Jolley and Douglas 2013, 2014). Third, the fallacious and paranoid thinking style that characterizes it impedes a correct understanding of experimental and/or peer-reviewed science. Some specific conspiracist debates—for instance, those focusing on allegedly “alternative” medicine or on supposedly harmful vaccines—even invite one to regard “official” medicine as biased, thus inducing dangerous behavior as well as a generally mistrustful attitude toward scientific authorities (Byford 2011, 13). Finally, and more generally, it has also been demonstrated that conspiracism is characterized by the tendency to argue against opposing interpretations rather than in favor of conspiracists’ ones (Wood and Douglas 2013), thus representing a non-self-critical attitude toward the debate.

#### HOW *I’JĀZ*, PSEUDOSCIENCE, AND CONSPIRACISM OVERLAP AND MERGE

Attentive readers have probably noticed various relevant analogies between conspiracism and *i’jāz*. *I’jāz* incorporates and conveys, more often than not, pseudoscience in the form of blatant *pseudofacts* or *factoids* as I have defined them. An *i’jāz*-related *pseudofact* is, for instance, the existence of a lunar rille that, according to a known narrative, was discovered by NASA astronauts and confirms the splitting of the Moon mentioned in the Qur’ān (Q 54:1).<sup>24</sup> A *factoid* is that planetary motion goes counter clockwise similarly to the pilgrims’ circumambulation of the Ka’aba (planets do move in ellipses but the direction depends on the viewpoint). This is by no means a recent development if we take Bucaille’s works as a starting point. Already his claim that the mummy he examined was that of the Pharaoh who pursued Moses, and that such identification confirmed the Qur’ān

and disconfirmed the Bible, was based on circular and/or far-fetched inferences (the Qur'an mentions that the Pharaoh was "thrown" in the water; the mummy examined does not present the signs of a long permanence in water but rather physical wounds; then the wounds must have been caused by the water crushing the Pharaoh; therefore the mummy belongs to the Pharaoh who pursued Moses; thus the Qur'an is scientifically correct). We can mention here another famous narrative according to which the French oceanographer Jacques Cousteau (1910–1997) converted to Islam after discovering a current of sweet water in an ocean, a fact described in the Qur'an. There even exists a version of this narrative in which Cousteau learned about the Qur'anic reference from Bucaille himself.<sup>25</sup>

One might be tempted to describe these as extreme cases. Guessoum, as we have seen, has initially pointed at the distinction between "scientific miracle" and "scientific exegesis." Also in this article I have attempted a fine-grained classification and understanding of *i'jāz*. However we should emphasize that *even in its "softer" versions i'jāz is far from being a discipline based on an empirical study of the external world through mathematical models and repeatable experiments, whose results are accepted by a community after peer review.* It is rather a narrative technique that resorts to information, be it empirically warranted or not, that apparently refers to the natural world. In this sense the adjective itself "scientific" (as implicitly referring to the natural sciences) is spurious. The same holds for the supposedly "demonstrative" role of single "scientific miracles" where the object of the alleged demonstration is the Qur'an's divine origin. This means that *i'jāz in any case makes a misleading reference to the natural sciences.* In other words, some (though not all) of the claims made about science in *i'jāz* literature refer to valid scientific findings, which are then tenuously linked to passages of the Qur'an, yet *i'jāz* (like much conspiracism) involves the accumulation of scientific facts without any regard to the scientific processes like peer review or theory development that test those facts. Scientific practice is simply bypassed and, rather than peer review, what is favored, as Mateo Dieste observes, is the constant replication of the same material. Because of this, the distinction between facts and pseudofacts becomes blurred. Considered from this perspective, the sharp distinction advanced by Guessoum between "scientific interpretation" and "scientific miracle" or the very taxonomy proposed in this article are surely useful tools in order to distinguish among sub-genera, but do not shield any of them from the charge of making a misleading reference to the natural sciences. This also holds independently of the further philosophical shortcomings that one may identify in the specific conception of science (implicitly) held by specific *i'jāz* exegetes—for instance, the sacralization of science, as stated by Sardar, or anthropocentrism, as pointed out by Mateo Dieste.

So far, *i'jāz* and conspiracism seem to be two forms of discourse, whose only common reference points are pseudofacts and factoids, urban-legend-like narratives, as well as pseudoscientific structure and language. However, there are more shared elements. For instance, *i'jāz* producers are usually authors with a scientific background who actually write about fields they are not directly competent in. This once again entails a blatant disregard of peer review mechanisms and conveys an image of science as stemming from (or being based upon) the narrative of the individual “expert.” Such a pattern was already present in Bucaille and can still be observed.

Furthermore, analogous to conspiracy theories, *i'jāz* is seemingly borne out of, and contributes to dampening, a negative feeling. More specifically, a frustration stemming from the simplistic and deeply sated conviction that contemporary science is “Western” and that Islam/religion is in need of “scientific validation.”<sup>26</sup> This seems to be confirmed by the fact that often the scientific authorities evoked in *i'jāz* narratives are non-Muslims (that sometimes, as we have seen, are said to have converted to Islam as a result of their alleged discoveries). In fact the trope of the “illustrious Western convert” is an old one not only in the discourse on Islam and science<sup>27</sup> but also in conspiracy theories proper circulating in the Muslim world, such as the (alleged) conversion and subsequent assassination of Lady Diana Spencer or of Gianni Agnelli’s eldest son Edoardo.<sup>28</sup>

We have seen that both conspiracist narratives and *i'jāz* ones have mushroomed thanks to the possibilities disclosed by the Internet. We should also mention that one of the greatest producers of *i'jāz*, the Harun Yahya enterprise, which has profited enormously from the possibilities disclosed by the Internet, has spread blatant conspiracy theories in which first the Jews and the Freemasons, and later the “Darwinists,” are described as the sinister, occult agency behind each and every ill of contemporary society and tragic facts of history (Ross Solberg 2013, 75–82).

Yet there is more to the picture. *I'jāz as a genre not only bears some striking family resemblances to conspiracist thinking: it also overlaps with it, or incorporates it significantly.* Narratives such as NASA astronauts discovering proof of the Moon’s splitting, that Cousteau converted to Islam after discovering an oceanic current mentioned in the Qur’ān, or that a giant skeleton was discovered in Saudi Arabia that confirmed a *hadith* about Adam and his height, *while not directly constituted of conspiracy theories, need and encourage the production of a wider, paranoid and conspiracist context in which to be comprehended by their consumers or presented by their producers once they are challenged about the evidence and the literature that supports them.*

Here lies a major difference between *i'jāz* narratives and scientifically/philosophically solid debates on science and religion. One might,



say, theistically interpret planetary motions in the Solar System as “harmonious” and “pointing at God’s rationality”; however, a description of those very motions in rigorous mathematical terms and with reference to precise observations will be found in books in which the concept itself of God is not relevant. However, there is no other way than resorting to a conspiracist theory if one wants to make (some) sense of any “scientific discovery” or “fact” that supposedly confirmed the Qur’ān and still is not reported in official, scientific literature (i.e., other than the *i’jāz* one) because it actually is a pseudofact or a factoid. If, say, the proof of the Moon’s splitting is not recalled in NASA documents there must have been a major cover-up; and a cover-up can only have been motivated by the will to avoid crediting Islam . . . and so on. For instance, if one points out that Bucaille’s “results” are only discussed in his books or in Bucailleist ones, a Bucailleist interlocutor can claim that the French author *chose* not to express himself in academic venues out of fear of persecution, or that the very absence of scientific publications on his behalf is the result of such persecutions. *I’jāz*-advocate Zaghoul El-Naggar, when diplomatically challenged by me about the fact that “it is difficult to find a passage in which Maurice Bucaille clearly admits, in first person, that he converted,” answered:

You know, sadly enough, the Westerners, who claim to be democratic and advocating human freedom and human dignity, become the most fanatic people when it comes to the area of religion. I lived in the West for many years and I wouldn’t say everyone but the majority of them are very fanatic. Most of the Christians in the West take religion as an idea rather than as a belief—which they can analyse critically. That is why Maurice Bucaille preferred to keep his belief between himself and his Creator. (Quoted in Bigliardi 2014b, 130)

In short, the reasons of the deep analogies and overlap between *i’jāz* and conspiracism can be identified in the very fact that they are both discourses produced by non-specialists who invest their own work with great emotional value and who claim (or want to mimic) a scientific approach without actually subscribing to its standards. Once (1) expertise is disregarded, (2) the connection with the experimental method is severed, and (3) mathematics is eliminated from the picture, wrong information about the natural world is likely to be rapidly incorporated in the discourse. Afterwards, self-referentiality is the only way that warrants an academic look, while conspiracist/paranoid logic (“other scientists do not accept/disclose this information because of their religious agenda!”) is the only way left to the exegetes when the lack of empirical warrant or collegial consensus is pointed out to them outside of *i’jāz*-dedicated texts for the supposedly scientific information they talk about.

## CRITICAL CONCLUSIONS AND PROPOSALS

The production of *i'jāz* might well stem from a sincere intention to harmonize religion and science. The consumption of *i'jāz* seems to fulfill a psychological function. It makes believers feel that their sacred scriptures are not outdated, and in harmony with what is regarded as the most successful and useful form of knowledge. Conversely, science's (supposed) "Western" or potentially antireligious character is bypassed. *I'jāz*, seemingly, reassures believers about a number of issues. Focusing on such a function one might be tempted to deem *i'jāz* harmless or even positive for non-experts in things scientific. However, one should keep distinct the observation of *i'jāz* producers and consumers' feelings and motivations, and the logical structure and consequences of *i'jāz*. The former deserve respect; the flaws in the latter cannot be passed over in silence out of respect. As we have observed in the previous pages, there seems to be no way to argue in favor of the scientific tenability of specific *i'jāz* narratives without adding more and more "conspiracist epicycles" which in turn take one further and further from a correct understanding and appreciation of science proper. Furthermore, *i'jāz* consumers end up believing pseudoscientific information. What is gained in the short run in terms of the reassurance conveyed by the "discovery" of "scientific notions" in the Qur'ān can hardly be justified if one thinks of the damage brought in the longer term to the correct perception, practice, and implementation of science proper, not to mention funding allocation on behalf of political authorities.

One might be tempted to resort to sophisticated theories about the problem of demarcation between science and pseudoscience in order to argue that we are not sufficiently equipped to undertake such an enterprise as debunking *i'jāz*. Yet the problem of demarcation is somewhat resolved by *i'jāz* producers and consumers themselves. Indeed, they do not engage in a highly intellectual discussion of differing visions of science, but they simply employ plain labels such as "science," "scientific," "scientist," and so on. To be sure, highly intellectual debates over the nature of science should not be generally dismissed; but they are irrelevant *vis-à-vis* the advocates of *i'jāz* who do not rely, say, on conceptions of science *à la* Feyerabend in order to argue that all forms of knowledge are equally worthy or that there is no such thing as a scientific method. They are rather willing to present themselves as engaged in a scientific, academic enterprise equal to other ones they take as reference. They should, then, be judged by the same standards they claim to their own credit before engaging in complex debates regarding the nature of such standards. One can debate whether and why the physics or medicine taught in an academic handbook is objective knowledge. Yet if someone claims that the discourses he himself produces have the same status as physics and medicine in that handbook,

the question to prioritize is whether such discourses have been obtained through the same method, rather than the status of that very method.

It is also important to emphasize that we are not suggesting that the Muslim world is more affected than any other society by pseudoscience and conspiracism, which are in fact global phenomena. However, *i'jāz* is a typical and widespread kind of pseudoscience and a cognate of conspiracism typical of the Muslim world.<sup>29</sup>

The above-proposed comparison demonstrates in detail that *i'jāz* is not only the vehicle of specific pseudoscientific notions but also of deeply pseudoscientific *forms of thinking*. In their capacity as philosophers of science and religion, Guessoum and his new generation colleagues are engaged in fine-grained work concerning complex questions such as the reconciliation of a personal God with biological evolution, or over divine action in the world. Scholars interested in questions of classification point out that *i'jāz* as a cultural and social phenomenon begs for deeper scholarly understanding. However *teachers* and *educators* (a role actually shared by all the authors we have just mentioned), once they have understood how easily *i'jāz* goes hand in hand with pseudoscience and conspiracism, might be looking for alternative models, especially considering that *i'jāz* often reaches educational institutions and students who should be trained in scientific methods and critical thinking.

Public debates with specific *i'jāz* producers do not seem to be a wise option. This would only encourage the perception of *i'jāz* as a theory to be debated on a footing of equality with proper science (analogously to conspiracist authors, who should not be combated directly; Byford 2011, 155). It is also quite unlikely that *i'jāz* can be eradicated in the short run; given the easiness of its production *i'jāz* is always liable to be produced in enormous quantity. It seems safe to state that in the long run the appeal of *i'jāz* can radically fade away only as a result of wider educational policies.

Specific syllabi and teaching strategies should be tailored to existing institutional, educational, and cultural landscapes in specific Muslim countries. Here scholarship and pedagogy can go hand in hand, since a more fine-grained understanding of *i'jāz* from the viewpoint of the social sciences can help. Once again one may emphasize that understanding *i'jāz* and contrasting it can be taken up as parallel and integrated tasks. I will try to sketch some general guidelines here, pointing at ideas that might help contrast *i'jāz*. Natural sciences, philosophy and critical thinking teachers alike may encourage the appreciation of natural science as methodologically based on mathematical models, emerging through experimental investigations and peer review rather than from the intuition of the "individual genius." Research in the natural sciences can well be presented as a fascinating and worthwhile enterprise, without scientific undertones but also without spurious connections with sacred scriptures. One can add that the scientific enterprise is perfectly in line with a Muslim's life path and ethical

code, but without getting entangled in any “scientific exegesis” whatsoever of the sacred text of Islam itself. Theologians may also join their efforts with such educators; for instance, in spreading the idea that *the amazement of miracles* (however they be defined in theological or philosophical terms) *is not one and the same thing as a scientific demonstration* (the very overlap of the concepts of “miracle” and “sign” in Qur’anic language might help in such a task). This can be complemented by the idea that *distinguishing demonstrations in the natural sciences from other forms of demonstration is not tantamount to (implicitly) deeming the former as more worthwhile than the latter*. An advantage of all such perspectives is that they refer to shared values on which thinkers and educators can converge although possibly differing on other philosophical and theological points, as is the case with the representatives of the “new generation” (needless to say, non-Muslim teachers and scholars may join this enterprise as well).

Once again: it is not claimed that those who are already convinced by *i’jāz* and have entered the vicious circles of reasoning that characterize it can be “re-converted” overnight. Another lesson that can be learned from conspiracism is that arguing with hard-line conspiracists is simply useless. However, it is conceivable that suitable sources can be created for all those curious readers who might be exposed to *i’jāz*, are still half-hearted about it, and are looking for other ways to reconcile science and religion. For instance, one can think of a website addressing, in encyclopedic and popular form, major pseudoscientific myths emerged in *i’jāz* but also pseudoscience in Islamic garb. An introductory main page might emphasize the process that led to create it, its authorship, and explain pivotal notions such as the ones we have observed above: the importance of peer review and of fact-checking, as well as the harmfulness of pseudoscience and conspiracism. Each entry may then focus on a specific issue, analogously to *Wikipedia* and similar hypertexts. It can be discussed whether individual *i’jāz* producers who have endorsed a myth need be mentioned or not. Perhaps their authorship should not be emphasized, this both in order to avoid getting entangled into *ad personam* criticism as well as lending visibility to those authors, but also in order to pre-empt shifts in the endorsement of such myths. In other words, what we are sketching here is a critical catalog of “errors” and not of “errants.” Specific sections in each entry may be dedicated to explaining in plain terms (1) which Qur’anic passage(s) is/are referred to, and (2) why the myth is actually flawed and pseudoscientific; a final section (3) may reference *several* major scientists and thinkers who have endorsed a non-pseudoscientific take on the same matter, with precise bibliographic indications for those readers who are interested in deepening the topic.

Such an initiative might be interesting both as a local project, based at a single university and coordinating various departments, or as a major one, involving different universities. In a more ambitious form it could

be launched both in Arabic and English with a significant amount of entries. Afterwards it could be updated on a constant basis along lines analogous to which *Wikipedia* is run, and translation of the entries into other languages (Turkish, Urdu, Malay, Bahasa Indonesia just to mention a few) may be encouraged. If the intended readership is a Muslim one, the promoters of such a project might address pseudonotions and fallacious forms of thought typical of *i'jāz*, while at the same time showing that endorsing such criticism and entertaining the correct notion regarding the phenomena at stake is not necessarily challenging for Islam and is, in fact, a position represented by notable Muslim authors prominent in their respective fields. Interdisciplinarity, high professionalism, interfaith (Sunni/Shi'i) and interreligious angles can be striven for while building the team working on such enterprise, and be effectively communicated while presenting their achievements to the general public.

On an optimistic note for those who might be interested in embarking on such a project, one can observe that this kind of enterprise can implement work patterns and strategies that have already proven viable and successful in other projects. There are notable precedents for interreligious and interdisciplinary collaboration in setting up major academic conferences.<sup>30</sup> A recent project has been successful in cataloging YouTube videos about Islam and science including numerous examples of *i'jāz* ones.<sup>31</sup> Web sites aimed at debunking pseudoscientific/conspiracist narratives already exist,<sup>32</sup> as well as scattered and unsystematic attempts at criticizing *i'jāz* through websites.<sup>33</sup>

#### ACKNOWLEDGMENTS

I wrote this article while I was generously supported by the Foundation for Interreligious and Intercultural Research and Dialogue (FIIRD) in Geneva. I express gratitude to FIIRD Director Claudine Korall as well as to the members of the Scientific Committee of FIIRD and to FIIRD fellows Nael Georges, Aude Jehan-Robert, Einat Klafter, Luca Patrizi, Ana Petrache, Goran Sekulovski, Khairy Shaarawy, and Elena Zapponi for their stimulating input. I heartily thank for their suggestions and corrections *Zygon's* two anonymous reviewers as well as Reda Abid and Ali Djedidi. I likewise thank Matteo Barbato for calling my attention to some pseudo-academic articles. The article is dedicated to Paolo Attivissimo, whose accurate work, wit, and independence of thought highly inspired me.

#### NOTES

1. Cf. the English "genie": inhabitants of the immaterial (or subtly material) world into which ours is plunged.
2. Exodus 7:8–12 and Q 7:107.

3. I am here drawing upon the taxonomy and the discussion proposed in two other essays (Bigliardi 2014c; Bigliardi 2016), that I correct, enrich, and refine in some points. The articulate comparison with conspiracism is new. The results exposed here have been anticipated in my final essay for FIIRD (unpublished manuscript, summer 2016).

4. For instance: [http://www.miraclesofthequran.com/scientific\\_02.html](http://www.miraclesofthequran.com/scientific_02.html); [http://www.speed-light.info/miracles\\_of\\_quran/expanding\\_universe.htm](http://www.speed-light.info/miracles_of_quran/expanding_universe.htm) (accessed January 14, 2016).

5. For instance: [http://scienceislam.com/quran\\_human\\_embryonic\\_development.php](http://scienceislam.com/quran_human_embryonic_development.php) (accessed January 14, 2016).

6. For instance: [http://www.miraclesofthequran.com/predictions\\_02.html](http://www.miraclesofthequran.com/predictions_02.html) (accessed January 14, 2016). It is important to remark that the nature of the “facts” referred to can vary significantly. Some interpreters maintain that the Moon’s splitting evoked in the Qur’ān 54:1 was a real event whose signs have been observed by NASA astronauts. In this case, we have a miracle proper (i.e., a supernatural event) whose narrative allegedly matches current scientific observations (scientific miracle of the Qur’ān). Yet there is also a naturalistic interpretation of the event (i.e., the splitting is said to have happened according to natural laws) still framed in the *i’jāz ‘ilmī* discourse. For different interpretations, see Andreas Görke (2010).

7. For instance: [http://www.miraclesofthequran.com/predictions\\_05.html](http://www.miraclesofthequran.com/predictions_05.html) (accessed January 14, 2016).

8. See, for instance, respectively: <https://makashfa.wordpress.com/2011/11/03/very-interesting-numerology-in-holy-quran/> and [http://www.miraclesofthequran.com/mathematical\\_02.html](http://www.miraclesofthequran.com/mathematical_02.html) (accessed January 14, 2016). A conference at the Centre of Quranic Research (CQR) was dedicated to the “numerical miracles in the holy Qur’an,” University of Malaya, Kuala Lumpur, September 22–23, 2012 ([http://cqr.um.edu.my/?module=Events\\_and\\_Activities&pilihan=Numerical\\_Miracle](http://cqr.um.edu.my/?module=Events_and_Activities&pilihan=Numerical_Miracle)).

9. See, for instance: <http://islam.ru/en/content/story/why-eating-pork-pig-meat-forbidden-islam> (accessed January 14, 2016).

10. See the video <https://www.youtube.com/watch?v=cEF6PmeAKSs> (accessed January 14, 2016) (“Tyrannosaurus Rex testifies that Allah is the only GOD”) and <https://www.youtube.com/watch?v=yvfpRIEgHb0> (accessed January 14, 2016) (“Planet Earth prays to Allah (god) the same way as we do in Islam”).

11. See the video: [https://www.youtube.com/watch?v=2ipKFFefL\\_o](https://www.youtube.com/watch?v=2ipKFFefL_o) (accessed January 14, 2016) (“Allah written on things, wonder of allah, wunder islam” [*sic*]).

12. See *The Telegraph* online 2009; needless to say, I am only mentioning this as an example for a general category and I refrain from discussing the veracity of such narrative here.

13. For a catalog and discussion (from a skeptical viewpoint) of similar cases involving Christian symbols, see Robert Todd Carroll (2015).

14. The typology might be expanded because of the discovery or development of new lines. For example, I am personally not aware of the existence of any interpreters who claim the match between *phonetic* patterns in the Qur’ān and natural ones but they might eventually emerge.

15. For instance, “Islamic cupping” was recently adopted by a famous sportsman and criticized by medical experts (France 2015).

16. Given the results of his examination, I find Daneshgar’s lexical choice “embedded” somewhat unfortunate since it might suggest that the discoveries were already contained in the Qur’ān, but the kind of exegesis developed by Tantāwī Jawharī as Daneshgar describes it resembles more what Guessoum labels “scientific interpretation” (see below).

17. Official website: <http://www.elnaggazr.com/en/>. Interestingly El-Naggar stated that he favors the expression “scientific precision” over “scientific miracle” (Bigliardi 2014b, 112). He also defends the fact that the genre is developed by authors overstepping their disciplinary boundaries with an appeal to avoiding “overspecialization” but at the same time recognizing that this can bring about mistakes (Bigliardi 2014b, 114–15).

18. Official website: <http://www.harunyahya.com/>

19. Biography available at: <http://www.irf.net/drzakirnaik.html>

20. This piece of news was published, for instance, in a Bangladeshi newspaper (Alvi 2004).

21. The New York building that collapsed on September 11, 2001, as a result of structural damage brought about by fire propagated from the North Twin Tower.

22. The borough in Pennsylvania where the United Airlines Flight 93 bound for San Francisco crashed on September 11, 2001.

23. For instance, concerning the so-called “chemtrails” one might not be able to inspect each and every aircraft in the world in order to ascertain whether it contains poisonous substances and spraying devices, but those very substances should be demonstrably liable to be carried in the necessary quantities onto an aircraft, demonstrably produce the effects claimed, and so on.

24. This is claimed by El-Naggar even in print (Bigliardi 2014b, 104).

25. The possible sources of such a narrative as well as the narrative itself are critically discussed from a Muslim viewpoint here: <http://www.answering-islam.org/Hoaxes/cousteau.html>

26. Obviously what I am suggesting is *not* that all Muslims *are* angry or jealous about “Western success,” or that they *should be*, or, for that matter, that there is a neat contraposition between “Islam” and “West” in terms of “failure” and “success,” respectively (all such notions, to say the least, need more elaboration and reflection, and more fine-grained an analysis than I can develop here). What I am suggesting is that *i’jāz* may rely on that kind of feeling and contraposition. And even if one were to demonstrate that such notions and feelings have any sound reason to exist, *i’jāz* would in any case be *ambivalent* toward the West, since the authority of scientific ideas and technology developed in the West are used in it to confirm the supremacy of Islam.

27. For instance, an otherwise ground-breaking and original thinker like Bediüzzaman Said Nursî (1877–1960) in his *Damascus Sermon* (1911, with later additions) refers to “Prince Bismarck,” described as “a famous European of the last century who was also a scholar and a philosopher,” and attributes to him, *inter alia*, the following statements without contextualization: “I saw that the Qur’an of Muhammad was far superior to all the other Books. I found wisdom in all its words. . . . Such a work cannot be the word of man” (Nursî 1996, 35). Nursî had a special take on Qur’anic supernatural miracles, that according to him pointed at results possibly obtainable through modern science and thus invited the development of science itself; I do not think that this position, which has recently and originally been discussed and developed by the scholar Isra Yazicioglu (Yazicioglu 2013), should be included in the taxonomy of *i’jāz* advanced in these pages, but it is worth being recalled as a cognate one.

28. Edoardo Agnelli (1954–2000), son of FIAT industrialist Gianni Agnelli (1921–2003), was found dead beneath a motorway viaduct near Turin where he supposedly had parked his car before jumping to his death. The narrative of Edoardo Agnelli’s conversion, as well as of the assassination on behalf of the “Jewish branch” of the family, has been spread in particular through an Iranian documentary, *The Great Martyr of Islam Edoardo Agnelli*. This documentary, available on *YouTube* at the moment in which these pages are written (<https://www.youtube.com/watch?v=VAANYX-TiC0>), is amateurish, conjectural, and allusive in character (mentioning, for example, a conversion certificate that had been seen by a diplomat but that eventually disappeared from the archives, and so on). When I talk about “conspiracy theory” I refer to the whole narrative regarding conversion, plot, and assassination as it currently circulates on the Internet (through the documentary, in blog entries, and so on) and as I have summarized it, and not to the specific conjecture about Edoardo Agnelli’s conversion that taken *per se* is not completely implausible (his travels to Iran and interest in religion are a fact). Both, however, have been vehemently denied by Edoardo’s relatives and friends alike. Interestingly, this narrative also merges with the notorious trope of the Jewish conspiracy.

29. *I’jāz* bears a strong resemblance to “science in saffron” in India as it is described and criticized by Meera Nanda (Nanda 2016). Another strong family resemblance (and connection) that should not be forgotten, and that I have not expanded upon in order not to divert attention from the comparison with conspiracism, is the one with *Christian creationism*. Significantly, Bucaille rejected evolution, and one of the most prolific producers of *i’jāz* is the Turkish creationist Harun Yahya. *I’jāz* is in fact selective and still conflicts with mainstream science on important points, notably evolution. Although *i’jāz* literature claims that Islam and science are wholly compatible they also deny human evolution and in doing so much mainstream science. Similarly to U.S.-based “creation science” it constructs a certain image of what “science” is and says.

30. For instance, the conference “Belief in Dialogue” held at the American University of Sharjah, June 21–23, 2011 (see <http://islam-science.net/belief-in-dialogue-science-culture-and-modernity-conference-1726/>).

31. See the Science and Islam Video Portal Project (2014–2015) at the Center for the Study of Science in Muslim Societies, Hampshire College, Amherst, MA

(<https://sites.hampshire.edu/scienceandislamvideportal/>), currently developing into a project about the Analysis of Internet videos on science and Islam (2015–2016).

32. For instance, the meticulous, encyclopedic blog kept by the journalist Paolo Attivissimo, in Italian and English, debunking myths and disinformation concerning 9/11 (<http://undicisettembre.info>). There are also examples concerning U.S. creationism. *Biologos* (<http://biologos.org/>) is an organization dedicated to challenging creationism and intelligent design and presenting a Biblical view of evolution.

33. For instance, some entries of *WikiIslam* (<https://wikiislam.net/wiki/WikiIslam>) are dedicated to the “scientific miracle”; however, discussing Islam and (pseudo)science is not the site’s main goal and it does not display the characteristics I list (see, for example, the discussion of the Cousteau narrative: [https://wikiislam.net/wiki/Jacques\\_Cousteau\\_\(Conversion\\_to\\_Islam\)](https://wikiislam.net/wiki/Jacques_Cousteau_(Conversion_to_Islam))).

## REFERENCES

- Ahmadi, Alireza, David C. Schwebel, and Mansour Rezaei. 2008. “The Efficacy of Wet-Cupping in the Treatment of Tension and Migraine Headache.” *American Journal of Chinese Medicine* 36:37–44.
- Ahmed, Asif. 2015. “Innovative Energy Standard of Curative Cupping/Hijama.” *Journal of Basic and Applied Sciences* 11:445–53.
- Alvi, Saalim. 2004. “Giant Human Skeleton Found in Saudi Arabia.” *The New Nation*, April 22. Available at [http://www.bibliotecapleyades.net/sumer\\_anunnaki/anunnaki/anu\\_11.htm](http://www.bibliotecapleyades.net/sumer_anunnaki/anunnaki/anu_11.htm)
- Bigliardi, Stefano. 2011. “Snakes from Staves? Science, Scriptures and the Supernatural in Maurice Bucaille.” *Zygon: Journal of Religion and Science* 46:793–805.
- . 2012. “The Strange Case of Dr. Bucaille: Notes for a Re-Examination.” *The Muslim World* 102:248–63.
- . 2014a. “The Contemporary Debate on the Harmony between Islam and Science: Emergence and Challenges of a New Generation.” *Social Epistemology* 28:167–86. doi:10.1080/02691728.2013.782583
- . 2014b. *Islam and the Quest for Modern Science*. Istanbul, Turkey: Swedish Research Institute.
- . 2014c. “What We Talk About When We Talk About *I’jāz*.” *Social Epistemology Review and Reply Collective* 4:38–45.
- . 2014d. “Who’s Afraid of Theoscientography? An Interpretative Hypothesis on Harun Yahya.” *Zygon: Journal of Religion and Science* 49:66–80.
- . 2016. “The ‘Scientific Miracle of the Qur’an’: Map and Assessment.” In *Islamic Studies Today: Essays in Honor of Andrew Rippin*, edited by Majid Daneshgar and Walid A. Saleh, 339–53. Leiden, The Netherlands: Brill.
- Byford, Jovan. 2011. *Conspiracy Theories: A Critical Introduction*. Basingstoke, UK: Palgrave Macmillan.
- Carroll, Robert Todd. 2015. “Pareidolia.” In *The Skeptic’s Dictionary*. Available at <http://skepdic.com/pareidol.html>
- Daneshgar, Majid. 2014. “Tantāwī: Western–Eastern Discoveries Embedded in Islam.” *Social Epistemology Review and Reply Collective* 3:113–15.
- Edis, Taner. 2007. *An Illusion of Harmony: Science and Religion in Islam*. Amherst, NY: Prometheus Books.
- . 2014. “On Harmonizing Religion and Science: A Reply to Bigliardi.” *Social Epistemology Review and Reply Collective* 3:40–43.
- France, Marvin. 2015. “Few Benefits to Sonny Bill Williams’ Hijama Cupping Treatment, Say Medical Experts.” *Stuff.co.nz*, November 10: <http://www.stuff.co.nz/sport/rugby/all-blacks/74466844/few-benefits-to-sonny-bill-williams-hijama-cupping-treatment-say-medical-experts> (accessed January 14, 2016).
- Görke, Andreas. 2010. “Die Spaltung des Mondes in der modernen Koranexegese und im Internet” *Welt des Islams* 50:60–116.
- Guessoum, Nidhal. 2008. “The Qur’an, Science, and the (Related) Contemporary Muslim Discourse.” *Zygon: Journal of Religion and Science* 43:411–31.



- . 2011. *Islam's Quantum Question: Reconciling Muslim Tradition and Modern Science*. London, UK: I.B. Tauris.
- . 2015. "Islam and Science: The Next Phase of Debates." *Zygon: Journal of Religion and Science* 50:854–76.
- Hameed, Salman. 2012. "Walking the Tightrope of the Science and Religion Boundary." *Zygon: Journal of Religion and Science* 47:337–42.
- Hoodbhoy, Pervez. 1991. *Islam and Science: Religious Orthodoxy and the Battle for Rationality*. London, UK: Zed Books.
- . 2015. "Jinns Invade Pakistani Campuses." Originally published on Oct 2, 2015 in *Dawn*, (Karachi, Pakistan), October 2, 2015, available in the *Social Epistemology Review and Reply Collective*: <http://social-epistemology.com/2015/11/02/an-exchange-on-science-and-the-supernatural-in-pakistani-universities/>
- Jansen, Johannes J. G. 1974. *The Interpretation of the Koran in Modern Egypt*. Leiden, The Netherlands: E. J. Brill.
- Jolley, Daniel, and Karen M. Douglas. 2013. "The Social Consequences of Conspiracism: Exposure to Conspiracy Theories Decreases Intentions to Engage in Politics and to Reduce One's Carbon Footprint." *British Journal of Psychology* 105:35–56.
- . 2014. "The Effects of Anti-Vaccine Conspiracy Theories on Vaccination Intentions." *PLoS ONE* 9(2): e89177. doi:10.1371/journal.pone.0089177
- Khenenou, Tarek, Mohamed Melizi, Omar Bennoune, Hassina Benzaoui, and Ibrir Messaouda. 2013. "Histological Changes in Liver and Pectoral Muscles of Broiler Chickens Slaughtered with and without Naming of Allah." *International Journal of Poultry Science* 12:550–52.
- Lazarus-Yafeh, Hava. 2013. "Tahrif." In *Encyclopaedia of Islam*, Second Edition, edited by P. Bearman, Th. Bianquis, C. E. Bosworth, and W. P. Heinrichs. Brill Online. Available at [http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/tahrifSIM\\_7317](http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/tahrifSIM_7317)
- Loukas, Marios, Yosuf Saad, R. Shane Tubbs, and Mohammadali M. Shoja. 2010. "The Heart and Cardiovascular System in the Qur'an and Hadeeth." *International Journal of Cardiology* 140:19–23.
- Mateo Dieste, Josep Lluís. 2014. "La fórmula del genio de la lámpara: Milagros científicos en el Corán en el último cuarto de siglo XX." *Ilu. Revista de Ciencias de las Religiones* 19:127–46.
- . 2015. "Anthropocentrism and Divine Objectivity. Some Observations on the Logic behind the 'Scientific Miracle of the Qur'an'." *Social Epistemology Review and Reply Collective* 4:8–9.
- Moore, Keith L. 1986. "Scientist's Interpretation of References to Embryology in the Qur'an." *Journal of the Islamic Medical Association* 18:15–17.
- Nanda, Meera. 2016. *Science in Saffron: Skeptical Essays on History of Science*. New Delhi, India: Three Essays Collective.
- Nursi, Said. 1996. *The Damascus Sermon*. Second edition. Translated from the Turkish *Hutbe-i Şâmiye* by Şükran Vahid. Available at <http://www.malaysianur.com/wp-content/uploads/2011/11/THE-DAMASCUS-SERMON.pdf>
- Riexinger, Martin. 2008. "Propagating Islamic Creationism on the Internet." *Masaryk University Journal of Law and Technology* 2. Available at <http://www.digitalislam.eu/article.do?articleId=1980>
- Ross Solberg, Anne. 2013. *The Mabdi Wears Armani: An Analysis of the Harun Yabya Enterprise*. Huddinge, Sweden: Södertörns Högskola.
- Sardar, Ziauddin. 1985. "Between Two Masters: Qur'an or Science?" *Inquiry* 2:37–41. Available at <http://ziauddinsardar.com/2011/02/quran-science/>
- . 1989. *Explorations in Islamic Science*. London, UK: Mansell.
- Stenberg, Leif. 1996. *The Islamization of Science: Four Muslim Positions Developing an Islamic Modernity*. Stockholm, Sweden: Almqvist & Wiksell International.
- The Telegraph* online. 2009. "Koran Verses 'Appear' on Skin of Miracle Russian Baby." Available at <http://www.telegraph.co.uk/news/worldnews/europe/russia/6401541/Koran-verses-appear-on-skin-of-miracle-Russian-baby.html>

- Wood, Michael J., and Karen M. Douglas. 2013. "What about Building 7? A Social Psychological Study of Online Discussion of 9/11 Conspiracy Theories." *Frontiers in Psychology* 4:409. doi:10.3389/fpsyg.2013.00409
- Wood, Michael J., Karen M. Douglas, and Robbie M. Sutton. 2012. "Dead and Alive: Beliefs in Contradictory Conspiracy Theories." *Social Psychological and Personality Science* 3:767–73.
- Yazicioglu, Isra. 2013. *Understanding the Qur'anic Miracle Stories in the Modern Age*. University Park: The Pennsylvania State University Press.