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Bigliardi, Stefano

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PO Box 117
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SNAKES FROM STAVES? SCIENCE, SCRIPTURES, AND THE SUPERNATURAL IN MAURICE BUCAILLE

by Stefano Bigliardi

Abstract. The aim of this paper is to attain a philosophical evaluation of the ideas of the French author Maurice Bucaille. Bucaille formulated an influential discourse regarding the divinity of the Qur'an, which he tried to demonstrate through a comparison of some of its verses with what he defined as scientific data. With his works, which encompass a criticism of the Bible and a defense of creationism, Bucaille furthered the idea that Islam is in harmony with natural sciences, and ensured himself long-lasting fame in the Muslim world. Such ideas have found numerous followers and the description of the "scientific miracles" of the Qur'an has turned into a popular genre. Several attempts have been made to criticize Bucaille about specific positions he holds. The thesis I develop here is that, even if Bucaille's work cannot be easily dismissed, a severe methodological shortcoming emerges through the analysis of the logic behind his claims regarding miraculous and supernatural events. Current attempts at defending the harmony between Islam and science should therefore credit Bucaille, but at the same time, be aware of the risk of inheriting his methodological flaws. In the first section, I briefly recall the works of Bucaille and his contribution to the debate on the harmony between Islam and science. In the second section, I reconstruct Bucaille's view of science and his analysis of the sacred scriptures. In the third section, I investigate how Bucaille characterizes the concept of supernatural. In the fourth section, I put forth a general evaluation of his reasoning.

Keywords: Maurice Bucaille; miracles; Qur'an and science

"The confrontation between the texts of the Scriptures and scientific data has always provided man with food for thought."

Maurice Bucaille, *The Bible, the Qur'an and Science*, 17.

Maurice Bucaille and the Harmony between Islam and Science

The works of the French author Maurice Bucaille (1920–1998) stemmed from an uncommon combination of intellectual interests. A physician (gastroenterologist) by profession, he undertook the study of Arabic after some of his Muslim patients suggested that he read the Qur'an in the

Stefano Bigliardi is a researcher at the Centre for Middle Eastern Studies (CMES), Lund University, Finngatan, 16, 223 62 Lund, Sweden; e-mail stefano.bigliardi@cme.lu.se.

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original language. After becoming the personal physician of Anwar Sadat's wife, Bucaille, who also had a passion for Egyptology, was allowed to carry out medical examinations of the thirteenth century BCE mummies conserved in the Egyptian Museum in Cairo. Bucaille found that, on closer inspection of specific Arabic terms, a significant number of qur'anic statements were consistent with scientific or historical data. One of his strongest convictions was that one of the mummies he examined, that of Pharaoh Mernephtah, displayed the signs of a death caused by a violent impact with water, and was therefore identifiable as the Pharaoh who perished during the pursuit of the Hebrews. As a result of his analysis of the Qur'an, Bucaille began to believe in its divine origin, a view which he defended in his first book *La Bible, le Coran et la Science* (1976).[1] Later he published a criticism of evolutionism in the framework of a discussion of the sacred scriptures: *L'homme d'où vient-il? Les réponses de la Science et des Écritures saintes* (1982). A detailed report of the investigation of the mummies followed in 1987 with the title *Les Momies des Pharaons et la Médecine. Ramsès II à Paris. Le Pharaon et Moïse*. In 1989, Bucaille co-authored a book with the Tunisian scholar Mohammed Talbi, *Réflexions sur le Coran*.[2] In his last book, *Moses and Pharaoh* (1994) Bucaille expanded on the relationship between archaeological data and the Exodus. Bucaille also gave numerous lectures all over the world, and appeared in a documentary film dedicated to his ideas, *The Book of Signs* (Malaysia: 1986), directed by Shahrom Mohammed Dom.

Bucaille's theories were not completely new; several Islamic scholars had already attempted a "scientific interpretation" of the Qur'an, as well as the identification of scientific discoveries and notions in its verses (Guessoum 2008, 419; Bucaille and Talbi 1989, 55–66). However, Bucaille (Guessoum 2008, 420) discussed such theories in a richer and more original frame. His analysis was unprecedented in its combination of archaeological data, criticism of the Bible, and an Islamic-compatible defense of creationism. Furthermore, he had the appeal of a French physician with powerful acquaintances. The arrangement of his ideas and the way in which Bucaille was perceived indeed proved highly successful. Since then Bucaille's views have found many followers and admirers, and foundations, conventions, books, and booklets dedicated to the "scientific notions" of the Qur'an have grown exponentially. Some of the advocates of this trend currently reach very wide TV and Internet audiences; for instance, the Egyptian Zaghloul El-Naggar, and the Turk Harun Yahya (pen name of Adnan Oktar), who often seem to recapitulate Bucaille's arguments (see, for instance, Yahya 2007 and El-Naggar 2008). This trend has ensured the survival of Bucaille's specific work as well. Thirty-five years after his first book, Bucaille's legacy thrives: his books are enthusiastically reviewed by contributors to Islamic forums, his conferences and movie have thousands of views on YouTube,

and a documentary film on his interpretation of the Exodus, *Maurice and the Pharaoh*, has recently been produced.[3]

Bucaille's work contributed, more generally, to the much-debated thesis according to which Islam, through the Qur'an, is in harmony with natural sciences. This thesis is usually supported with several arguments, variously emphasized and connected by different authors. It is principally underscored that the Qur'an contains numerous references to natural phenomena, but also invitations to the observation of the natural world, and to the advancement of knowledge through reason. These authors commonly hold that this harmony manifested itself historically during the so-called Golden Age of Islam (eighth to thirteenth century CE), when sciences flourished in Muslim countries. These authors maintain that a complete awareness and practical retrieval of the harmony between Islam and science would amend the shortcomings of "Western" or secular science, and bring about a society in which the fruits of technology might be enjoyed without giving up religious beliefs and behaviors. Similar lines of argumentation can be identified in Bucaille as well: his works can be considered as the catalyst of a cultural phenomenon, but also as a scholarly contribution. For instance, Leif Stenberg has examined Bucaille's work from the point of view of Islamic studies, analyzing the reasons for his success on a popular level but also comparing Bucaille's position with those of other Muslim intellectuals who took up the relationship of science and Islam: the Pakistani Ziauddin Sardar, the Iranian Seyyed Hossein Nasr, and the Palestinian Ismail Radji al-Faruqi (Stenberg 1996).[4] Since the time of Stenberg's analysis, a "new generation" of the advocates of the harmony between Islam and science has came to the fore. These authors complement their background in natural sciences with a thorough knowledge of Muslim culture, philosophy, and societies. We can mention here the Iranian Mehdi Golshani (see Golshani 1997, 2001, 2003, 2004), the Iraqi M. Basil Altaie (see Altaie 2005, 2008), the Pakistani Muzaffar Iqbal (see Iqbal 2002, 2007), the Algerian Nidhal Guessoum (see Guessoum 2011), and the French Bruno Guiderdoni (see Guiderdoni 2001, 2005).

Bucaille's Exegesis of the Sacred Scriptures

In *What Is the Origin of Man*? the book in which he deals with natural sciences and criticizes Darwinism, Bucaille argues:

> The intention here is not to put forward theories, but to advance ideas based on facts. Theories are by nature open to change; when approached from a theoretical angle, science is always in a state of flux: what is valid today may be disproved tomorrow. A suitable basis for comparison is therefore one which rests on scientific data that are not open to change, having been firmly established and checked through experimentation, and having even possibly been effectively put into practice. (Bucaille [1982] 1984, 181)

Bucaille does not present himself as a philosopher of science. Nevertheless, he puts forth his specific ideas in the frame of an articulated view of the status of the different elements of knowledge, which can all be found in the passage quoted above. He focuses, namely, on the distinction between facts and theories. Bucaille holds that they both concern genuine scientific research, but they are to be treated very differently. According to Bucaille's characterization, facts are those phenomena and mechanisms whose knowledge can be taken for granted, as they have been (and they can be at any time) proven; they are liable to be measured with greater precision in the course of time, but their essential features and their existence can no longer be questioned. Bucaille refers to facts on a cosmological scale, such as the revolution of the Earth around the Sun, to facts in the biological processes, such as human fecundation and, finally, he to facts as very specific elements of the world, such as the state of the mummies he investigated (Bucaille [1976] 1987, 231). On the other hand, Bucaille defines theories as hypothetical constructions that are used to interpret the facts and that can always be questioned, either because they do not fit new discoveries or if it is acknowledged that they are not bolstered enough by those very facts. Theories are thus liable even to be completely abandoned, and they represent the most volatile part of the scientific endeavor, which Bucaille sees as constantly in flux. Bucaille's connotation of the term "theory" is thus prevailingly negative. What he mainly and derogatorily defines as a theory is Darwinism in all its forms, judging it an exaggeration not sufficiently supported by facts. Such distinction between facts and theories is constantly held by Bucaille throughout all his books, and he presents his ideas as supported with facts.

Along these lines of investigation, Bucaille undertakes an analysis both of the Bible and the Qur'an. His aim is to scrutinize their content not only in comparison with scientific facts but also in the light of the principle of noncontradiction. The result Bucaille attains in the case of the Bible is that the text is laden with inconsistencies, inaccuracies, and scientifically untenable narratives. Bucaille regards as especially inconsistent the creation narrative contained in the book of Genesis, which, for instance, reports the creation of the plants before that of the Sun, in whose absence there can be no photosynthesis (Bucaille [1976] 1987, 43).

Bucaille buttresses his interpretation with numerous references to Christian exegetes, and his purpose is not to radically discredit the Bible. He maintains that it was genuinely inspired and that it therefore still fulfils a basic religious aim: it helps humans to understand God's power (Bucaille [1982] 1984, 204). The mistakes in the Bible, Bucaille argues, cannot be ascribed to God, but to the historical process undergone by the text, written down by different authors and transmitted with interpolations and errors. Keeping this process in mind, Bucaille holds, the absence of such mistakes would be surprising (Bucaille [1982] 1984, 15, 152–53).

The result of Bucaille's analysis of the Qur'an is precisely the opposite, and confirms the latter's superiority over the Bible. The Qur'an, according to him, contains none of the inaccuracies and contradictions found in the Bible, even when it touches upon similar matter. When it refers to the creation, says Bucaille, the Qur'an does not contain any scientifically untenable element (Bucaille [1976] 1987, 139 ff.). It is not just a matter of absence of errors, though. Bucaille holds that the Qur'an is in accordance with numerous scientific facts. This is the core argument of his discourse, which has found many followers as I have previously mentioned. In the interest of brevity, I shall examine in detail only his two most popular examples.

The Qur'an explicitly states that the Pharaoh of the Exodus and his soldiers were thrown (*nabadha*) into the waters of the Red Sea while pursuing the Hebrews (Q XXVIII-40; Q LI-40). Bucaille identifies the Pharaoh from the verse as Mernepthah, whose mummy was discovered in 1898 and was among those he examined in the Cairo Museum.[5] The mummy displays deep wounds, which, according to Bucaille, must have been the cause of the death and the result of a violent impact with water (Bucaille 1994, 127). Bucaille emphasizes that the medical examination of the mummy's muscular tissues contradicts the common belief that the Pharaoh died by drowning, seemingly supported by the Biblical narrative (Exodus 14, 28–29); the corpse cannot have remained underwater for a long time (Bucaille 1994, 201). Bucaille concludes that the Bible turns out to be inaccurate, while the qur'anic text then not only displays a surprising harmony with a scientifically proven fact, but also assumes the character of a fulfilled prophecy, as the verse Q X-92 states that the Pharaoh's body would be preserved as "a sign for men" (Bucaille [1976] 1987, 256).

In another passage, the Qur'an relates the creation of human beings from something called *'alaq* and refers to one of its stages as *mudgha* (Q XXIII-14). The two terms, according to Bucaille, should be translated as "something that clings" and "chewed flesh," respectively. Bucaille points out that the fertilized egg clings to the uterus through elongations; additionally, according to Bucaille, one of the first stages of the embryo visually resembles chewed flesh. Thus, also in this case, the Qur'an is in harmony with what science has ascertained about the mechanism and process of fecundation (Bucaille [1976] 1987, 216–18).

The accordance between the Qur'an and science is unexplainable, Bucaille maintains, if one does not refer to its divine origin: "As far as the Qur'an is concerned, Scripture and modern knowledge are in harmony—not disagreement—and this agreement may not be explained in human terms" (Bucaille [1976] 1987, 7). He emphasizes that the Qur'an is not a scientific book, and it should not be read as exclusively related to natural phenomena; nevertheless, the knowledge of said natural phenomena helps to attain a correct interpretation (Bucaille [1976] 1987, 130) and, at the

same time, to understand the Qur'an's divine origin and character. This holds especially true for a reader such as Bucaille, who claims to have approached the Qur'an from outside the Islamic faith, and even believing in false notions regarding its history and the figure of the Prophet (Bucaille [1976] 1987, 128).

Bucaille acknowledges that other interpreters have already undertaken a scientific interpretation of some qur'anic passages, even if sometimes they rely on methods and results that Bucaille himself does not hesitate to label unscientific and far-fetched. This criticism remains: Bucaille refers, indeed, to two authors, but he mentions explicitly only one of them, Ahmed Hanafiy, while passing over in silence the name of the other one "out of respect" (Bucaille and Talbi 1989, 172). Moreover, he does not elaborate on this point. The reason for his rejection might have been that those authors lacked a scientific background, or that they identified in the Qur'an reference to specific human inventions or findings rather than to mere facts as Bucaille understands them. The precise influence of the preexisting exegetical trend on Bucaille's work has not yet been reconstructed. Nevertheless, we can state that, with his interpretation, Bucaille decisively contributed to a conceptual shift: the wondrous nature of the Qur'an, confirmation of its divine origin, was not to be exclusively found in its linguistic inimitability, but also in its harmony with the facts of science.

Miracles and the Supernatural in Bucaille

Bucaille frequently employs the term "miracle" while referring to episodes and facts related to Moses and Jesus. Miracles were the signs that accompanied, strengthened, and confirmed Moses's mission, some of them being mentioned in the Old Testament and in the Qur'an alike: the burning bush with which God manifested himself to Moses, Moses's staff transforming into a snake before the Pharaoh and his magicians, Moses's hand appearing white (Bucaille 1994, 184–86). "Miraculous" is, in Bucaille's wording, the crossing of the Red Sea (Bucaille [1976] 1987, 245; Bucaille 1994, 195). When it comes to the New Testament, Bucaille defines as "miraculous" the nativity of Jesus (Bucaille [1976] 1987, 227) and also the well-known episodes of healing of the sick, the resurrections, Jesus walking on water, the changing of water into wine, the calming of the storm, the instantaneous withering of the fig tree, and the catching of fish in the Sea of Galilee (Bucaille [1976] 1987, 95). In these cases, Bucaille tends to speak of such phenomena as "supernatural," that is, residing "outside the laws of nature" (Bucaille [1976] 1987, 95). The concepts of miracle and that of the supernatural thus converge in Bucaille. If one collects the scattered suggestions of Bucaille on this point, the supernatural is defined by some relevant features. (1) Supernatural phenomena are

due to God's intervention: "God intervenes in His Omnipotent Power in all these episodes. One need not be surprised by what He is able to achieve; by human standards it is stupendous, for Him it is not" (Bucaille [1976] 1987, 95). (2) They are unexplainable by science and (3) remain basically unexplained within the scriptures (Bucaille [1976] 1987, 18). Inexplicability by science (2) is the result of such events being outside the laws of nature. Only the case of Jesus's virgin birth is seen by Bucaille as potentially natural even if unique. He downplays the supernatural character of this specific event by describing it as an exception. "Jesus," Bucaille argues, after a digression about parthenogenesis in nature," is a unique case. Mary was a virgin mother. She preserved her virginity and did not have any children apart from Jesus. Jesus is a biological exception" (Bucaille [1976] 1987, 96).

Bucaille did not invent the label "scientific miracles of the Qur'an," but rather it emerged in the work of his followers. It is clear, nevertheless, that such a denomination is not inconsistent with Bucaille's characterization of "miracle." Neither the points of accordance between the Qur'an and modern science, on one hand, nor the supernatural episodes narrated in the scriptures on the other, can be explained except by referring to divine intervention; they thus testify to the existence and power of divinity. Only God could disrupt the course of nature; only God could know and foretell at the time of revelation what we know now through science.

Bucaille argues that the supernatural is no concern for a scientifically inquiring mind: "This [the acceptance of miracles] does not at all mean that a believer should forget science. A belief in divine miracles and in science is quite compatible: one on a divine scale, the other on a human one" (Bucaille [1976] 1987, 95). One can ask at this point what keeps the two scales separated. In other words: what induces a scientist to refrain from questioning the credibility of narratives that report miraculous events? "Personally," Bucaille says, "*I am very willing to believe* that Jesus cured a leper, but I cannot accept the fact that a text is declared authentic and inspired by God when I read that only twenty generations existed between the first man and Abraham" (Bucaille [1976] 1987, 95; my emphasis). The usage of the term "willing" is decisive. Bucaille's answer is that the separation between the two scales is a voluntary act of faith.

This attitude co-exists perfectly with the critical spirit with which Bucaille thoroughly scrutinizes the scriptures in search of contradictions and inaccuracies. This is exemplified by two cases. The Old Testament states that the Pharaoh's magicians, meeting Moses' challenge, were able to transform their staves into snakes as well (Exodus 7, 8–12). Bucaille points to the incoherence of attributing a power bestowed by God to Moses' adversaries, rather than solely to Moses. According to Bucaille, the Qur'an clarifies this episode, since it underlines that the Egyptian magicians were only able to perform tricks (Q XX-66). Moses performed genuine

supernatural miracles, while the magicians were only able to perform some kind of illusion. The Biblical account of the magicians, Bucaille argues, was surely polluted by the interpolation of "legends of Egyptian folklore" (Bucaille 1994, 97). A second example concerns the New Testament. Examining a passage of Matthew's Gospel that reports the resurrection of several saints at the time of Jesus's death (Matthew 27, 51–53), Bucaille finds it chronologically improbable. He points out that raising from the dead at the moment of Jesus's death and emerging from the tombs only when Jesus resurrected would entail a period of three days in which the saints remained, alive, in their sepulchers. Bucaille sees this as an example of the "imagination" of Matthew (Bucaille [1976] 1987, 77).

Snakes from Staves?

One of the major participants in the debate on Islam and science, Ziauddin Sardar, explains the appeal of Bucaille's work mainly in psychological terms; he defines and dismisses his first book as: "(. . .) essential reading for Muslims with larger-than-life inferiority complexes (. . .)" (Sardar 1985). As I have mentioned, the quest for the points of concordance between Qur'an and science nourishes a flourishing publishing industry and constitutes an appealing apologetic; the thesis of the "scientific miracles" (or "precision") of the Qur'an is indeed a way to present it as a text immune to becoming obsolete as is the appeal to the "scientific" miraculousness of the text, rather than to the linguistic one, which can be most easily conveyed to nonnative speakers of Arabic.

Other critics have pointed out the flaws of Bucaille's interpretation of the Qur'an from a linguistic viewpoint: Stenberg, for instance, explains and criticizes Bucaille's reading of the Qur'an as follows: "[. . .] vague passages [of the Qur'an] are by Bucaille infused with a more specific meaning" (Stenberg 1996, 255). This approach is, thus, an *eisegesis*, in which two texts are compared and interpreted by carrying within each one elements of the other (Stenberg 1996, 256, n. 195). Finally, one can question the credibility of a natural scientist who defends creationism and doubt the scientific tenability of his other specific theses.

The criticisms that I have recounted have proven too weak to dispel Bucaille's ideas. Not because they are not convincing per se, but rather, because they are based on (and encourage) a fragmentary discussion of the views under examination. Trying to discuss the seriousness of each and every point of Bucaille's demonstrations in the light of philological, archaeological, biological, physical, theological expertise, and the like is a perfectly legitimate enterprise, but tends to clutter and inflate the debate. For any expert who puts forth arguments against Bucaille, there will be another one who claims to be able to confirm the very same views, and

the entire discussion, in the eyes of common readers, will be reduced to a conflict of differently biased authorities. Furthermore, the attempt at developing a criticism *ad personam*, which boils down Bucaille's success to sociological, political, and psychological factors, appears shallow and biased to his supporters and works as an effective refutation neither of his, nor of his numerous followers', line of argumentation.

Other criticisms focus on the comparison of the Qur'an with modern science, which would imply that there have been epochs in which its exegesis was impossible; conversely, since there is no guarantee that modern science has attained definitive results regarding the facts, it can be that the harmony is based on a comparison with data liable to be abandoned by science itself (Sardar 1985 *passim*; see also Stenberg 1996, 243–63; Edis 2007, 101). What is suspect, in other words, is the relativization induced by Bucaille's reading. In two words, Bucaille has entertained a *liaison dangereuse* with science and has not seen that it can work against his theses. We can complement this criticism by pointing at another methodological flaw that emerges if we closely inspect Bucaille's treatment of the concept of miracle.

Let us recapitulate some crucial points. Bucaille admittedly approached the Qur'an as a nonbeliever. He acknowledged its divinity by grasping that, if one denies the divine element, the harmony between some of its verses and scientific facts has no explanation. This harmony was noticed while attentively scrutinizing the sacred scriptures, Bible, and Qur'an alike, with the glasses of a natural scientist. We have also seen that other verses of the sacred scriptures describe events in which natural bodies or elements are involved: staves, snakes, water, wine, bodies. These events are anomalous: they do not conform to known laws of nature and even go against them: staves turn into snakes, water turns into wine, and corpses come back to life. Bucaille argues that they lie outside the laws of nature. They lie, therefore, outside scientific comprehension. Those narratives describe the miraculous (or supernatural).

Let us focus once more, and more attentively, on such narratives and on the way in which Bucaille deals with them. They are interpreted as describing something that has actually happened. Otherwise, they would be deemed to be myths, or exaggerations (all categories known to and employed by Bucaille, as we have seen) and would accordingly be disbelieved. As Bucaille points out, there originates a scission of two levels. One is the level of scientific belief (and inquiry). The second is the level of religious belief, where one just stops inquiring when confronted with reports, which, on the first level, would be disbelieved or left unexplained.

The decisive question is: when we are confronted with a narrative mentioning natural objects, and we begin free of influence by any tradition or faith, how do we differentiate between those narratives whose scientific tenability we inspect, and those that we just accept as supernatural? The

criterion cannot be related to the content of the examined statements. After all, the verses telling that Moses's staff turned into a snake are much more about "staves" and "snakes" than the verses about the "blood clot" (or "something which clings," if we prefer) about human conception. What is, then, the rational motive behind the choice of not investigating further, the justification of this voluntary act? An explicit answer to this question cannot be found in Bucaille, nor can it be detected from his method. A possible objection to Bucaille, then, is not that he presents himself as a scientist and a believer, nor his belief in miracles, nor, finally, his thesis about the harmony between science and Qur'an. All or some of these traits, indeed, are common to other prominent scientists and, more specifically, to the most committed advocates of the harmony between Islam and science. Neither shall we directly address the question concerning the divine origin of the Qur'an. The point is that the foundation of the entire reasoning of Bucaille appears to be an arbitrary, fideistic act of choice between what is critically investigated according to scientific notions, and what is accepted with no further investigation even when it goes against science. This contradicts Bucaille's methodological assumptions, which stress the absence of any bias and the role of reason and logical deduction.

It seems, then, that Bucaille's reasoning is based on a *credo ut intelligam*: he believes, first, in order to understand. The exercise of faith precedes and supports that of reason. Also for the rationalist Bucaille, advocate of factual soundness and logical arguments, the source of faith is faith itself. His minor (and yet fascinating) figure should appear in the gallery of those authors that, in every epoch, have dreamed of a rational demonstration of the divine. One might counter that this is a matter of common sense: some narratives clearly report fantastic events, while those passages analyzed for supposed congruency with science are clearly intended to describe the normal order of things. Nevertheless, any appeal to the "common sense" needs further elucidation (and has proven a thorny matter throughout the history of philosophy). Even if Bucaille had provided his readers with a satisfactory definition of "common sense," there would be serious doubts regarding the consistency of his method. Why are some fantastic events, such as the priests' staves turning into snakes in the Bible, taken as incredible, and therefore as proof of human interference in the text, while others are believed literally despite their supernatural character? And how can we reconcile a literal interpretation of supernatural events with the continual appeal to the facts accounted for by science? Bucaille clearly oscillates between these attitudes. His intermittent skepticism is philosophically unsatisfactory and scarcely understandable if we consider that he began his exegesis by not taking for granted the divine origin (and henceforth the absolute credibility) of the text he was to analyze.

There is no basis to question Bucaille's intellectual honesty. His approach can be considered useful. His effort to investigate the relationship between

religion and science, by implementing an analysis of the sacred scriptures based on some general principles is noteworthy, even if it did not develop into a fully fledged doctrine and as not consistently applied. This approach has been abandoned by many of Bucaille's followers, who produce far more superficial accounts of the divinity of the Qur'an.[6] Moreover, since Bucaille was and often is the author through whom common readers become aware of the debate regarding Islam and science, his work should be considered as a stepping stone for an interdisciplinary and intercultural dialogue. Several specific disciplines can help us to understand Bucaille's credibility and topicality with regard to specific theses. From a philosophical point of view, the evaluation of his claimed rationality is negative. Bucaille's scarcely justifiable oscillation between literal interpretation and scientific-based scepticism severely jeopardizes the philosophical quality of his work. This methodological weakness is at risk of being blindly inherited by those authors and admirers who robotically refer to Bucaille's work; it should also be taken as a warning for those contributors to the debate on Islam and science who aim at the development of a logically and scientifically consistent approach to the Qur'an.

A second lesson is to be drawn by this analysis. Islam (qur'anic and extra-qur'anic narratives[7] alike) abounds in tales of events, which can be seen by the believers as miraculous. The widespread usage of the term "miracle" in reference to the wondrous traits of the Qur'an is at risk of being merely rhetorical; it clouds the importance of miracles as an epistemological problem, regardless of whether they are actually accepted or not. The characterization of some event as extraordinary or supernatural requires a distinction of such concepts from those of ordinary and natural, which plays an essential role in the conception of reality, and in the distinction between different sources of knowledge and levels of reality. The way in which an author characterizes miracles allows reconstructing his philosophy of knowledge and provides a yardstick for his declared stances about the relationship between religion, science, and knowledge. Therefore, miracles constitute therefore one of the most urgent challenges posed to the "new generation" of the advocates of the harmony between Islam and science.[8]

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Notes

1. Bucaille's books are available in countless editions and translations. Their editorial history is not easy to reconstruct. (It is not clear, for instance, whether the French and the English edition of *Moses and Pharaoh*, his last book, appeared simultaneously, and the latter seems to have been translated by Bucaille himself.) When I quote Bucaille's works or refer to their passages, I use the date of the first original edition. Apart from *Moses and Pharaoh* and the book co-authored with M. Talbi, though, I had access to later editions or translations. In that case, the original year is given in square brackets in the references, followed by the year and full editorial data of the work I read. The web pages were accessed in August 2011.
2. The book consists of two independent sections. Bucaille wrote the foreword (pp. 7–10) and Part II, "Le Coran et la Science Moderne" (pp. 157–245); Talbi authored Part I, "Quelle clé pour lire le Coran" (pp. 13–154).
3. *Maurice and the Pharaoh. The Bucaille Report* by Farouq Abdul-Aziz (Kuwait/Egypt/USA Manara Communications, 2010).
4. Stenberg's monograph focuses on their intellectual enterprises under the common title "Islamization of science." Their works and theories, despite significant analogies, do not constitute a homogeneous movement.
5. The identification of the mummy as the Pharaoh of the Exodus is no uncontroversial matter. Bucaille had found this hypothesis in the Egyptologist Gaston Maspero (Bucaille [1987] 1990, 140–41) and defended it along arguments that I will not reconstruct here.
6. See for example Nurbaki (1989) and Sami and Ali (1993). On the question of *bona fide*, but still amateurish attempts see Guessoum (2008, 422). Edis (2007) defines such works as "stamp collections" (102).
7. See Gramlich (1987).
8. See Guessoum (2011, 329–33).

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