



Human Origins—Part 1: Theological Conclusions and Empirical Limitations

NAZIR KHAN
YASIR QADHI

YAQEEN[™]
INSTITUTE FOR ISLAMIC RESEARCH

Author Biography

Dr. Nazir Khan, MD FRCPC, is a Director of Research at Yaqeen Institute for Islamic Research. He is a medical doctor and clinical neuroscientist, volunteer Imam, and consultant for the Manitoba Islamic Association Fiqh Committee. He is a specialist in the field of Diagnostic Radiology and Fellow of the Royal College of Physicians and Surgeons of Canada. He has memorized the Qur'an and received traditional certification (*ijazah*) in the study of the Qur'an, Hadith and Islamic theology (*aqeedah*). His expertise in both medical sciences and Islamic theology uniquely positions him to address challenging contemporary questions regarding faith, reason and science.

Dr. Yasir Qadhi, PhD, is a resident Scholar of the Memphis Islamic Center, a professor at Rhodes College in the Department of Religious Studies, and is the Dean of Academic Affairs at AlMaghrib Institute. He graduated with a BSc in Chemical Engineering from the University of Houston, and studied at the Islamic University of Madinah where he completed a BA from the College of Hadith and Islamic Sciences followed by a MA in Islamic Theology from the College of Dawah. He then returned to the United States, and completed a PhD in Religious Studies from Yale University. He is one of the few people who has combined a traditional Eastern Islamic seminary education with a Western academic training of the study of Islam.

Disclaimer: *The views, opinions, findings, and conclusions expressed in these papers and articles are strictly those of the authors. Furthermore, Yaqeen does not endorse any of the personal views of the authors on any platform. Our team is diverse on all fronts allowing for constant enriching dialogue that helps us produce only the finest research.*

Copyright © 2019. Yaqeen Institute for Islamic Research

Abstract

The concept of human evolution and whether it is compatible or irreconcilable with religious doctrine has been frequently debated, but all too often the popular discourse fails to provide a sound academic study of the philosophy of science and matters of theology and scriptural exegesis. This article reviews the scriptural account of human origins (including the merits and failures of various hermeneutical approaches) before delving into the philosophy of science (including the realism versus constructive empiricism debate).

Introduction

The logical coherence of the Islamic paradigm has always been one of its characteristic appeals and the impetus for Muslim scholars to develop the natural sciences without any consternation about compromising the integrity of their faith. Unlike the history of Christianity, Muslim history knows of no examples like Copernicus,¹ Galileo,² or Giordano Bruno³—no Muslim scientist was ever burnt at the stake, and no science book ever banned.

In the modern era, however, discussions over the question of human evolution have resulted in much confusion amongst the masses. A consensus amongst modern scientists has emphatically stated that humans share a common ancestry with other primates, and have emerged as the result of a gradual evolution of biological organisms on this planet over the course of millions of years. Meanwhile, Islamic scripture and Muslim theologians have held a consensus on humankind's descent from Adam and Eve, who had no parents. How does one reconcile the position of Islamic theology with modern-day science without compromising the assertion that Islam is a faith of reasoned belief?

¹ Nicolaus Copernicus (d. 1543 CE) was an astronomer whose view that the Earth orbits the sun (heliocentrism) was condemned by the Church.

² Galileo Galilei (d. 1642 CE) was the Italian astronomer who was tried in the inquisition for his championing of the Copernican theory of heliocentrism. Deemed guilty of heresy, he was sentenced to house arrest.

³ Giordano Bruno (d. 1600 CE) was an Italian scientist who viewed that the universe was infinite and believed in a plurality of worlds. His cosmological views were amongst the charges against him in the inquisition, and he was ultimately burned alive at the stake.

One group has attempted to jettison all traditional theological commitments in favor of a wholesale embrace of the conclusions of evolutionists. Through radical hermeneutical gymnastics, they have claimed to unearth specific Qur’anic passages that allegedly discuss natural selection, abiogenesis, and other similar concepts. Not only does this compromise the truth-value of a scripture such that it becomes infinitely malleable to mean whatever one desires, but it is also worth noting that history has not looked kindly upon such attempts in the past. The philosopher Ibn Sina (d. 428 H) attempted to read into the Qur’an the then-current cosmological theories about the ten celestial spheres and the cosmological layout of the universe—ideas that are dismissed by every educated person today. Yet, the plain-sense reading of the Qur’an has stood the test of time and has always emerged unscathed.

On the other extreme are those Muslim creationists who reject all evolutionary science as falsehood, attempting to dispute every piece of data in genetics, population dynamics, and paleontology. This position is not only unreasonable in that it requires Muslims to believe that the entire scientific community is participating in a massive conspiracy, but it is also theologically unrequired since there is nothing in Islamic scripture to necessitate such a stance. Moreover, it burdens the average lay Muslim with abstruse matters of empirical research, telling him or her that the only way to be a committed Muslim is by undertaking the task of challenging an entire community of scientific experts on the very subject matter of their expertise. It also places many Muslim scientists in a position of supposed tension between their religious beliefs and their scientific research.

These opposing extremes are reminiscent of a passage from Ibn al-Qayyim where he describes two different groups. First, he describes the errors of the philosophers in rejecting religious tenets based upon fallacious arguments. Then he says:

“The second group confronted the first group by rejecting everything they said, rejecting things that were true alongside things that were false, and they supposed that the necessary consequence of believing in the Messengers was to reject what the first group knew by logical necessity (*‘aql daruri*) as well

as their premises based on sensory perception (*hiss*). And to falsify these ideas they presented arguments that can never substitute for truth.

And woe to them, if only they had not combined this tremendous blunder with attributing that to the Messengers as well. But instead, they supposed that the messengers came with what they said. So the heretical philosophers assumed the worst of the Messengers and assumed themselves to be more learned and more knowledgeable than them, while those who thought better of the Messengers said, “They were not unaware of what we say but they spoke to these people with what their minds could fathom of common speech to benefit the lay masses, but as for the true realities they concealed them from them.”

And what led [the second group] to this was rejecting the portion of truth with the [first group], and feeling proud to challenge them on things that are known by necessity, like the roundness of the orbits or the Earth, or that the light of the moon is reflected from the Sun, or that a lunar eclipse occurs because of the Earth’s position between the moon and the sun casting the moon in its shadow.”⁴

What has been sorely needed, and thus far missing, is a critical evaluation and academic engagement that attempts to integrate scripture and science. Such an approach would entail acknowledging the credibility of the scientific research, while criticizing pseudoscientific excesses in the public domain. It would also entail a deeper reflection on the precise theological conclusions that can be derived from Islamic scripture on humanity’s origins and status vis-a-vis other creatures.

By recognizing the priority of revelation in affirming matters of the unseen, while also affirming the epistemic value of empirical research in ascertaining knowledge of the natural world, the two sources of knowledge can be integrated without conflict. Indeed, both forms of knowledge constitute religious knowledge; the

⁴ Ibn al-Qayyim. *Miftah*, pp. 1417-1418

Qur'an refers to both natural and scriptural knowledge as *ayat* (signs).⁵ Scripture provides the ontological foundations and metaphysical backdrop within which to situate and frame empirical inquiries of the natural world. It is possible to arrive at a portrait of humanity that draws upon both scriptural and scientific sources; such a portrait would entail distinguishing those key elements that are non-negotiable fundamentals of creed that are beyond the empirical lens from other aspects within the natural realm upon which scripture does not comment and leaves open to further empirical exploration. In the process of this discussion, we may come across beliefs amongst lay Muslims that are not scripturally well-founded, as well as popular claims about evolution that may amount to nothing more than pseudoscience or untestable speculation.

Islamic scripture is unequivocal on the creation of humankind from Adam and Eve

In the opening passage of Surah al-Nisa, God describes all humanity as descendants of Adam and Eve: “O Humankind, be mindful of your Lord, Who created you from a single person, and made from him his mate, and from the both of them He created many men and women” (Qur'an 4:1). The verse is patently explicit: all of mankind, without exception, originates from one couple.

The evidences from the Qur'an and *Sunnah* on humanity being descended from these two parents are too numerous to recount in the span of this article. Suffice to say that the entirety of the Muslim *ummah* in every generation since the beginning of Islam has understood that humankind is descended from Adam and Eve, who were created directly by God.

Moreover, Allah describes the creation of Adam in such intricate detail and with an abundance of physical descriptions that it becomes impossible to remain faithful to the text of the Qur'an and simultaneously dismiss the entire narrative as figurative or metaphorical. We are told in the Qur'an that our origin is from dust (18:37),

⁵ See Ibn al-Qayyim's discussion in *Miftah Dar al-Sa'adah*, vol. 1, p. 533 where he discusses these two categories of signs along with the Qur'anic examples. This work will be cited frequently in the course of this article as many of the reflections and insights of the author on scripture and nature are pertinent to the subject matter of this paper.

from water (21:30), from earth (53:32); that Adam was made from clay (7:12), from sticky clay (37:11), from a hardened clay (55:14), which finally became a darkened, hardened clay that resounds (15:28). A passage in Surah al-Sajdah distinguishes between Adam's origin and the subsequent descent of humankind: "He began the creation of man from clay, and then made his offspring through an extract of a contemptible fluid" (32:7-8). This is particularly explicit in that it claims that the first man was created from clay (*ṭīn*), and *then* his offspring emerged through ordinary procreation. Moreover, the Qur'an tells us that Allah created Adam with His Two Hands and breathed His *Rūḥ* into Adam—and this is why Adam was unique.⁶

The *hadith* literature is even more explicit—in the *Ṣaḥīḥs* and other authentic works, we are told that Allah took a handful of soil from the earth and He fashioned the shape of Adam and allowed the lifeless body to remain for a period of time. Before the soul was breathed into Adam's body, Shaytan went around this lifeless form, noting it to be hollow and boasting of his presumed superiority over Adam.⁷ We are told that the *rūḥ* (soul) was blown into the lifeless body of Adam and as it reached his nose he sneezed and praised Allah.⁸ We are told that there was a time when Adam was "between the spirit and the clay."⁹ The second human being was Eve (*Hawwa'* in Arabic), who the Qur'an states was made from Adam.¹⁰

Clearly, in light of such an explicit and vivid narrative, claims that human beings have descended from other species besides Adam are not theologically tenable. Some may attempt to confine the meanings of the texts as tightly as possible and discard any textual inferences (*dalalat al-nass*) in an effort to squeeze in human evolution from creatures alongside Adam. However, as the subsequent discussion

⁶ There is a narration which states, "Allah created four things with His Hands: the *'Arsh* (throne), the *Qalam* (pen which records fate), Adam, and Paradise. Then He said to all other creation: 'Be,' and it became." (*Mustadrak al-Hakim* 2/349). Al-Dhahabi agreed with al-Hakim's authentication of this tradition.

⁷ *Sahih Muslim*, 2611. In other narrations, Iblis prods Adam's lifeless form, taunting him and threatening him, "If I gain authority over you, I will destroy you. And if you gain authority over me, I shall defy you." See *Tarikh al-Tabari* (Beirut: Dar al-Kutub al-Ilmiya 1987), vol. 1, p. 64.

⁸ *Jami' al-Tirmidhi*, 3367.

⁹ *Jami' al-Tirmidhi*, 3698.

¹⁰ This is the dominant reading of Qur'an 4:1. Abu Hayyan al-Andalusi mentions another interpretation, in which the verse is taken to mean "and created from it (i.e., the same clay) his spouse." Cf. *Al-Bahr al-Muhit* (Beirut: Dar Ihya al-Turath al-Arabi, nd) vol. 3, pp. 154-155.

shall illustrate, a sound approach would entail according both scriptural theology and philosophy of science their appropriate epistemic weight, using both scriptural and scientific knowledge to arrive at a deeper understanding. The discourse on reconciling reason and revelation is not new but rather the subject of voluminous writings in Islamic history. Essentially, three different approaches have arisen in Muslim history corresponding to three famous historical figures: Ibn Sina (d. 428 H), Abu Hamid Al-Ghazali (d. 505 H), and Ibn Taymiyyah (d. 728 H).

Ibn Sina represents the tradition of the *falasifah* and he viewed philosophical reasoning—as represented by the Neoplatonic and Aristotelian traditions—as the supreme discourse in ascertaining the truths of reality. In his work *Kitab al-Shifa'*, he describes the role of prophets as essential for social order.¹¹ The role of the Prophet is to communicate philosophical truths about the Divine in the language of symbols that will be comprehensible to the masses (*bal yajib an yu'arrifuhum jalalat Allahi wa 'adhamatihi bi-rumuz wa amthilah*).¹² For Ibn Sina and the *falasifah*, when scripture describes physical resurrection, Paradise, or Hell, these are symbolic descriptions for common people to imagine (*takhyīl*) realities beyond their comprehension; Ibn Sina affirms only a spiritual resurrection signifying either permanent mental pleasure or misery in the soul.¹³ Religious texts that conflict with philosophical truth are to be interpreted as allegorical, symbolic, and ultimately fictitious tales aimed at keeping the commoners in check (*muqayadīn*).¹⁴ There are no hermeneutic limits to this approach; one could extend this method to argue that prayer, fasting, and even the concept of God are mere symbols. Indeed, in Europe,

¹¹ Ibn Sina, *Kitab al-shifa', Al-ilahiyyat*. Edited by Ibrahim Madkour, George Anawati, and Said Zayed. Cairo: al-Hay'a al-misriyya al-'amma lil-kitab, 1975. p. 441. Ibn Sina explains that since human beings cannot survive individually but rather are dependent on one another, they must be able to cooperate and construct communities; this requires law and justice. But given the fact that justice and morality are relativistic and subject to different opinions, there needs to be someone with the authority to legislate principles that will be obeyed and thus, the need for a Prophet. Ibn Sina prefigures the perspective of French Sociologist Emile Durkheim (d. 1917 CE) who saw religion as the fundamental social institution for the function of a moral community.

¹² *Ibid.* p. 443. See also the discussion in Dimitri Gutas, *Avicenna and the Aristotelian tradition: Introduction to reading Avicenna's philosophical works*, Brill (2014). p. 345. The Muslim jurist and staunch Aristotelian philosopher, Ibn Rushd, attempted to exculpate the *falasifah* and argued that both the discourse of scientific demonstration and religious description are true and applicable in different domains. See Taylor, Richard. Averroes on the Shari'ah of the Philosophers. In *The Judeo-Christian-Islamic Heritage: Philosophical and Theological Perspectives* (Milwaukee: Marquette University Press, 2012), pp. 283-304.

¹³ Ibn Sina, *Risalah al-Adhawiyyah fi Amr al-Ma'ad*. (Cairo: Matba'at al-I'timad 1949).

¹⁴ Ibn Sina, *Risalah fi sirr al-qadar*, in *Majmu' al-Rasa'il al-Shaykh al-Ra'is* (Hyderabad: Dairatul-Maarif Osmania 1935), p. 4.

the naturalist philosopher Benedict de Spinoza reduced ‘God’ to a productive force in nature and dismissed most of religion arguing, “For many things are narrated in Scripture as real, and were believed to be real, which are in fact symbolic and imaginary.”¹⁵ The Hanbalite theologian Al-Safârîni (d. 1188 H) explicitly criticized this method of dealing with the texts: “They say that what the Prophet mentioned on the subject of faith and the afterlife is only a symbolic representation of the truths (*takhyîl lil-haqa’iq*) to benefit the masses, not to actually clarify reality nor guide creation to elaborate truths. And there is no disbelief greater than this disbelief.”¹⁶

The preceding approach was categorically rejected by mainstream Muslim scholarship, and many of its most vociferous opponents belonged to the tradition of *kalam*, which sought a synthesis of Hellenistic philosophy with scriptural interpretation. In this tradition, Abu Hamid Al-Ghazali argued that since reason is the basis for affirming the truth of revelation (as logic alone distinguishes between a true prophet and a false one), reason cannot be discarded when it appears to conflict with revelation. In his work, *Qanun al-Ta’wîl* (the law of re-interpretation), he argues that the moderate position is to accept both reason and revelation as important foundations (*asl muhim*), and in cases of apparent conflict (such as *hadith* describing ‘actions being weighed’ or ‘death being slaughtered’ on the Day of Judgment) there is no recourse except to metaphorical interpretation (*fa idhan la budda min al-ta’wîl*).¹⁷ The default presumption with regards to scripture is to affirm that it describes things as they actually are (*wujud dhati*).¹⁸ It is only when this level of interpretation conflicts with a logical deductive argument that one resorts to metaphorical interpretation (*ta’wîl*), which *Ahlul-Kalam* primarily

¹⁵ Benedict de Spinoza, *The Chief Works of Benedict de Spinoza*, translated from the Latin, with an Introduction by R.H.M. Elwes. Revised edition (London: George Bell and Sons, 1891). Vol 1. p. 93. Spinoza was directly influenced by the *falsafah* tradition through Elijah Delmedigo, a Jewish Averroist. See “Spinoza on Philosophy and Religion: The Averroistic Sources,” *The Rationalists: Between Tradition and Innovation*, eds. Carlos Fraenkel, Dario Perinetti and Justin Smith, The New Synthese Historical Library of Springer Academic Publishers, 2010, pp. 58-81.

¹⁶ Al-Safarini. *Lawami’ al-Anwar al-Bahiyyah*. (Maktabah al-Islamiya Dar Al-Khani 1991), p. 116.

¹⁷ Al-Ghazali, Abu Hamid. *Qanun al-Ta’wîl*. ed. Muḥammad Zāhid al-Kawtharī (Cairo: al-Maktabah al-Azhariyyah li-turāth, 2006), pp. 7-11. Al-Ghazali cautions that one should not affirm one possible metaphorical interpretation over another. This is because once we depart from the apparent meanings of the texts, there is no means by which to know precisely which meaning is intended by God, unless one is able to enumerate every possible interpretation and falsify all of them except for one, which he deems unlikely.

¹⁸ Al-Ghazali, Abu Hamid. *Faysal al-Tafriqah baynal Islam wa al-Zandaqah*. (Damascus 1993), pp. 28-33.

applied to texts pertaining to the attributes of God.¹⁹ While a particular word or phrase in a text could be taken as metaphor, none of the schools of *kalam* considered the accounts of the hereafter or prophets to be wholly allegorical.

In contradistinction to the methods of *ta'wīl* and *takhyīl*, Ibn Taymiyyah argues for the primacy of revelation and presents a law which is the inverse of that provided by the *kalam* theologians: when reason and revelation contradict, giving priority to reason would logically entail that it not be given priority.²⁰ If logic establishes the veracity of the scripture, then the only logical conclusion is to accept what the scripture states unconditionally and without challenging it on the basis of fallible and fundamentally limited human reasoning. The truth of revelation does require external verification but is actually recognized through its concordance with the primordial nature of all human beings (*fitrah*) rather than through convoluted philosophical arguments. Moreover, Ibn Taymiyyah rejects the oft-mentioned bipartite division of knowledge into religious (*sam'īyyat*) and rational (*'aqliyyat*), arguing that reason is intrinsic to religion.²¹ He explains that what is relevant is the definitive (*qat'i*) nature of a proof, regardless of whether it is scriptural or rational. When it comes to instances of textual evidence which are explicit and unequivocal, there can be no recourse to re-interpretation. However, if revelation provides us with a lone text that is ambiguous or subject to interpretation, and has several plausible readings while reason is conclusive on a matter, then we have no qualms adopting the linguistically plausible reading of the text that is concordant with the dictates of reason and modern science. This is not a case of figurative interpretation, but rather selecting one of a variety of established lexical meanings of a word based on definitive proofs.²² For instance, Allah says He created the heavens and earth in *sittati ayyām* (e.g., Qur'an 7:54, 10:3, 11:7, etc.) which is often translated as 'six days.' The Arabic word *yawm* could mean a day, as many scholars understood; however other Qur'anic passages (e.g., 22:47) and classical

¹⁹ Al-Ghazali, Abu Hamid. *Ihya' 'Ulum al-Din – Kitab Qawa'id al-Aqa'id*. (Beirut: Dar Ibn Hazm 2005), p. 122.

²⁰ For a more detailed study of Ibn Taymiyyah's views refer to Yasir Kazi, *Reconciling Reason and Revelation in the Writings of Ibn Taymiyya* (d. 728/1328), *An Analytical Study of Ibn Taymiyya's Dar' al-Ta'arud*, PhD Dissertation, Yale University 2013.

²¹ Ibn Taymiyyah. *Dar Ta'arud al-'Aql wal-Naql*. (Riyadh: Al-Imam University 1991), vol. 1, p. 198.

²² Ibn Taymiyyah explains that acceptable re-interpretation (*ta'wil maqbul*) is nothing other than clarifying and explaining the intended meaning of a statement (*tafsir wa bayan al-murad*) based on clear evidences. Ibn Taymiyyah, *Dar Ta'arud al-'Aql wal-Naql*, vol. 1, p. 201.

lexicons indicate that *yawm* can apply to any period of time.²³ Hence, to understand this verse as implying that Allah created the heavens and earth in six stages, rather than six 24-hour periods, is completely in harmony with the Qur'an.

How do these three approaches pertain to the topic of evolution? In the case of the story of human origins, we have such an explicit narrative, one that is deeply rooted in countless passages throughout the entire Qur'an and numerous Prophetic statements, that there is no choice other than to accept that this is what Allah intended for us to believe.²⁴ The sheer quantity and diversity of nouns, adjectives, and verbs used simply makes any linguistic re-interpretation (or *ta'wīl*) implausible. Meanwhile, attempts to describe the entire account as symbolic or allegorical (*takhyīl*) may be tempting for some contemporary Muslim scientists, but it leads to logically incoherent theological ramifications and contradicts the Qur'an's own emphasis that these accounts are literally true narratives (3:62).²⁵ Developing an epistemologically sound foundation upon which both scriptural and scientific truths work in concert is a far more fruitful endeavor.

The Domino effect: Empirically impervious and theologically sound

In light of the preceding discussion outlining the explicit scriptural descriptions of humanity's origins, how can this assertion be reconciled with scientific knowledge? In order to address this question, it is not sufficient to simply rehearse

²³ Al-Rāghib al-Isbahānī, *Mufradat Alfadh al-Qur'an*. ed. Safwan 'Adnan Dawudui. (Damascus: Dar al-Qalam, 1992), p. 894.

²⁴ It is worth also commenting briefly on the spurious claim that historical Muslim figures adopted belief in biological evolution. Figures like Ibn Khaldun and Ibn Miskawayh mention a sequence of plants, animals, then human beings, however this is not in the context of origins. Rather, they were referring to the ancient Greek concept of *scala naturae*, or 'The Great Chain of Being,' in which every object in existence is placed on a linear scale, beginning with minerals, and ending with God Himself. The purpose of this 'Great Chain' was to give legal and moral weight to those higher up in this scale, and there is no suggestion of a progression from one state to another. This error of reading biological evolution into the writings of these authors has been pointed out by many specialists, including T. J. de Boer over a hundred years ago; see T. J. de Boer. *The History of Philosophy in Islam*. Translated by E. R. Jonas, B.D. (London : Luzac & Co., 1903), p. 91.

²⁵ From a linguistic perspective, it is necessary to understand *qasas* as historically true accounts. Adnan Zarzour. 'Ulum al-Qur'an. (Maktabah al-Islami 1981), p. 362.

the assertions on both sides; rather, we need to be cognizant about what scripture does *not* say and what science does *not* exclude.

Setting aside debates about their rational plausibility or probability, there is nothing in Islamic scripture that explicitly negates the concepts of abiogenesis, genetic mutation and diversification, natural selection, the existence of hominid species, or a common ancestor for all biological life on earth, excluding only the descendants of Adam. Moreover, one can certainly imagine a scenario wherein hominid species were gradually evolving on earth, and right at the point when evolutionists would predict the emergence of modern humans, God miraculously inserted the children of Adam. Let us suppose that these ‘Adamic species’ are biologically, anatomically, physiologically, and genetically indistinguishable from the would-be species one would have predicted to have emerged based on the preceding population of species in evolutionary history. They appear to occupy the exact same position on the phylogenetic tree. The occurrence of such a scenario is theologically plausible and would be impossible to disprove empirically since it is a metaphysical assertion. This is not to affirm that such a scenario *did* take place; indeed, there are ongoing arguments that may continue to be entertained about the logical integrity, numerical probability, and empirical substantiation of many of the aforementioned evolutionary concepts.²⁶ But it simply represents one of a number of possibilities, and a clear reason why there should be no consternation amongst Muslims on this subject, as the theological conclusions stand independent of the empirical data.

This example can be understood with analogy to a set of dominoes, representing the sequence of events in evolutionary history. Just as one domino topples the next,

²⁶ Philosopher Thomas Nagel is one who appears to find this line of argument convincing. He writes, “It is *prima facie* highly implausible that life as we know it is the result of a sequence of physical accidents together with the mechanism of natural selection [...] given what is known about the chemical basis of biology and genetics, what is the likelihood that self-reproducing life forms should have come into existence spontaneously on the early earth, solely through the operation of the laws of physics and chemistry? [...] In the available geological time since the first life forms appeared on earth, what is the likelihood that, as a result of physical accident, a sequence of viable genetic mutations should have occurred that was sufficient to permit natural selection to produce the organisms that actually exist? [...] I realize that such doubts will strike many people as outrageous, but that is because almost everyone in our secular culture has been browbeaten into regarding the reductive research program as sacrosanct, on the ground that anything else would not be science.” (*Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False*, pp. 6-7).

one species gives rise to a new species, as selection pressures continue to diversify populations and favor advantageous genes. The dominoes branch out, forming divergent branches of a phylogenetic tree.²⁷ However, the final domino of one branch, representing humans, is not toppled by the preceding domino but instead is placed down in a manner indistinguishable from if it had been knocked down. An onlooker arriving at the scene and surveying the evidence would surely conclude that this domino was affected by the exact same process that caused all the others to topple.

An opponent of religion might object that it is deceptive for God to create human beings to resemble other biological organisms in a manner compatible with evolution. But this is a bizarre objection for an anti-religionist, since it represents a weak theological objection (regarding what God would or would not do) rather than a scientific objection. Moreover, from a theological standpoint, there is nothing deceptive whatsoever about God informing us through scripture of our heavenly origin while reminding us biologically of our terrestrial sojourn.²⁸ Moreover, patterns abound in the creation of God, whether the Fibonacci sequence in the petals of a flower or in human anatomy, or the golden ratio, or the presence of symmetry, tessellations, fractals, and so on. If the creation of God routinely demonstrates recurring patterns, then biological resemblance is an expected feature of human beings. Just as theological conclusions do not arbitrate the validity of pieces of empirical evidence, biology has no means to arbitrate theological conclusions about what God would or would not do.

Misrepresenting the philosophy of science

How does science work, what can it tell us, and what can't it tell us? The philosophical dimension of scientific investigation is often neglected but is

²⁷ It is useful to remember that biological evolution does not describe things progressing in a linear sequence, but rather through various branches in the phylogenetic tree. While the domino example may overemphasize the sequential nature of evolution, one must remember that evolution is not a linear stepwise progression from one species to the next but involves processes of genetic diversification and genetic drift that take place in populations.

²⁸ Indeed, it is fascinating to note that Islamic theology has already deconstructed this objection—it was none other than Iblis (Satan) who fallaciously accused God of deceiving him into thinking that Adam was inferior to him, due to the latter's biology and humble origins (he couldn't fathom how a creation from dust would be preferred over himself—a being created of smokeless fire). See Qur'an 7:16 and 15:39.

critically important to understand the role science plays, how it develops, and how to draw cogent conclusions from empirical data. The philosopher and evolutionist Daniel Dennett has written:

*Scientists sometimes deceive themselves into thinking that philosophical ideas are only, at best, decorations or parasitic commentaries on the hard, objective triumphs of science, and that they themselves are immune to the confusions that philosophers devote their lives to dissolving. But there is no such thing as philosophy-free science, there is only science whose philosophical baggage is taken on board without examination.*²⁹

Since the collapse of logical positivism in the twentieth century, two broad schools have emerged within the academic discipline known as the ‘philosophy of science.’ The school of scientific realism sees science as an enterprise involved in deriving literally true descriptions about what reality is and what we should believe.³⁰ On the other hand, the school of scientific anti-realism maintains that the point of a scientific theory is to fit existing data and observations. Physicist Stephen Hawking firmly promoted an anti-realist viewpoint in a series of debates with Roger Penrose when he stated:

*I don't demand that a theory correspond to reality because I don't know what it is. Reality is not a quality you can test with litmus paper. All I'm concerned with is that the theory should predict the results of measurements. Quantum theory does this very successfully.*³¹

One of the most influential opponents of scientific realism has been philosopher Bas van Fraassen who has championed an anti-realist view called ‘constructive empiricism.’ Essentially, instead of science telling us what is true or false about the real world, it makes no such metaphysical pretension but rather has a more modest

²⁹ Dennett, Daniel. *Darwin's Dangerous Idea: Evolution and the Meanings of Life*, 1995, p. 21. Dennett himself, however, has been taken to task for his own unexamined baggage concerning rejection of religion and support for scientism, in Leon Wieseltier's review, "The God Genome." *New York Times*, 02/19/06.

<https://www.nytimes.com/2006/02/19/books/review/the-god-genome.html>

³⁰ Bas van Fraassen. *The Scientific Image*. (Oxford: Clarendon Press, 1980) p. 8.

³¹ Hawking, S., & Penrose, R. (1996). The Debate. In Hawking S. & Penrose R. (Authors), *The Nature of Space and Time* (pp. 121-138). Princeton University Press. See also Adrian Bardon's *A Brief History of the Philosophy of Time*, pp. 75-76 for other quotations.

objective: to arrive at theories that are ‘empirically adequate’; i.e., theories that fit with our observations.³² Thus, we construct models and representations of the phenomena around us. When it comes to things that are directly *observable*, then empirical adequacy becomes the same as truth.³³ As for matters that are *unobservable*, then we rely on interpretations, inferences, models, extrapolations, and postulations that aim only to be empirically adequate.³⁴ Attempting to retreat from many of the unwarranted metaphysical excesses of scientific realism, there emerged a diverse set of offshoots of scientific realism including empiric structural realism (both direct and indirect), ontic structural realism, semi-realism, etc.³⁵ However a key theme acknowledged by almost all groups is that what we can affirm as *truth* when it comes to the unobservable is considerably limited.

No human being can go back in time and determine precisely what happened at the time of Adam and Eve, and thus it constitutes something empirically unobservable, a matter of the unseen (*ghayb*). Allah reminds us in Surah al-Kahf: “I did not call them to witness the creation of the Heavens and earth, or even their own creation” (18:51). In constructing theories about what took place at an unseen time hundreds of thousands of years ago, we can only make inferences based on interpretations of the data that have survived until today. We cannot design an experiment that could reach back thousands of years and directly determine what took place.

³² While scientists often use the term ‘data’ casually, the term can refer to a diverse array of matters including computer simulations, mathematical models, conceptual analysis, qualitative field observations, chemical analysis, and so on, all of which are epistemically distinct. Just as Ibn Taymiyyah unpackaged the notion of ‘intellect’ (‘*aql*’) to scrutinize its contents (including personal opinions, syllogisms, rhetoric, etc.) the same must be done with the term ‘data.’

³³ Bas van Fraassen. *The Scientific Image*. (Oxford: Clarendon Press, 1980) p. 72.

³⁴ For an excellent discussion of the issue of observability drawing on Edmund Husserl’s phenomenology, providing a refutation of the most common objections to this paradigm from scientific realism, refer to Wiltche, H. A. (2012). What is wrong with Husserl’s scientific anti-realism? *Inquiry: An Interdisciplinary Journal of Philosophy*, 55(2), 105-130. For an example of the application of van Fraassen’s views in the realm of evolutionary biology, refer to Sandy Boucher’s discussion on functionalism versus structuralism as opposing epistemic stances adopted by evolutionists: Boucher, S. C. (2015). Functionalism and structuralism as philosophical stances: van Fraassen meets the philosophy of biology. *Biology & Philosophy*, 30(3), 383-403.

³⁵ For an overview, see Frigg, R., & Votsis, I. (2011). Everything you always wanted to know about structural realism but were afraid to ask. *European Journal for Philosophy of Science*, 1(2), 227-276.

Conclusion

Islamic theology is explicit on the origin of human beings from Adam and Eve, with such diverse unequivocal textual evidences that countenance no figurative re-interpretation. It is a mistake for Muslims to presume theology and ontology must play second fiddle to empirical science, or to retreat to a safe space leaving only science to comment on important matters of human origins. It is also a mistake for Muslims to make the blanket statement, “Islam does not accept evolution.” Quite the contrary, the empirical data and fundamental principles of biological evolution are not excluded by Islamic theology, provided that we acknowledge that the mechanisms of evolution occur solely by the Divine Will, as a basic invocation teaches us, “There is no change, or even power to change, except with Allah.” Evolutionary science is *not* bad science, nor is it a Western hegemonic anti-religious conspiracy that seeks to transform Muslims into godless heathens. Instead, evolutionary science is an active area of ongoing research that fits the criterion of proper science, but it also has the limitations that any scientific theory has. By properly understanding both Islamic theology and the philosophy of science, Muslims can better understand how the purported threat of science to religion entirely dissolves under careful scrutiny.