



# Human Origins: Theological Conclusions and Empirical Limitations

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## 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). The article explores how the explanatory scope of Islamic theology far exceeds that of philosophical naturalism in accounting for the empirically evident distinctions of humankind and its origins.

## Introduction

Human beings, endowed with the faculties of reason and sensory perception, are able to accumulate a great amount of knowledge through observation and examination of the natural world. Indeed, the Qur'an draws attention to this, stating, "And Allah has extracted you from the wombs of your mothers not knowing a thing, and He made for you hearing and vision and intellect that perhaps you would be grateful" (Qur'an 16:78).

The human faculties of reason (*'aql*) and perception (*hiss*) are tremendously powerful, and the Qur'an emphasizes the need for intellectual investigation no less than 750 times.<sup>1</sup> The natural sciences are based upon this very synthesis of reason and perception into a comprehensive methodology of empirical investigation. "For every true science must have supporting proofs (*barahīn*) that are ultimately rooted in either sense perception (*hiss*) or the dictates of reason (*daroorat al-'aql*)," the famous Muslim theologian Ibn al-Qayyim (d. 751 H) noted.<sup>2</sup>

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<sup>1</sup> Abdul-Latif ibn Abdul-Aziz al-Rabah. *Makanat al-'Ulum al-Tabi'iyah fi'l-tarbiyyah Islamiyyah*. Doctoral dissertation. p. 267.

<sup>2</sup> Ibn al-Qayyim. *Miftah Dar al-Sa'adah*, (Mecca: Dar 'Alam al-Fawa'id 2010) vol. 3, p. 1190. He makes this comment in the course of addressing why astrology cannot be considered a true science due to its lack of substantiating logical and empirical evidence. Similarly, in his discussion on embryology, Ibn al-Qayyim considers anatomic dissection (*tashrīh*) and empirical research to be sound and impenetrable evidences (*Tuhfat al-Mawdud fi Ahkam al-Mawlud*. Mecca: Dar Alam al-Fawa'id, p. 376).

Indeed, 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,<sup>3</sup> Galileo,<sup>4</sup> or Giordano Bruno<sup>5</sup>—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?

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

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<sup>3</sup> Nicolaus Copernicus (d. 1543 CE) was an astronomer whose view that the Earth orbits the sun (heliocentrism) was condemned by the Church.

<sup>4</sup> 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.

<sup>5</sup> 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.

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.<sup>6</sup> 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.

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.

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<sup>6</sup> 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 deduction ('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. (Miftah, pp. 1417-1418).*

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 Qur'an refers to both natural and scriptural knowledge as *ayat* (signs).<sup>7</sup> 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.

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<sup>7</sup> 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.

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), 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 (*tīn*), 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.<sup>8</sup>

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.<sup>9</sup> 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.<sup>10</sup> We are told that there was a time when Adam was "between the spirit and the clay."<sup>11</sup> The second human being was Eve (*Hawwa'* in Arabic), who the Qur'an states was made from Adam.<sup>12</sup>

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<sup>8</sup> 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.

<sup>9</sup> *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.

<sup>10</sup> *Jami' al-Tirmidhi*, 3367.

<sup>11</sup> *Jami' al-Tirmidhi*, 3698.

<sup>12</sup> 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.

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 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.<sup>13</sup> 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*).<sup>14</sup> 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.<sup>15</sup> Religious texts that conflict with

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<sup>13</sup> 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.

<sup>14</sup> *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 Sharī'ah of the Philosophers. In *The Judeo-Christian-Islamic Heritage: Philosophical and Theological Perspectives* (Milwaukee: Marquette University Press, 2012), pp. 283-304.

<sup>15</sup> Ibn Sina, *Risalah al-Adhawiyyah fi Amr al-Ma'ad*. (Cairo: Matba'at al-I'timad 1949).



philosophical truth are to be interpreted as allegorical, symbolic, and ultimately fictitious tales aimed at keeping the commoners in check (*muqayadīn*).<sup>16</sup> 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, 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.”<sup>17</sup> 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 (*takhyīl 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.”<sup>18</sup>

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’wīl* (the law of re-interpretation), he argues that the moderate position is to accept both reason and revelation as important foundations (*asl muhimm*), 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’wīl*).<sup>19</sup> The default presumption with regards to scripture

<sup>16</sup> Ibn Sina, *Risalah fi sirr al-qadar*, in *Majmu’ al-Rasa’il al-Shaykh al-Ra’is* (Hyderabad: Dairatul-Maarif Osmania 1935), p. 4.

<sup>17</sup> 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.

<sup>18</sup> Al-Safarini. *Lawami’ al-Anwar al-Bahiyah*. (Maktabah al-Islamiya Dar Al-Khani 1991), p. 116.

<sup>19</sup> Al-Ghazali, Abu Hamid. *Qanun al-Ta’wīl*. 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

is to affirm that it describes things as they actually are (*wujud dhati*).<sup>20</sup> It is only when this level of interpretation conflicts with a logical deductive argument that one resorts to metaphorical interpretation (*ta'wīl*), which *Ahlul-Kalam* primarily applied to texts pertaining to the attributes of God.<sup>21</sup> 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.<sup>22</sup> 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'iyat*) and rational (*'aqliyyat*), arguing that reason is intrinsic to religion.<sup>23</sup> 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 textual evidences 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

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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.

<sup>20</sup> Al-Ghazali, Abu Hamid. *Faysal al-Tafriqah baynal Islam wa al-Zandaqah*. (Damascus 1993), pp. 28-33.

<sup>21</sup> Al-Ghazali, Abu Hamid. *Ihya' Ulum al-Din – Kitab Qawa'id al-Aqa'id*. (Beirut: Dar Ibn Hazm 2005), p. 122.

<sup>22</sup> 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.

<sup>23</sup> Ibn Taymiyyah. *Dar Ta'arud al-'Aql wal-Naql*. (Riyadh: Al-Imam University 1991), vol. 1, p. 198.

definitive proofs.<sup>24</sup> 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 lexicons indicate that *yawm* can apply to any period of time.<sup>25</sup> 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.<sup>26</sup> 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).<sup>27</sup> Developing an epistemologically sound foundation upon which both scriptural and scientific truths work in concert is a far more fruitful endeavor.

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<sup>24</sup> Ibn Taymiyyah explains that acceptable re-interpretation (*ta'wīl 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.

<sup>25</sup> Al-Rāghib al-Isbahānī, *Mufradat Alfadh al-Qur'an*. ed. Safwan 'Adnan Dawudui. (Damascus: Dar al-Qalam, 1992), p. 894.

<sup>26</sup> 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.

<sup>27</sup> 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 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 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.<sup>28</sup> But it simply represents one of a number

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<sup>28</sup> 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

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, 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.<sup>29</sup> 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.<sup>30</sup> 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

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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).

<sup>29</sup> 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.

<sup>30</sup> 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.

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 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.<sup>31</sup>*

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.<sup>32</sup> 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*

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<sup>31</sup> 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>

<sup>32</sup> Bas van Fraassen. *The Scientific Image*. (Oxford: Clarendon Press, 1980) p. 8.

*concerned with is that the theory should predict the results of measurements. Quantum theory does this very successfully.*<sup>33</sup>

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 objective: to arrive at theories that are ‘empirically adequate’; i.e., theories that fit with our observations.<sup>34</sup> 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.<sup>35</sup> As for matters that are *unobservable*, then we rely on interpretations, inferences, models, extrapolations, and postulations that aim only to be empirically adequate.<sup>36</sup> 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.<sup>37</sup> 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

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<sup>33</sup> 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.

<sup>34</sup> 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.’

<sup>35</sup> Bas van Fraassen. *The Scientific Image*. (Oxford: Clarendon Press, 1980) p. 72.

<sup>36</sup> 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 Wiltsche, 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.

<sup>37</sup> 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.

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. Moreover, in the next section, we will explore how even the available empirical data, when carefully considered, requires a more robust ontological narrative of human origins than that offered by naturalism.

## The great divergence—understanding the fundamentals of human nature

*The world of academe is currently in the grip of a strange and worrying epidemic of biologism, which has also captured the popular imagination. Scientists, philosophers, and quite a few toilers in the humanities believe—and would have the rest of us believe—that nothing fundamental separates humanity from animality.<sup>38</sup>*

By virtue of its nature, evolutionary biology adopts a comparative approach which focuses on biological similarities between species.<sup>39</sup> But this approach on its own is incomplete; an equally important empirical project is to understand what makes human beings unique and to account for the vast gulf that separates humans from the other species with whom they share the planet. Human beings are the only creatures to have developed full-blown civilization, government, law, education,

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<sup>38</sup> Tallis, Raymond. Rethinking Thinking. *The Wall Street Journal*. Nov 12, 2011.

<https://www.wsj.com/articles/SB10001424052970204618704576642991109496396>

<sup>39</sup> Even manifest differences must be originally rooted in similarities undergoing incremental variation, as in transformational homology. Rieppel, O. (1994). Homology, topology, and typology: The history of modern debates, in Hall, B.K. (ed.) *Homology: The Hierarchical Basis of Comparative Biology*, (San Diego: Academic Press), p. 88. It has been argued that the Modern Synthesis (MS) Theory, the orthodox paradigm in evolutionary biology, is insufficient in accounting for evolutionary novelties. Refer to Pigliucci, Massimo (2008). What, if anything, is an evolutionary novelty? *Philosophy of Science* 75 (5):887-898. Pigliucci writes:

*...while the MS has been very successful at expanding Darwinism to account for genetics and population biology, it has failed to sensibly incorporate both developmental biology and ecology; while the MS has given us an account of genetic variation and of how it changes in populations over time, it has reached an impasse on the question of the origin and evolution of phenotypic novelties and organismal body plans (p. 895).*



culture, language, philosophy, art, entertainment, science, and so forth. And these achievements arise from some uniquely human capacities related to our consciousness (including meta-cognition and sustained self-awareness), language, moral values, and other qualities that have characterized humankind even in hunter-gatherer societies long before the modern era. All correlates with animal species in this regard have been found to be so rudimentary and primitive, so categorically inferior, as to preclude any reasonable comparison with human abilities. As British author John Hands notes:

*The claim that a single chimpanzee using a stone to crack open a nut is the same kind of thing as a large international team of scientists cooperating to invent and construct the Large Hadron Collider in order to discover how fundamental particles interact is, I suggest, somewhat less than valid.*<sup>40</sup>

Denying this empirically obvious difference impedes scientific progress and yet has unfortunately become commonplace among even the most well-intentioned writers, including “a large majority of primatologists, anthropologists, and evolutionary biologists.”<sup>41</sup> As neurologist and philosopher Raymond Tallis writes:

*Some writers, as we have seen, try to bridge the gap between us and apes by arguing that it is not as big as it looks and that it is ultimately not real. Others, however, are aware that the gap is a yawning gulf and seek an explanation that is proportionate to the scale of what has to be explained.*<sup>42</sup>

This denial of the obvious is part of what Tallis critiques as the over-extension or ‘inflammation’ of Darwinian thought in accounting for humanity, for which he coins the term ‘Darwinitis.’ The attempt to reduce everything to biological processes, to claim that human beings are nothing more than bags of chemical

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<sup>40</sup> Hands, John. *Cosmosapiens: Human Evolution from the Origin of the Universe*. (Overlook Books, 2016). pp. 536-537.

<sup>41</sup> *Ibid.* p. 532.

<sup>42</sup> Tallis, Raymond. *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity*. (Acumen Publishing 2012), p. 214. It should be noted that Tallis prefaces his discussions with numerous disclaimers that he affirms the biological evolution of human beings and is an atheist humanist—the fact that he feels the need to even spell this out demonstrates the unfortunate extent to which the subject has become politicized in the public discourse such that to even raise intelligent questions about the assumptions of the mainstream scientific community is deemed academic heresy.

reactions, the amalgamation of blind physical forces (which Richard Dawkins dubbed ‘the blind watchmaker’), leaves unanswered many of the fundamental facts about the human condition, and how we have come to be sentient beings able to rise above such physical processes to contemplate the reality of our condition, and the intricacies of those very laws of physics.<sup>43</sup>

*Darwinism, therefore, leaves something unaccounted for: the emergence of people like you and me who are indubitably sighted watchmakers.*

*...something rather important about us is left unexplained by evolutionary theory. We are not mindless and yet seem to do things according to purposes that we entertain in a universe that brought us into being by mindless processes that are entirely without purpose. To deny this is not to subscribe to Darwinism but to embrace Darwinitis.<sup>44</sup>*

The Qur’an mentions, “Verily, We have created the human being in the best of molds” (95:4).<sup>45</sup> What follows is an examination of the unique dimensions of human nature, and an exploration of the scriptural and scientific discussions that pertain to them.

## **First: Language**

The gift of language is one of the most fascinating features of the human species. In the Qur’an, it is mentioned immediately after the creation of the human being, as a Divinely endowed faculty: “The Most-Merciful; He taught the Qur’an, created the human being, and taught him language (*bayan*)” (55:1-4).

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<sup>43</sup> Another aspect of the problem from an evolutionary perspective is accounting for why such a massive gulf emerged between humans and other primates; i.e., why the ecological niches or the magnitude of selection pressures were so divergent between the species, and tremendously more significant in advancing the capacities of humankind. This has been the subject of considerable debate and opinions on the matter remain largely conjectural. Any potential empirical answer to this question (identifying a possible discrepancy in the evolutionary opportunities or environments of humans versus non-human primates) will always seem inadequate without an accompanying ontological foundation to justify the presence of said radical discrepancy in the first place.

<sup>44</sup> Tallis, Raymond. *Aping Mankind*, pp. 212-213.

<sup>45</sup> Ibn Atiyyah (d. 541 H) notes that this verse is inclusive of several unique characteristics ranging from physical form (*surah*), senses (*hawas*), and having one’s intellect (‘*aql*) and perception (*idrak*) adorned with discernment (*tamyiz*). See *Tafsir ibn Atiyyah* (Qatar: Ministry of Awqaf 2007), vol. 8, p. 647.

By stringing together a few sounds or written symbols, a human being can produce an infinite range of meanings. Despite being a massively complex system of meaning with hundreds of grammatical rules, human toddlers are able to acquire such knowledge naturally with astoundingly minimal instruction—an observation which led to the description of an innate faculty called the ‘language acquisition device’ (one of Noam Chomsky’s pioneering conceptual innovations in the field of linguistics).<sup>46</sup> Many of these rules are actually quite complex and difficult to ascertain even with considerable study, and yet native speakers can identify them instinctively.<sup>47</sup> The human mind’s preparedness to learn language in distinction to all other animals is now commonly acknowledged, but was articulated in the classical work of Ibn al-Qayyim who argued that God is the One “who prepared the mind of the human by making it amenable to learning language in contrast to all other animals (*man hayya’ dhihnu li qubul hadha ta’lim duna sa’iri’l-hayawanat*).”<sup>48</sup>

Many people make the error of considering language to be a system of communication that is simply a few orders of magnitude superior to animal communication. However, the communicative aspect of language is peripheral to its primary function as a system of thought, serving to analyze and clarify concepts, construct ideas, explicate and pose questions, and elaborate meaning.<sup>49</sup> Linguistic conceptions are intrinsic to our mental activity, and our internal train of thought cannot dispense with words (e.g., try to think a thought without any words). The Qur’an identifies this as the fundamental character of language and

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<sup>46</sup> Chomsky, N. *Aspects of the Theory of Syntax* (MIT Press 1965), p. 47. Like all pioneering observations, this raised criticisms from opponents and responses from proponents. See Legate, Julie & Yang, Charles (2002). Empirical re-assessment of stimulus poverty arguments. *The Linguistic Review*, 18, 151–162.

<sup>47</sup> For instance, consider the following sentence (a Chomskyan adaptation): ‘The man who is leading the prayer is knowledgeable.’ If one were to convert this into a question, one is required to transpose the second instance of the word ‘is’ to the front of the sentence and not the first: ‘Is the man who leading the prayer is knowledgeable?’ versus ‘Is the man who is leading the prayer knowledgeable?’ People can instinctively identify the incorrect speech without any knowledge of the underlying structural syntactic determinants, and children readily identify such structure-dependence when they learn language. For more discussion on this subject, and examples of scalar implications and polarity in everyday language use, the interested reader may refer to Chierchia, Gennaro. *Logic in grammar: Polarity, free choice, and intervention* (OUP Oxford, 2013).

<sup>48</sup> Ibn al-Qayyim. *Miftah Dar al-Sa’adah*, (Mecca: Dar ‘Alam al-Fawa’id 2010) vol. 2, p. 792.

<sup>49</sup> Asoulin, Eran. (2016). Language as an instrument of thought. *Glossa: A Journal of General Linguistics*, 1(1), 1-23.

also distinguishes between the language faculty itself and individual languages.<sup>50</sup> The Qur'an uses the word *bayan* (which means clarification of meaning) for the human language faculty (55:5), *lisan* (which means tongue) for various human languages (30:22),<sup>51</sup> and *mantiq* (which means utterances) for animal communication (27:16).<sup>52</sup>

How vastly different are animal screeches, roars, croaks and grunts, from the human language faculty which permits conceptualization of the laws of physics, or philosophizing about the nature of our existence? As American linguist and philosopher Ray Jackendoff notes, animal communication is at best analogous to human gestures and body language, as animals “*typically have at most a few dozen distinct calls, and they are used only to communicate immediate issues such as food, danger, threat, or reconciliation.*”<sup>53</sup> Even attempts at teaching human language to primates through intensive instruction and training have demonstrated only a modest ability to acquire limited communicative expression, the extent of which is surpassed by a three-year old child.<sup>54</sup> Animal species naturally cannot go

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<sup>50</sup> Linguistic theorists often capitalize ‘Language’ to distinguish the faculty that all humans possess from the non-capitalized ‘language’ which refers to things like Arabic, English, French, Urdu, Turkish, etc.

<sup>51</sup> There is an ongoing debate amongst linguists about whether all modern languages go back to a single ancestral language (linguistic monogenesis) or several languages (polygenesis), a question which has been said to be “difficult if not impossible to determine using the evidence of the present.” See Schreyer, Christine (2002) "A Proto-Human Language: Fact or Fiction," *Totem: The University of Western Ontario Journal of Anthropology*: Vol. 10: Iss. 1, Article 9. From the perspective of Muslim scholars, debates over the origin of human languages (*asl al-lughah*) have also been diverse: the linguist Ibn Faris (d. 395 H) was of the view that they were all given by God, while Ibn Jinni (d. 330 H) believed they were invented by humans. Ibn Taymiyyah (d. 728 H) held that languages were part given and part developed.

<sup>52</sup> The Qur'an never uses *bayan* to describe communication in non-human creations. One may wonder about what we may learn about language capacity from the example of Prophet Sulaiman's knowledge of animal speech, most notably the ant and the hoopoe in Surah al-Naml. However, Al-Qurtubi comments in his exegesis of 27:16, “People are in agreement that Sulaiman understood the speech of that which did not speak (*kalam man laa yatakallam*), and speech was created even in plants, so that a plant would say ‘I am such-and-such tree, with this comparative benefit and harm.’ So what then do you suppose about animals?” Similarly, on the Day of Judgment, God will make a person’s skin speak just as “He makes everything speak” (41:21). Therefore, one must avoid taking these as normative biological descriptions about animal cognitive capacity, but rather instances wherein God elevates the generic primordial sentience found in any creation to the level of meaningful communication that might be apprehended, as in the case of a talking wolf (*Sahih Bukhari*), a crying tree trunk (*Sahih Ibn Hibban*), and even the entirety of the heavens and earth (41:11).

<sup>53</sup> Jackendoff, R.. How Did Language Begin? Linguistic Society of North America.  
<https://www.linguisticsociety.org/content/how-did-language-begin>

<sup>54</sup> Limber, J. (1977). Language in child and chimp? *American Psychologist*, 32, 280-295.

beyond a limited predefined set of available messages, while humans can express complex messages that have never been previously expressed in human history.<sup>55</sup>

The language faculty is thought to have emerged in evolutionary history between 70, 000 to 100, 000 years ago, but identifying a mechanism has been a tremendous stumbling block. One approach has been to reduce language to just one fundamental capacity, namely that of recursion (basically words referring back to other words), in order to explain how it could have suddenly emerged through a single genetic alteration in an individual.<sup>56</sup> Biological anthropologist Terrence Deacon has argued that this appeal to such a solitary “lucky genetic accident” is tantamount to an argument for miracles.<sup>57</sup> Moreover, it has been argued that this neglects other relevant unique human linguistic capacities (such as phonology, morphology, or the massive lexicon humans acquire)<sup>58</sup> and that some form of incremental process must have taken place—although this of course reduces language to its communicative functions while its central function of elaborating thought becomes a mere incidental bonus. Ongoing empirical investigation and debate on this subject is healthy and necessary while also acknowledging that part of this question will forever lie beyond our epistemic horizons, since the object of study is the emergence of a capacity which existed in the minds of humans hundreds of thousands of years ago and has left little in the way of tangible artifact or fossil.<sup>59</sup>

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<sup>55</sup> Even after intensive instruction, the bonobo Kanzi failed to show comprehension of the hierarchical structures in language, outperformed by a human toddler between 18 to 24 months of age. See Truswell, R. (2017). Dendrophobia in Bonobo Comprehension of Spoken English. *Mind Lang*, 32, 395-415.

<sup>56</sup> Hauser, M. D., Chomsky, N., & Fitch, W. T. (2002). The faculty of language: What is it, who has it, and how did it evolve? *Science*, 298, 1569-1579.

<sup>57</sup> Terrence Deacon. Language and complexity: Evolution inside out. 37th International Systemic Functional Congress. Irving K. Barber Learning Centre. Webcast Aug 25, 2010. Accessed on YouTube (<https://www.youtube.com/watch?v=OT-zZ0PMqgI#t=17m30s>). He goes on to note, “The intelligent design people ought to love this stuff because we had this extravagant mutation 60 thousand years ago according to Richard Klein and suddenly we’re human! This is exactly the kind of miracle story that we don’t want, I think, in biological theory.”

<sup>58</sup> Pinker S., & Jackendoff, R. (2005). The faculty of language: what’s special about it? *Cognition*, 95, 201–236. See also the response of Fitch W. T., Hauser, M. D., & Chomsky, N. (2005). The evolution of the language faculty: clarifications and implications. *Cognition*, 97, 179–210.

<sup>59</sup> Dunbar R. I. M. “Why only humans have language,” in *The Prehistory of Language* eds. Botha R., Knight C. (Oxford: Oxford University Press 2009) p. 14.

The fact that we humans have come to possess this extraordinary gift of language, this incredible capacity for limitless expression and understanding, cries out for explanation. Language is an articulation of meaning, and meaning is immaterial and metaphysical, reaching beyond the confines of our physical realm to latch on to universal truths and conceptualize reality. Why on earth would a biological organism have the capacity to conceptualize cosmic truths? Islamic theology uniquely provides the ontological grounding and metaphysical context within which to situate this capacity. In the first story mentioned in the Qur'an, the angels ask God why place human beings on earth when they will inevitably spread bloodshed and corruption while the angels glorify God. Human beings would not be directly in God's presence like the angels, and hence subject to an epistemic distance between them and God (they do not witness God directly), and prone to worldly temptations. The response later in the passage is seen when God favors Adam over the angels with an extraordinary gift: "And He taught Adam the names of all things" (Qur'an 2:31). Exegetes have pondered this phrase and interpreted it in various ways, but one understanding that encompasses the others has been connecting this with humankind's unique capacity for language,<sup>60</sup> furnishing a capacity for conceptualization and abstraction that stretches the epistemic horizons of the most knowledgeable human beings beyond even those of the angels.<sup>61</sup> Thus, despite being on Earth, human beings are able to understand and appreciate the Divine names and attributes—that God is Merciful and loves those who show mercy, they understand the abstract concepts of good and bad, truth and falsehood, and so on.<sup>62</sup> This all emerges from the natural capacity for conceptualization rooted

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<sup>60</sup> Ibn Taymiyyah mentions it as proof of God teaching humans language (*bayan*). *Majmu' al-Fatawa* (al-Mansura: Dar al-Wafa' lil-Taba'a wal-Nashr, 1998), vol. 9, p. 36.

<sup>61</sup> See the discussion in Abu Su'ûd, Muhammad ibn Muhammad. *Irshad 'Aql Salim ila Mazaya al-Kitab al-Karim*. (Riyadh 1974). Vol. 1, pp. 144-147. Learning "the names of all things" goes beyond simply acquiring vocabulary, for many reasons. First, where is the unique virtue in teaching Adam something that the angels could just as easily have learned? And how would that address the angel's question about the human potential for bloodshed? Evidently, it relates to a unique capacity for conceptualization, for discerning the meanings of the unknown based upon what is known, which ties into humankind's spiritual journey.

<sup>62</sup> In this connection, consider also the *hadith* which mentions that the angels report to God about witnessing His human servants glorifying Him, seeking Paradise, and seeking refuge from Hellfire despite this being unseen to them, whereupon God announces His forgiveness for them (*Sahih al-Bukhari* 6408). Language allows human beings to understand realities they have not witnessed, thus providing them the means of traversing the epistemic distance between them and God.

in the primordial nature of human beings.<sup>63</sup> Language is thus not some unintended “lucky accident,” but a critical part of the spiritual apparatus that defines human purpose in life.

## Second: Consciousness

One of the most obvious ways in which human beings transcend animal capacities is with regards to their mental activities and the content of their thoughts. Ibn al-Qayyim points out that while animals have basic discernment (*tamyiz*) and perception (*idrak*), they are devoid of the uniquely human features of mind (*dhihn*) and intellect (*‘aql*).<sup>64</sup> Unlike the rudimentary awareness of elephants and dolphins recognizing themselves in the mirror, humans have a self-awareness that is *sustained* and *productive*, driving the course of their mental activity and the content of their internal train of thoughts.<sup>65</sup> We have the capacity for metacognition, that is, thinking about thinking, contemplating the content of our own thoughts. And we can direct our contemplative activity to external reality to comprehend the intricacies of the universe we inhabit. As cosmologist Paul Davies notes, “Other animals observe the same natural phenomena as we do, but alone among the creatures on this planet, *Homo sapiens* can also *explain* them.”<sup>66</sup>

Why should the laws of nature have bequeathed humans with minds that are capable of comprehending those very laws? In a universe comprised of nothing more than collections of particles, why would one expect the emergence of conscious minds capable of pondering their own existence? As often asked, how can something as immaterial as the mind emerge from something as mindless as matter? Naturalism fails to provide a sufficient account in this regard and a more solid ontological foundation is needed.<sup>67</sup>

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<sup>63</sup> Language is intimately connected with the Islamic concept of the *fitrah* as discussed in Khan, N. *Fitrah - The Primordial Nature of Man*. (1/1/15). <http://spiritualperception.org/fitrah-the-primordial-nature-of-man/>

<sup>64</sup> Ibn al-Qayyim. *Miftah Dar al-Sa’adah*, (Mecca: Dar ‘Alam al-Fawa’id 2010), vol. 2, p. 666.

<sup>65</sup> Cf. Tallis, Raymond. *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity*, pp. 217, 230.

<sup>66</sup> Davies, Paul. *The Goldilocks Enigma: Why Is the Universe Just Right for Life?*, (NY: First Mariner Books 2008) p. 5.

<sup>67</sup> Nagel, Thomas. *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False*, p. 35. Another problem consciousness poses for naturalism is the breakdown of its normal causal explanatory

Humans are fundamentally spiritual beings who possess bodies that constantly change; our cells get replaced, we can transplant our organs, our bodies decompose when we die and are re-created when we are resurrected. But our soul remains the same.<sup>68</sup> The Qur'an (17:85) states of the soul, "And they ask you concerning the soul (*ruh*). Say, 'The soul is from the affairs of my Lord, and you have been given but little knowledge of it.'" The soul is a metaphysical reality that is incorporated in the body, and many of the discussions in Islamic theology on the subject have interesting implications for questions on the nature of consciousness.<sup>69</sup> In a sense, there is a first-order basic sentience that pervades all existence, which is that of *tasbīh* (glorifying God): "And there is nothing in existence except that it glorifies Him in praise, but you cannot comprehend its manner of glorifying (*tasbīh*) Him" (Qur'an 17:44).<sup>70</sup> Meanwhile, the second-order consciousness associated with moral accountability and moral choice is something that the Qur'an states was entrusted specifically to human beings: "We presented the Trust (*amanah*) to the Heavens, the Earth, the Mountains, but they refused to bear it, being afraid thereof, but man assumed it. Verily, he has proven unjust and ignorant" (Qur'an 33:72).<sup>71</sup> Shah Waliullah al-Dehlawi (d. 1176 H) distinguishes between vital life forces common to all living organisms (e.g., *al-ruh al-hawa'i*) and the conscious soul which makes an individual who he or she is (*al-nafs al-natiqa*).<sup>72</sup> Spirituality raises

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apparatus. How do we account for the fact that one thought caused the next thought in my 'train of thought' while simultaneously acknowledging that it was one electrochemical impulse which caused the next electrochemical impulse? This leads to a problem of overdeterminism and causal exclusion. See Kim, Jaegwon. *Mind in a Physical World*. Cambridge: MIT Press, 1998, p. 38.

<sup>68</sup> Badr al-Din al-'Ayni (d. 855 H) writes, "The human soul is that which each individual refers to with the pronoun, 'I'." *Umdat al-Qari*, (Beirut: Dar al-Kotob al-Ilmiyah 2001), vol. 2, p. 303.

<sup>69</sup> Brown, Jihad. *The Problem of Reductionism in the Philosophy of Mind and its Implications for Theism and the Principle of Soul: Framing the issue for further Islamic inquiry*. Tabah paper series. no. 7 (2013).

<http://www.newdualism.org/papers/J.Brown/Brown-Reductionism-Tabah-2013.pdf>

<sup>70</sup> There are many similar passages, such as the verse which mentions the devout voluntary obedience of the Heavens and the Earth to God (41:11).

<sup>71</sup> The Trust (*Amanah*) refers broadly to moral accountability, to follow the commandments of God by one's volition. Qur'anic exegesis mentions that inanimate entities (*jamadat*) were given understanding (*fahm*) and discernment (*tamyīz*) to make a choice regarding carrying the trust (*khuyirat fi'l-haml*); see Abu Hayyan al-Andalusi, *Bahr al-Muhit*, (Beirut: Dar Ihya al-Turath al-Arabi, nd) vol. 7, p. 253.

<sup>72</sup> Hermansen, Marcia. *The Conclusive Argument from God: Shah Wali Allah of Delhi's Hujjat Allah Al-Baligha*. (Islamic Research Institute, 2003), p. 54.



the human being to elevated states of consciousness, until one “becomes witness to other realities and matters of which one was not conscious before.”<sup>73</sup>

Consciousness is a very difficult subject to pin down. On the one hand, there is the empirical *objective consciousness* which pertains to how the mind responds to stimuli, what information is available to the mind, what occupies the mind’s attention, one’s level of wakefulness, and so on. These are observable to the outsider and can be studied and analyzed by empirical scientific means. It is sometimes referred to as the ‘third-person’ perspective.

On the other hand, there is the subjective experience that accompanies thoughts, sensations and feelings, the internal experience of what it is like to see the color red or feel surprise, and so on. This first-person perspective, often termed *phenomenal consciousness*, is beyond our empirical lens.<sup>74</sup> How and why we have this rich inner experience is the question that philosopher David Chalmers famously described as the ‘hard problem of consciousness.’<sup>75</sup>

There is still perhaps an even deeper abstraction than this, which one could term the *metaphenomenal consciousness*: setting aside the content of sensations, emotions, and thoughts that are projected in the mind, what is the nature of the projection itself?<sup>76</sup> Consciousness itself is an internal arena which the human being chooses to populate with all manner of thoughts, ideas, beliefs, judgments,

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<sup>73</sup> Ibn al-Qayyim, *Tarīq al-Hijratayn wa bab al-sa’adatayn*. (Cairo: Dar al-Salafiya 1394 H). vol. 1, p. 15.

Alternatively, the absence of any spiritual inclination can cause one to be lost in the senseless pursuit of materialistic distractions and heedlessness (*ghaflah*), debasing oneself to the level of creatures who possess minds but do not benefit from them (Qur’an 25:44,47:12).

<sup>74</sup> Some classic examples have been used to illustrate phenomenal consciousness and how it is independent of physical perception, including the case of philosophical zombies, inverted color vision, Mary the color-deprived scientist, among others. Refer to Tye, M. Philosophical Problems of Consciousness. In *The Blackwell Companion to Consciousness*. eds M. Velmans and S. Schneider. (Wiley-Blackwell 2007), 23-35.

<sup>75</sup> Chalmers, D. J. *The Conscious Mind: In Search of a Fundamental Theory*. (Oxford: Oxford University Press 1996).

<sup>76</sup> This analogy can be helpful: “This aspect of consciousness can be likened to the light from a film projector. The projector shines light onto a screen, modifying the light so as to produce one of an infinity of possible images. These images are like the perceptions, sensations, dreams, memories, thoughts, and feelings that we experience—the forms arising in consciousness. The light itself, without which no images would be possible, corresponds to this ability of consciousness to take on form. We know all the images on a movie screen are composed of light, but we are not usually aware of the light itself; our attention is caught up in the images that appear and the stories they tell. In much the same way, we know we are conscious, but we are usually aware only of the many different perceptions, thoughts, and feelings that appear in the mind. We are seldom aware of consciousness itself.” Peter Russell. *The Primacy of Consciousness*. <https://www.peterrussell.com/SP/PrimConsc.php>

emotions, questions, and so forth. This arena can be spiritually purified or polluted: “Successful is one who purifies the soul; ruined is one who pollutes it” (Qur’an 91: 9-10). As Ibn al-Qayyim explains in his work *Wabil al-Sayyib*, it is through the path of spiritual purification that the soul becomes the receptacle for Divine Light (Qur’an 24: 35), thereby altering the nature of its perceptions and elevating the very nature of its consciousness.<sup>77</sup>

From the perspective of evolutionary biology, the presence or absence of an organism’s phenomenal consciousness, or its nature, cannot be determined by an external observer, and thus, it does not lend itself to empirical investigation. It remains a metaphysical question, and it is entirely plausible that the emergence of humankind was associated with a particular distinctive phenomenal consciousness.

## Other differences

It is beyond the scope of this paper to elaborate on the other fundamental qualities of humankind that are exclusive to this species. Many more have been hypothesized in the works of Islamic theology,<sup>78</sup> and their metaphysical implications are worth exploring further (for instance, moral choice, emotional intelligence, the ability to wonder and contemplate, and so forth).

Given that the philosophy of science demands parsimony in our explanations, there is a tendency to extrapolate all data from animals and apply them to humans, presuming that all creatures belong to the same historical narrative. But this provides very poor accounts of matters like language, moral reasoning, metacognition and so forth. The empirically evident massive divergence between humankind and other species warrants an explanation that stands on firmer ontological footing than that afforded by naturalistic explanation alone. The idea that humans are special in some non-trivial way has no place within the paradigm of naturalism which countenances only blind physical processes without purpose or

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<sup>77</sup> Ibn al-Qayyim. *Wabil al-Sayyib min al-Kalim al-Tayyib*. (Makkah: Dar 'Alam al-Fawa'id), p. 119.

<sup>78</sup> For instance, when discussing verse 17:70 “Verily We Have honored the children of Adam,” Ibn al-Qayyim presents a long list of such unique distinctions of humankind which includes cognitive, aesthetic, and moral features. *Miftah Dar al-Sa'adah*, (Mecca: Dar 'Alam al-Fawa'id 2010), vol. 2, p. 748.

intention which somehow seems to result in creatures with tremendous purpose and intention.<sup>79</sup>

## **Beyond polemics: Evolutionary science vs. Evolutionist dogma**

Evolutionary science is an area of tremendous advancement and achievement. Evolutionist dogma, unfortunately, is not. What is the distinction? Evolutionary science includes research and investigation into genetic mechanisms of speciation and population diversity, which have led to exciting developments in biology and ecology. Evolutionist dogma, on the other hand, refers to the zeal to transform evolution into an anti-religious ideology that obviates the need for theistic and metaphysical accounts of beauty, unity, utility, complexity, and humanity. This overly enthusiastic zeal has propelled some evolutionists to present biological evolution as a grand unifying theory in biology, which has the explanatory scope to solve all our problematic causal connections with a simple story tied to reproductive fitness. This thinking however, is unfortunately pseudo-science and its harmful repercussions on empirical investigation are manifold.

First, evolutionary science is robbed of its contextual value and denied its unsolved complexities. Biological evolution is not a catch-all theory that has answered everything. In fact, it is not even a single theory. It is a field of ongoing scientific research that encompasses numerous competing theories and contains many critical questions that remain unsolved. Like all fields of investigation, it has several limitations and debates.

Secondly, many anti-religious arguments are introduced by evolutionists that are not 'scientific' by any means but rather stand on dubious reasoning. These include arguments claiming 'bad design' of a particular anatomical structure (such as the retina or the recurrent laryngeal nerve) predicated on unsubstantiated presuppositions about what structural arrangement would be optimal, a present

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<sup>79</sup> Midgley, Mary. (2011). Why The Idea Of Purpose Won't Go Away. *Philosophy*, 86, 545-561.

lack of knowledge,<sup>80</sup> and a hasty dismissal of the potential for further empirical research to identify physiological benefits<sup>81</sup> or relevant developmental constraints,<sup>82</sup> as it readily has in the aforementioned cases.

Third, we have the overzealous construction of often mutually conflicting evolutionary “just-so” stories about how a particular trait emerged or was selected for which are often based on conceptual misunderstandings regarding the different categories of explanation, mechanism, constraints, and causation.<sup>83</sup> There is a critical need to solve problematic conceptions of mechanisms, such as conflicting notions of exaptations versus adaptations,<sup>84</sup> problems with the dominance of methodological adaptationism,<sup>85</sup> and unscientific explanatory adaptationism.<sup>86</sup> These paradigms have resulted in the proliferation of “just-so” story-telling, picking a trait, and speculating a creative linkage between its function and survival or reproductive fitness. The problem with so many highly contrived and conjectural explanations is precisely that alternative stories are drawn up so easily,

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<sup>80</sup> Ironically, the anti-religionists claiming ‘bad design’ are guilty of precisely the same fallacy they call the “God-of-the-gaps” fallacy wherein a claim is staked on a present gap in knowledge, dismissing the possibility for empirical research to close the gap.

<sup>81</sup> For instance, the physiologically obtuse presumption that the retina is backwards, because the photoreceptors are situated behind axons, has been shown erroneous by the functional benefits conferred by this optical arrangement which permit spectral waveguiding and situating photoreceptors closest to the highly vascularized choroid. See Labin, A. M., & Ribak, E. N. (2014). "Color sorting by retinal waveguides," *Opt. Express*, 22, 32208-32213; and Nickla, D. L., & Wallman, J. (2010). The multifunctional choroid. *Prog. Retin. Eye Res.*, 29 (2), 144-168.

<sup>82</sup> For instance, the argument about the recurrent laryngeal nerve (RLN) fallaciously looks only at the adult organism to presume that a shorter course is optimal. However, this ‘bad design’ argument entirely neglects the embryological sequence of events, and what is most efficient based on the process by which the anatomical structures in a creature are assembled during embryogenesis and organogenesis. Thus, ontogeny may provide a more relevant explanation than phylogeny. Moreover, the course of the RLN is not incidental; rather, there exist sensory and autonomic fibers to the cardiac plexus and connections with sympathetic cardiac nerves, which have recently been better characterized as a result of fetal cadaveric research: B De Gama et al. (2014). The recurrent laryngeal cardiac nerve in fetuses. *International Journal of Morphology*, 32 (2), 415-419.

<sup>83</sup> Take for instance the causal confusions and conflation of categories of explanation for why humans have acquired big brains: instrumental hypothesis (we became smarter so we could eat better), Machiavellian intelligence hypothesis (we became smarter so we could steal better), cultural intelligence hypothesis (we became smarter so we could learn better), Vygotskian intelligence hypothesis (we became smarter so we could cooperate better), Scheherazade hypothesis (we became smarter so we could mate better), social brain hypothesis (we became smarter so we could have more friends), etc. See Dunbar RIM, Shultz S. (2017). Why are there so many explanations for primate brain evolution? *Phil. Trans. R. Soc. B*, 372: 20160244.

<sup>84</sup> Lloyd, E. A. & Gould, S. J. (2017). Exaptation revisited: Changes imposed by evolutionary psychologists and behavioral biologists. *Biological Theory*, 12, 50-65.

<sup>85</sup> Lloyd, E. A. (2015). Adaptationism and the logic of research questions: How to think clearly about evolutionary causes. *Biological Theory*, 10 (4), 343-362.

<sup>86</sup> Boucher, S. C. (2015). Functionalism and structuralism as philosophical stances: van Fraassen meets the philosophy of biology. *Biology & Philosophy*, 30(3), 383-403.

which illustrates that they fail to meet the criterion of *invariance*—a key component of a good scientific explanation. If too many elements in the story can be modified and altered without any impact on its relationship to the data, it fails as a scientific explanation.<sup>87</sup>

## 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. This mistake fails to see how philosophy is intertwined with science, and how theology provides a unique and profound understanding of human origins.

It is also a mistake for Muslims to make the blanket statement, “We don’t believe in 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. Rather it is a well-researched scientific model that fits the criterion of proper science, but it also has the limitations that any scientific theory has. In particular, the distinctions of humankind warrant a solid ontological foundation that philosophical naturalism fails to provide. An integrative approach to studying both scriptural and scientific signs (*ayat*) furnishes precisely such a foundation and yields a deeper appreciation of who we are and to Whom we shall return.

“*And above all with knowledge is One More Knowledgeable.*” (Qur’an 12:76).

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<sup>87</sup> See James Woodward, *Making Things Happen: A Theory of Causal Explanation*. (Oxford: Oxford University Press, 2003) and discussion in Humphreys, P. (2006). Invariance, Explanation, and Understanding. *Metascience*, 15 (1), 39-66.

*And Allah knows best.*