## **REVIEW**

*Islam and Evolution: Al-Ghazālī and the Modern Evolutionary Paradigm* by Shoaib Ahmed Malik (New York: Routledge, 2021), xv + 345 pages.

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Islam and Evolution is a comprehensive treatment of Muslim responses to the theory of evolution. Long overdue, it offers a balanced, detailed approach, leaving no stone unturned (or, perhaps, no fossil unearthed) in cataloguing the diversity of modern responses to evolution. While it adopts a Ghazzalian approach to the question of evolution, much of what is said about evolution relates to other theological schools in Islam; those interested in other approaches may consult a forthcoming issue of *Theology and Science*, tentatively titled "An Abrahamic Engagement with Islam and Evolution," which engages with the book's content from various other viewpoints, inside and outside the Islamic tradition. Due to the generosity of a donor, the book was released with open access, assisting with the accessibility of a work on a question of cross-cultural importance.

The book itself does not require or assume prior knowledge of evolutionary theory or the mechanics behind it. Therefore, Chapter 1, "What evolution is and isn't," succinctly overviews the salient points of evolutionary theory, from Darwin onwards, including the discovery of genetics that made the theory of neo-Darwinism viable. Noting that evolution means different things to different people, the author identifies three central principles of neo-Darwinism: (a) the earth was created a very long time ago (before a literal reading of the Bible would suggest), (b) the common ancestry of terrestrial lifeforms, and (c) natural selection and mutation as the driving forces behind evolution. This chapter also addresses popular misconceptions about evolution – for instance, the idea that people were directly descended from monkeys – or irrelevant arguments, such as whether Charles Darwin was an atheist. It also calls out fallacious arguments, such as refuting evolution on the grounds that it is "just a theory", is unfalsifiable, or that scientists disagree about it, and begins a lengthy process of disentangling science from ideology. Scientifically, this chapter will be most helpful for the non-specialist, but calling attention to the underlying philosophical, historical, and socio-political context lays the ground for the rest of the book.

Chapter 2 presents Christian responses to evolution. This is pertinent since Christian responses have sometimes influenced Muslim responses, and are sometimes taken on wholesale, even though some Christian and Muslim theological considerations are not shared. For instance, unlike the Bible, a literal reading of the Qur'an does not necessitate that the universe was created in six literal 24-hour days around 6,000 to 10,000 years ago. Furthermore, while some Christians may object to evolution on the grounds of belief in original sin, original sin is not part of Islamic theology. This chapter is also helpful as a reminder that Christian thought, like Muslim thought, is not a monolith and should not be oversimplified. However, identifying theological and metaphysical objections to evolution

among Christians is helpful in exploring those objections in Islam, as is done in subsequent chapters.

Chapter 3 treats evolution in the Qur'an and Sunni hadith, with a specific focus on the creation of Adam as well as non-human life. Pertinent details of Qur'anic verses are discussed, while, at the same time, for the sake of brevity, it is not possible to be exhaustive. From this chapter, it is understood that the Qur'an and hadith appear to present the creation of Adam as miraculous, and present Adam as the father of *homo sapiens*; therefore, if a Muslim wishes to argue to the contrary, they will need to take a different approach to the Qur'an and hadith.

Then, Chapter 4 addresses Muslim opinions on evolution; tellingly, this chapter is longer than the previous. The author groups Muslim responses to evolution into four categories: creationism (God created everything miraculously), human exceptionalism (other species evolved, but humans were miraculously created), Adamic exceptionalism (Adam was miraculously created, but he could have co-existed with other human species, and his descendants could have interbred with other human species, such as Neanderthals), and no exceptions (all life evolved). Each category boasts considerable diversity; for instance, creationists encompass both Zakir Naik as well as Seyyed Hossein Nasr, who argues against evolution on the grounds that species exist as unchanging metaphysical archetypes.

Chapter 5 ("Old texts, new masks") challenges the assertion that classical Muslims first developed evolutionary theory. This chapter is the most adamant in its assertion: namely, that those who argue that classical Muslims believed in evolution are apologetic, utilitarian, or misinformed. Four authors are examined: Ibn Khaldūn, Rūmī, al-Jāḥiz, and the Ikhwān al-Ṣafā'. Mainly, the author argues that what appear to be references to evolution in their thought are actually expressions of the "great chain of being" (as understood by classical Muslims, not to be confused with later European understandings of this concept, which, for instance, fed into scientific racism). Still, al-Jāḥiz's observations about animals may be particularly interesting, insofar as he notes similarities between animals and the possibility of changes in species. Although the author makes a valid point that attempting to read contemporary ideologies into classical texts can be disingenuous, the aforementioned writings could offer a classical paradigm of Islamic science, spirituality, and philosophy which is, at least, harmonious with the basic idea of evolution. Therefore, perhaps it is not necessary to discard them from the discussion wholly.

After this lengthy preparatory discussion, the next three chapters of the book tackle the main metaphysical objections to evolution in Islamic thought. Chapter 6 addresses the objections of chance, naturalism, and inefficiency; that is, it does not bode well for God as a designer if the human being is a "lucky accident" and arises after a seemingly wasteful process of survival of the fittest. Chapter 7 centers on ideas behind the Christian "intelligent design" movement (as opposed to the notion of intelligent design in the abstract). Chapter 8 addresses the moral questions that evolution brings up; for instance, survival of the fittest seems to conflict with the religious ideal that one should look after the weak or disadvantaged. Conversely, it considers the idea of biological altruism (that is, that morality evolved because it was beneficial to the survival of a species). Examining these objections through a Ghazzalian lens, the author concludes that each of these potential objections can be qualified in a certain way that renders them unproblematic in and of themselves; neither

is atheism intrinsic to evolution, nor is theism intrinsic to intelligent design; and, from an Ash'arī standpoint, God decides and communicates what is good, via revelation. In short, it is not necessary to reject evolution solely on metaphysical or abstract grounds.

The final three chapters of the book hone in on al-Ghazālī's hermeneutics, applying them to the question of which of the four options (creationism, human exceptionalism, Adamic exceptionalism, or no exceptions) would have been acceptable to him. Of course, the author does caution that such an exercise is theoretical, since al-Ghazālī is not here to speak for himself. Nonetheless, it does bound his exploration to fixed parameters rather than trying to take into consideration every possible interpretation of Islam, past and present. After many considerations – such as reason versus revelation, the creation of Jesus, whether Adam and Eve were said to be in an earthly or heavenly garden, and the decision not to take a stance on a matter which lacks evidence (tawaqquf), he concludes that the first three stances (everything except a full "no exceptions" approach) are all compatible with al-Ghazālī's thought. However, he identifies Adamic exceptionalism as the most compatible.

Although some Muslims take umbrage at one of the ramifications of Adamic exceptionalism – namely, that it allows for the coexistence of Adam with other types of human and interbreeding between *homo sapiens* and other human species – to me, this conclusion has a certain appeal. First, this is because of the discovery that many humans retain some amount of Neanderthal or Denisovan genetic material. Second, it alleviates the need to find creative and comfortable ways to explain how Adam and Eve's children mated. Third, although the author focuses wholly on Sunni hadith, Shi'i hadith do refer to the creation of "Adams" before this generation of humans. Therefore, I personally find this conclusion satisfactory, although responses may vary.

In any case, the author does present his conclusion as tentative. He notes that he could have erred in his interpretation of al-Ghazālī, and that the Islamic tradition itself is diverse. His intellectual exercise also leaves open other questions such as what it means to be a human being. Nonetheless, humility seems to be an appropriate approach towards a question which we cannot have factual certainty about at the moment. Perhaps, true answers about the theory of evolution will arrive not only after science advances, but after the ideological baggage of modernity has gone extinct.