

5 Old texts, new masks: misreading evolution onto historical Islamic texts

Introduction

In [Chapter 3](#), we reviewed all the relevant Qurʾānic verses and ḥadīths that are relevant and discussed in the context of evolution. In [Chapter 4](#), we examined the various ideas that people have brought forward when discussing the (in)compatibility of Islam and evolution. But a thorough review of how Muslims perceive evolution cannot be complete without evaluating how some contemporary Muslim thinkers suggest that historical Muslim thinkers were actually thinking and writing about evolution (or a proto-evolutionary theory) as it is understood today. The motivation behind this chapter is to demonstrate that this is an anachronistic reading. In fact, it can be stated at the onset said that all the thinkers we shall review here do not discuss evolution, but are rather speaking under the broad framework of *scalae naturae* or what is known as the great chain of being (GCB).¹ Before we begin, it will help juxtapose the GCB with the modern conception of evolution to make the differences between these two frameworks as clear as possible.

The GCB is a metaphysical framework derived from Plato and Aristotle's works, and particularly flourished in Neoplatonism as a spiritual and philosophical account of reality (Lovejoy 2009, 61–63). It was incredibly influential in Islam and Christianity because it established an ontological hierarchy of all beings, a principle and worldview that was theistic-friendly (Wildberg 2016). When the GCB was introduced into the Muslim world, it was appropriated to fit under an Islamic rubric, though not necessarily with any homogeneity, which is why we sometimes see differences amongst Muslim thinkers (Twetten 2017). This is being stressed because it establishes that this idea was prevalent in the collective Muslim psyche, and it was a major frame reference at the time (Kruk 1995, 31). Broadly speaking, at the top of the chain was God (or the Absolute Good, The First Principle, or The One depending on the adopted account), which represented the highest level of perfection. After God, it was simply a downward degradation to lesser perfect beings. These included various tiers (such as the Universal Intellect or the Soul), angels/demons, celestial bodies, man,

animals, plants, and rocks/minerals in that order (Netton 1991, 36–37; Netton 2003). By contrast, the increasing complexity from the lower levels to the higher levels demonstrated the increasing qualities of perfection. Where minerals only had existence, plants had life and existence, and animals were better because they had existence, life, and movement, and so forth with increasing ascension. Each category also had its various subdivisions. For example, animals that demonstrated advanced levels of intelligence, mobility and strength such as the elephant or lion were considered much higher in rank than, say, oysters in the animal tier (Nasr 1978, 70). Or take another example where avian animals were considered superior to aquatic ones because of the increased mobility in the air in contrast to water. So the establishment of these tiers or ranks were not due to some temporal or material dimension; rather, it was to do with the metaphysical progression of perfection (Nasr 1978, 69; Lovejoy 2009, 24–98). On a more spiritual rendering, the lower-level entities lacked the perfection found in the highest level and yearned for that reunion with God. That displacement between the lower entities and God creates a gradient that induces the creative or spiritual potential that yearns for “reunion” (Morewidge 1992). The exact mechanics and referents of this process varied from one thinker to another. Still, the underlying denominator in all of the variations of the GCB was the idea of an ontological gradation where each tier was a “fixed” unit.

By contrast, modern-day evolution seeks to explain the biodiversity that we see in the animal and plant world from a strictly scientific framework. Recall from [Chapter 1](#), evolution rests on the principles of deep time, common descent, natural selection, and random mutations. In essence, evolution explains that biological traits can be passed down from the parent generation to the offspring’s generation but never with absolute similarity. This is because the genetic information is never carried over as an exact copy, leading to degrees of similarity and differences in the parent and offspring generations. Species carrying biological traits which are stressed from the external environment that help with food and competitive survival tend to reproduce successfully. But with the constant flux found in nature, those stresses also vary through time and space. Branching of species occurs because certain members of the parent species diverge from the original group and adapt to different localities due to different environmental pressures (Stearns and Hoekstra 2005). So there is a constant dialectic landscape between the genes and the environment where chance-like events, i.e. no long-term purposes in mind, can equally lead to positive, negative, or neutral traits to be expressed. Such chance-like events can be external, e.g. natural disasters, or internal, e.g. random genetic mutations. Through several generations of change and adaption over deep time, we begin to see the biodiversity we recognise today (Futuyma and Kirkpatrick 2017). In this account, humans are but one product of a long and complicated evolutionary pathway.

It would be an unfair anachronism if one were to criticise historical works of biology or zoology due to not employing the particular language and concepts that current evolutionary biologists use. But this is not the argument being presented here. Rather, it is simply that the historical scholars we will review were not discussing through the broad lens of modern-day evolution in their works. More specifically, the argument is that none of the works we will review indicate any notion of ancestry, neither Lamarckian nor Neo-Darwinian (see [Figure 1.10](#) in [Chapter 1](#)). The GCB is a metaphysical framework premised on the ascending perfection of beings, while evolution is a temporal and material explanation of plant and animal biodiversity. These are *fundamentally* different viewpoints. Without pushing the metaphor too far, the GCB is a “vertical” scheme whereas modern-day evolution is “horizontal” one. So even though these scholars refer to potential similarities between species or observe (or utilise) the language of biological sequential order, their underlying principles are embedded in some variation of the GCB, not evolution, as we shall observe shortly. There may very well be some similarities in the language and schemes of these accounts, but these would not be due to any substantial sense; rather, they would be merely superficial or accidental similarities. Having cleared this preamble, let us review how various contemporary scholars have attempted to understand historical works as evolutionary (or proto-evolutionary) accounts.

Ironically, one of the earliest accounts which praises historical Muslim scholars’ works for thinking of evolution was by John William Draper (Hameed 2011, 143). He is generally held responsible for nucleating a very aggressive confrontation between Christianity and science (or what is known as the conflict thesis) when he wrote his infamous *History of the Conflict between Religion and Science* in 1875.² However, the book has been criticised for its lack of historical accuracy (Russel 2002; Principe 2016). Adding to this list of inaccuracies is the following quote (Draper 1875, 188):

[Christian] Theological authorities were therefore constrained to look with disfavor on any attempt to carry back the origin of the earth to an epoch indefinitely remote, and on the *Mohammedan theory of the evolution of man from lower forms*, or his gradual development to his present condition in the long lapse of time.

In one place, he goes on to praise the Muslims for going further than the Christians by teaching evolution in their institutions (Draper 1875, 118):

Sometimes, not without surprise, we meet with ideas which we flatter ourselves have originated in our own times. *Thus our modern doctrines of evolution and development were taught in their [Muslim] schools*. In fact, they carried them much farther than we are disposed to do, extending them even to inorganic or mineral things.

Resorting to historical authors is a strategy that is utilised by contemporary advocates who want to demonstrate that Islam and evolution are non-conflicting. For example, after claiming that Darwin took the idea of evolution from Muslim scholars, Shanavas (2010, 126–127)³ praises Draper for his acknowledgement:

The abundant evidence ... demonstrates that Muslims are the originators of the theory of evolution, and *William Draper is correct when he calls it the Muslim Theory of Evolution*. The only difference one can cite between the Muslim scholars and Darwin is that Muslims believed that the existence of the ladder of nature was the result of divine will and providence.

Consider a recent article titled, *An Untold Story in Biology: The Historical Continuity of Evolutionary Ideas of Muslim Scholars From the 8th century to Darwin's Time*, which contains an argument for the unappreciated acknowledgement of Muslim scholarship on the topic of evolution (Malik et al. 2017). The authors review eight Muslim scholars – three of which will also be looked at in this article including Ibn Khāldun, The Brethren of Purity and al-Jāhīz – and concluded that “all eight Muslim scholars suggested that humans underwent some type of phenotypic evolution. Some of them specifically wrote about similarities between humans and apes/monkeys, in many cases stating that humans derived from an ape/monkey ancestor” which is why “their theories were evolutionary because they supported the notion that species change over time” (Malik et al. 2017, 13). Such perspectives are rampant (Hamad 2007; Kaya 2011; Dajani 2016; Iqbal 2012, 121).

Other authors are much more implicit in their position. Nidhal Guessoum, undoubtedly one of the more leading voices of evolution in the dialogue of science and Islam, is a bit more cautious. He introduces the idea of the GCB when relaying historical accounts of (apparent) evolution amongst Muslim thinkers while not clearly clarifying nor stipulating his own position (Guessoum 2011, 305–308). However, on sending a letter to an editor as a reaction to the promotion of creationism, he indicates that they could be discussing evolution when he writes (Guessoum 2011, 320):

People may be surprised that many Muslims scholars of the golden era of the Islamic civilisation, scholars like al-Farābī, al-Jāhīz, Ikhwān al-Ṣafā and Ibn Khaldūn, all noted the ‘gradation’ or even ‘evolution’, of organisms in nature. How much have we regressed!

Aside from suggesting that historical Muslim could be discussing evolution, it raises the question as to why would someone refer to such historical Muslim authors to make a point for *contemporary* evolution. And if regressed as he says, regressed from what exactly? There are other points that Guessoum and Malik et al. have mentioned in their reading of historical thinkers, but they will be postponed for the coming and relevant sections.

Despite the aforementioned worries, one can understand the need for making evolution a more amenable position. Because of the negative associations linked with evolution in the Muslim world, a *possible* motive in positing evolution onto historical Muslim scholars (knowingly or unknowingly) might be due to inducing the idea that Muslims are only re-embracing age-old ideas from their tradition. This was the position of Jamāl al-Dīn al-Afghānī, for instance (Shah 2010, 159). So this isn't a contemporary worry, and seems to be a lasting historical precedent (Elshakry 2014, 161–218). The motivation behind this line of thinking seems to be diminishing the highly charged polarity directed towards evolution found in the Muslim world. Though such a strategy might help reduce Muslims' social anxieties, and thus potentially help them embrace evolution, it resorts to a false stimulus (for a similar observation see footnote 10 in Chittick 2013, 88). Regardless of whether one is implicit or explicit in seeking an ideological footprint of evolution in historical works, the underlying issue with all these perspectives is that they approach them with a modern lens. The historical works we will look at were written in the framework of some version of the GCB. Unfortunately, they have been interpreted as works of evolution when the relevant paragraphs or couplets have been isolated and truncated from the wider text, which then conveniently provide an evolution-friendly reading. So what seems like indications of evolution are in fact decontextualised interpretations.

Finally, it could be contended that though this may be true, these thinkers had some novel ideas that were not available in other intellectual traditions such as Christian Europe, that anticipated modern-day evolution. It should be pointed out that there are, unquestionably, some ideas and observations in *some of these works and thinkers* that can easily correlate with our current conceptions under the broad umbrella of evolution (or even biology in general), e.g. al-Jāhīz discussed food chains as we will come to see shortly. Such observations are not being negated, nor are they being downplayed in this study. Instead, the purpose here is to provide context for these thinkers to explicitly define the conceptual foundations of these works. This way, we can pinpoint the isolated ideas that do have similarities with contemporary evolution without reducing their entire worldviews to an evolutionary framework through highly selective (and thus erroneous) readings. Thus, this work is a philological attempt which is “the discipline of making sense of texts” (Pollock 2009, 934). Accordingly, the analysis to follow will look at the language of the texts and their textual and contextual settings.

Reading evolution onto historical works

We will review four scholars in this chapter which include Ibn Khaldūn, Jalāl ad-Dīn Rūmī, al-Jāhīz, and the *Ikhwān al-Ṣafā* (Brethren of Purity); and the specific works that we will be looking at are *Muqaddimah* (Prolegomena), *Mathnawi* (The Spiritual Couplets), *Kitāb al Ḥayawān* (The Book of Animals), and the *Risā'il Ikhwān al-Ṣafā* (Epistles of the Brethren of Purity), respectively. The specific focus on these three thinkers and one group have

been maintained for two reasons. First, these seem to be the most widely quoted. Second, there is a large amount of material available on them from various other perspectives, including the historical, philosophical, and theological aspects in English, making them very accessible to the avid reader.

Ibn Khaldūn

From his famous *Muqaddimah*, Ibn Khaldūn (2005, 75) is oft-quoted with the following:

One should then look at the world of creation. It started out from the mineral and progressed, in an ingenious, gradual manner, to plants and animals. The last stage of minerals is connected with the first stage of plants, such as herbs and seedless plants. The last stage of plants such as palms and vines, is connected with the first stage of animals, such as snails and shellfish which have only the power of touch. The word ‘connection’ with regard to these created things means that the last stage of each group is fully prepared to become the first stage of the next group. The animal world then widens, its species become numerous, and, in a gradual process of creation, it finally leads to man, who is able to think and reflect. The higher stage of man is reached from the world of monkeys, in which both sagacity and perception are found, but which has not reached the stage of actual reflection and thinking. At this stage we come to the first stage of man. This is as far as our (physical) observation extends.

One can easily surmise from this quote that Ibn Khaldūn is very likely talking about evolution. Two points indicate this. First, the initial sentences discuss a linear biological process from simpler entities to more complex ones, which falls in line with contemporary evolution. Of particular interest is the specific point on the relationship between man and monkeys towards the end. Second, in the last part of the paragraph, a specific point is made regarding the extent of physical observation. This is important because it seems to indicate an empirical account, a point also in line with modern-day evolution. Malik et al. (2017, 12) quote this very paragraph and state:

It is fascinating to see ... Ibn Khaldūn most clearly professed his belief that humans themselves evolved specifically from an ape/monkey ancestor – a concept that a majority of both Muslims and people of other religions, including Christian creationists, find particularly difficult to accept.

However, probing further into the text reveals otherwise. The first indicator of an alternative reading is the title of the section under which this quote is situated: *The Real Meaning of Prophecy*. If not obvious, at the

very least, it should instigate the reader to think about the possible connection between the title and the previous quote. The second and much more explicit evidence for the case that he is not speaking about evolution are the following paragraphs that come right after (Ibn Khaldūn 2005, 75):

... In the world of creation there are certain influences of the motions of growth and perception. All this is evidence of the fact that there is something that exercises in influence and is different from the bodily substances. This is something spiritual ... The soul ... must be prepared to exchange humanity for angelicality, in order actually to become part of the angelic species at certain times in the flash of a moment ... The soul is connected with the stage next to it, as are all the order of the existents, as we have mentioned before. It is connected both upward and downward. Downward it is connected with the body, thus acquiring the sense perceptions by which it is prepared for actual intellection. Upward, it is connected with the stage of the angels. There, it acquires scientific and supernatural perceptions, for knowledge of things to that come into being exists timelessly in the intellections of the angels.

In the first few sentences in this paragraph, Ibn Khaldūn discusses influences in creation that is “different from bodily substances,” which he refers to as the soul right after. It is the entity that connects the realm of man with angels. So, it seems that there is a continuation of being after the realm of man. The previous paragraph truncates with man in its finality and thus seems to be very evolution-friendly. However, when we situate these two paragraphs together, we see a different picture. Three points need highlighting. First, if this is truly a reading of evolution, then its advocates would have to demonstrate what relevance souls and angels have to do in this account seeing that these are immaterial entities as traditionally understood by Muslims, and thus also Ibn Khaldūn. Second, recall the point made earlier regarding the comment on “the extent of observation.” If that statement is read and contained only within the first paragraph, it will give the false impression of it being an empirical account of reality. However, on continuing with the second paragraph, it seems that Ibn Khaldūn is still developing that point to prepare the link between man and angels through the soul, which is unobservable, and thus contrary to all the entities mentioned in the first paragraph, e.g. minerals, plants, animals, and man. This is a subtlety that is lost that renders a polar opposite (i.e. evolutionary) reading when the first paragraph is truncated from the second. Now the question is why this link between man and angels is being established. This can be answered through the following paragraph (Ibn Khaldūn 2015, 78):

They [prophets] thus move towards the angelic, sloughing off humanity at will, by virtue of their natural constitution, and not with the help of

any acquired faculty or craft. The prophets move in that direction ... and once among the highest group of angels, learn all that may there be learned. They then bring what they have learned back down to the level of powers of human perception, as this is the way in which it can be transmitted to human beings.

Recall that angels occupy a higher tier than man in the GCB. Furthermore, within each tier, there are sub-ranks. The highest rank in humanity is none other than the prophets in Islam because they can transcend their human status in the spiritual sense (Netton 1991, 36). Finally, it should be pointed out again that the title of this section is *The Real Meaning of Prophecy*. Keeping these three points in mind, the purpose of establishing the link between man and angels is to demonstrate how prophets, who occupy the highest ranks amongst humans, can transcend the rank of man into the realm of angels to learn spiritual truths (revelation) and then come back down to the realm of humans to share that knowledge with the rest of humanity. Thus, what becomes clear is that Ibn Khaldūn was not discussing evolution. Rather, he discussed the gradation of beings in the GCB with particular focus on what discriminates prophets from ordinary men and how prophecy itself operates, hence the importance of the title and the discussion of the soul being responsible for the possible transformation from “humanity to angelicity.”

Thus, it can be conclusively said that Ibn Khaldūn is not talking about evolution in this paragraph, and it would be an interpretative fallacy to state that he is. As pointed out earlier, to maintain an evolutionary reading of Ibn Khaldūn one would have to answer how the points of the soul and angels would fit in that narrative, which is not possible under a scientific outlook like evolution. More importantly, one would have to entertain serious thematic gymnastics of the first quoted paragraph to make a case for evolution. Neither of these options seem tenable.

Jalāl ad-Dīn Rūmī

A similar mistake is masked onto several couplets taken from Rūmī's famous poetry work, the *Mathnawī*. Take the following as an example (Rūmī 2003, 218):

I died to the inorganic state and became endowed with growth, and
(then) I died to (vegetable) growth and attained to the animal.

I died from animality and became Adam (man): why, then, should I
fear? When have I become less by dying?

Up to this point, it may seem like a perfectly acceptable account of evolution with the progressive sequence of the inorganic state to the vegetable state, from there to the animal state, and finally to man as mentioned in

these two couplets. However, the immediate subsequent couplets indicate something else (Rūmī 2003, 219):

At the next remove I shall die to man, that I may soar and lift up my head amongst the angels;

And I must escape even from (the state of) the angel: everything is perishing except His Face [God].

In continuing with the phase-changing storyline, the next phase seems to be from man to angel with a final pointer to the imperishable God. Since angels do not take part in any modern understanding of evolution, as a matter of fact, this clearly refers to a non-evolutionary account. However, before we can convincingly dismiss this as an evolutionary reading, we need some context to understand what is being implied here to make an alternative reading plausible. To begin with, it must be pointed out at the onset that Rūmī was one of the most noteworthy mystics in Islamic history. Keeping this critical point in mind, let us view William Chittick's (2013, 84) – one of the most respected, contemporary scholars on Islamic spirituality (and by extension Rūmī) – remarks on the contextual background of Rūmī's passages on "evolution:"

When Rumi and others talk about what has been labelled as 'evolution,' they are talking about the manner in which human beings go back to God ... The idea of a 'return' is meaningless unless we begin by acknowledging that creation has come from God in the first place. In other words, every 'evolution' demands a prior 'devolution' ... The basic principle in all Islamic discussions of 'evolution' is that the human soul needs to undergo a synthetic and unifying growth by which it can go back in happiness and wholeness to the unitary realm from which it arose.

The idea here is that there has been a separation, disintegration and dispersion of the human soul and the creator. So there is a longing and a process to unite with God. Thus "the goal is to awaken the intelligent and the intelligible light of God that the Qur'ān calls the 'spirit'" (Chittick 2013, 84) or what is known as "origin and return" (*mabdā' wa ma'ād*) in Sufi literature. Accordingly, Chittick (2013, 86) notes:

... the return to God is a gradual ascent on a ladder whose steps mark the increasing unification and intensification of the *spiritual and intellectual light*. This can only happen because human beings came into this world by successive degrees of darkening and obscurity. The integrative movement of the return to God is the reversal of the dispersive movement of creation.

Thus, what seems to be physical stages of evolutionary development are actually just spiritual states expressed in Sufi/mystical and metaphorical expressions. As explained by Chittick (2017):

It is because people have descended from God in stages ... that they are then able to ascend from the mineral and plant stages (*in the womb*), to the animal stage (*in infancy and childhood*), to the human level (*as adults observing the necessities of human goodness*), and then to even higher levels, following Mohammad in his Night Journey ...

So, similar to the erroneous reading of Ibn Khaldūn, the quoted couplet seems to be a truncated and selective reading of Rūmī. Another oft-quoted stanza is the following (Guessoum 2011, 308):

Man first appeared at the level of inanimate matter,
Then it moved to the level of plants,
And lived years and years a plant among the plants,
Not remembering a thing from its earlier inanimate life.
And when it moved from plant to animal,
It did not remember anything from its plant life,
Except the longing it felt for plants,
Especially when spring comes and beautiful flowers bloom,
Like the longing of children to their mothers,
They don't know the reason for longing to their breasts,
The Creator pulled Man – as you known – from its animal state,
To this human state,
And so Man moved from one natural state,
To another natural state,
Until he became wise, knowledgeable, and strong as he is now,
But he does not remember anything from his earlier states,
And he will change again from his current state.

Again, this quotation seems to very plausibly imply that Rūmī is discussing evolution. However, this specific quotation is from Guessoum, who translated this couplet himself from Arabic.⁴ The problem here is that the *Mathnawi* was originally written in Persian so this is the output of a double translation. Reynold Nicholson, who was a leading expert on Rūmī, translates the same couplet from Farsi as the following (Rūmī 2003, 472):

First he came into the clime (world) of inorganic things, and from the state of organic things he passed into the vegetable state.

(Many) years he lived in the vegetable state and did not remember the inorganic state because of the opposition (between them);

And when he passed from the vegetable into the animal state, the vegetable state was not remembered by him at all,

Save only for the inclination which he has towards that (state), especially in the season of spring and sweet herbs –

Like the inclination of babes towards their mothers: it (the babe) does not know the secret of its desire for being suckled;

(Or) like the excessive inclination of every novice towards the noble spiritual Elder, whose fortune is young (and flourishing).

The particular intelligence of this (disciple) is derived from the Universal intelligence: the motion of this shadow is derived from that Rose-bough.

His (the disciple's) shadow disappears at last in him (the Master); then he knows the secret of his inclination and search seeking.

How should the shadow of the other's (the disciple's) bough move, O fortunate one, if this Tree move not?

Again, the Creator, whom thou knowest, was leading him (Man) from the animal (state) towards humanity.

Thus did he advance from clime to clime (from one world of being to another), till he has now become intelligent and wise and mighty.

He hath no remembrance of his former intelligences (souls); from this (human) intelligence also there is a migration to be made by him.

Two things need to be pointed out. First, the translation by Nicholson does not seem to be as mechanical as Guessoum's. For example, Nicholson is careful to add that the intelligence mentioned in the second last couplet is referring to a spiritual state and not necessarily intelligence in the cognitive sense, which aligns with Chittick's remarks mentioned earlier. Also, the point of forgetting former intelligences (i.e. from plant to animals and then to humans) is an analogy of the stages of human development in which the latter does not remember the previous stages, and not in the sense of physical transformations as is understood in evolution: "This is ... a spiritual climb, *like that* of an embryo to intelligence" (Chittick 2017).⁵ Second, and more important than the first, Guessoum's translation is missing four couplets as emphasised in the quotation.⁶ This could be because his source material for this translation is an Arabic PhD dissertation on this topic rather than the original work. It is plausible that the author of the dissertation happened to have missed these couplets. Alternatively, it may be countered that Nicholson's translation which has been relied on, might be in error. This is not the case as these missing couplets can be easily found in the original text.⁷ Furthermore, Jawid Mojaddedi (2017, 216), a contemporary expert on Sufism, has also translated Rūmī's *Mathnawī*, includes these four couplets, and offers a very similar of this stanza in his translation.⁸ So it seems that the real error stems from the dissertation which Guessoum has relied on.

Having cleared the problem of translation and selective readings, the use of terms like "Universal intelligence," which is one of the immaterial tiers in the Neoplatonic framework as pointed out earlier, found in the complete

stanza is a clear indicator that it is premised on the GCB. But Rūmī also utilises explicit terms like “spiritual Elder” and implicit ones like “disciple” and “master” which are common terms and ideas used in mystical writings. This should not be surprising because, as indicated earlier, Rūmī was well-known for being one of Islam’s most vivid and impacting mystic. In fact, Rūmī premised his entire worldview on the notion of love. It is the single principle that drives the entirety of creation, be it cosmic, geographical, material, mental or spiritual interactions. Ultimately, every entity is trying to reach a state whereby one is united with the Ultimate, which is God. In mystical terms, since a lover (creation) yearns for the beloved (God), it does anything it can to assimilate and ascend towards that unity in the higher realms from its multiplicity in the lower realms to the unity “above” (Nasr 1978, 53). Thus, as has been highlighted and stressed earlier, he discusses or rather alludes to a spiritual account of nature within the GCB that has no resemblance to the mechanical forces of natural selection as in evolution. The differences between the two accounts have also been pointed out by others (Hakim 1959, 32–42; Ghafouri-Fard and Akrami 2011, 26; Kartenegara 2016, 80). It is then fair to conclude that Rūmī’s work “has only superficial resemblance to evolution in any modern sense” (Chittick 2013, 87).

Al-Jāhiz

Al-Jāhiz’s *Kitāb al-Hayawān* is an encyclopaedic seven-volume tome which discusses various aspects of the natural world. The problem with it is that it entangles theological, philosophical and empirical perspectives into one matrix, making it an interpretive challenge (Montgomery 2013). Furthermore, al-Jāhiz utilises poetry, religious scripture, and accounts from local and distant cultures in addition to his empirical observations. This further complicates determining what the overall objective or motivation in his work is. Nevertheless, it unquestionably contains a lot of empirical content “including the influences of various climates and diets on men, animals and even plants of different geographical regions; as well as discussions of animal mimicry, intelligence, and social organisation” (Elshakry 2014, 268). Al-Jāhiz is also known to have compared humans with various other animals as noted by Mansūr (1977, 279) in his detailed and masterful study of *Kitāb al-Hayawān*:

Al-Jāhiz notices the similarities seen in physical structure; for example, the face, the eye, the hand, the fingers, and the way they are raised, moved, and used to supply the mouth with food. In other respects also there is resemblance between monkeys and men as for insurance in marriage, jealousy, the way of laughing and imitating ... Even the cat in the general view of al-Jāhiz is thought to resemble man in her sneezing, yawning and cleaning herself.

Or consider the following observation made by Bayrakdar (1983, 311):

He [al-Jāhiz] says, ‘People said different things about the existence of *al-miskh* (= original form of quadrupeds). Some accepted its evolution and said that it gave existence to dog, wolf, fox, and their similar. The members of this family came from this form (*al-miskh*).

From such statements, some have gone on to contend how this is the first zoological account which discusses biological evolution in the Muslim world (Bayrakdar 1983; Shah 2010, 142). Two points need to be addressed here. First, it has been argued that the treatise itself is not strictly a biological account of nature even though it contains empirical observations. Consider Elshakry (2014, 269) who believes that al-Jāhiz’s book “is not so much a zoological treatise as ... its emphasis was on philosophical and religious edification,” and points out how some thinkers have read al-Jāhiz’s work selectively while ignoring his other points such as “the transformation by God of sinful nations or peoples into pigs, apes, and other ‘lower creatures.’” Similarly, but much more potently, Mansūr (1977, 299–301) astutely highlights that al-Jāhiz discussed the broader ontological interconnectedness between metaphysical entities such as God, angels and demons with the animal kingdom (while, of course, also acknowledging their differences), clearly indicating a broader purpose rather than a simple treatise on zoology. Egerton (2002, 143) also remains unconvinced of a zoological reading, but he points out that al-Jāhiz does deserve the credit for mentioning the ideas of food chains (even though they were incorrect on some occasions⁹):

The mosquitoes go out to look for their food as they know instinctively that blood is the thing which makes them live. As soon as they see the elephant, hippopotamus or any other animal, they know that the skin has been fashioned to serve them as food; and falling on it, they pierce it with their proboscises, certain that their thrusts are piercing deep enough and are capable of reaching down to draw the blood. Flies in their turn, although they feed on many and various things, principally hunt the mosquito ... All animals, in short, cannot exist without food, neither can the hunting animal escape being hunted in his turn.

Second, Bayrakdar’s claim that al-Jāhiz believed in evolution based on the quote he provides does not actually indicate that he actually does. Careful attention to Bayrakdar’s quotation reveals that it isn’t actually al-Jāhiz’s opinion; rather, al-Jāhiz is relaying an account of what others believed. More importantly, when the primary text is read carefully, it becomes apparent that Bayrakdar actually mistranslated and selectively quoted

sentences from a wider paragraph. The full paragraph reads as follows (Al-Jāhiz 1938a, 68):

The people said different things about the *miskh*. Some of them said that the *miskh* doesn't reproduce or doesn't remain (or survive) except as a lesson to mankind, and they [the people] were sure about that evidence. And some of them said that the *miskh* does remain. So they considered lizards, eels, rabbits, dogs, and other animals from the descendents of those that were metamorphosed into that form [*miskh*]. They say the same of snakes.¹⁰

Having quoted the original text, it is noteworthy to clarify three things. First, Bayrakdar translates *miskh* as quadrupeds, which is incorrect. *Miskh* actually translates into the transformation or the metamorphosis of an entity into an animal (Cowan 1976, 908). It is derived from a well-known account in the Qur'an in which a certain group of people were transformed into apes and pigs by God as divine punishment (Qur'an 5:60; 2:65; 7:166).¹¹ Bayrakdar's translation of it as quadruped seems to be idiosyncratic. Second, in light of the correction of *miskh*, the discussion of animals evolving is strictly within the subject domain of the *miskh* and not a general discussion that applies to all creatures. Third, it should be evident that in this paragraph, al-Jāhiz compares two perspectives and doesn't mention his own stance. So to characterise al-Jāhiz as a pro-evolutionary thinker based on this paragraph is erroneous.

By contrast, al-Jāhiz rejected any kind of evolution from one species into another (Mansūr 1977, 280–281):

... in spite of a certain resemblance ... with man the monkey does not pass beyond the limitations of the monkeys to enter the boundaries of man. This means also that the monkey is confined to its own species. The similarity between man and animal ... does not go beyond the limit of resemblance in al-Jāhiz's outlook. It may happen that a thing possesses an element similar to something else, but this does not mean at all that either of the two things will depart from the rules and limits of its own nature. Nothing that resembles man is ever able actually to cross the boundary of human nature and become man. What is true of animals holds also of man; man does not forsake his nature to take on theirs. It is clear ... that al-Jāhiz completely rejected the possibility of the transformation of one species to another. Furthermore, he rejected the gradual development in animal life.¹²

Interestingly, Mansūr (1977, 282) takes al-Jāhiz's rejection and indicates that some proto-evolutionary ideas could have been present and discussed at the time.

In summary, even though al-Jāḥiẓ may have described various observations of the animal and plant kingdom in terms of food chains, environmental factors and physical similarities, it does not follow that he believed in macroevolution (Stott 2012, 55). His empirical observations may be similar to what we believe and know today, but he does not provide any grand narrative that parallels with any kind of explanation where species evolve from one to the other. On the contrary, he believed in the fixation of species which is an immediate indication that he developed or adopted a version of the GCB. This is further substantiated with his inclusive mention and discussion of metaphysical entities, as highlighted earlier. Restricting al-Jāḥiẓ's work to selective empirical observations or evolution-friendly quotations insulates the reader from his wider framework, which makes it impossible to draw an alternative reading, and is where the confusion arises. Nonetheless, it can be concluded that al-Jāḥiẓ, like the thinkers discussed before, did not adopt an evolutionary framework.

Ikhwān al-Ṣafā (Brethren of Purity)

The Brethren of Purity are, by far, one of the more interesting cases. They have been quoted with similar paragraphs as discussed of Ibn Khaldūn and Rūmī (Shanavas 2010, 118; Guessoum 2011, 271; 307), so we needn't repeat the criticism here. It is well-known that the Brethren of Purity were Neoplatonists, and their worldview was saturated with all sorts of hierarchical structures and relationships (Netton 1991, 36; El-Bizri 2014). So such quotations are undoubtedly about the GCB. However, the most interesting feature of the Brethren of Purity is that in addition to the ontological hierarchy there seems to be a temporal aspect to their worldview unlike the previous thinkers we've looked at (Fakhry 2004, 177–178):

... according to the Brethren, there is in addition a certain chronological order which they follow, amounting almost to an anticipation of Darwinian evolution. Thus plants precede animals in the order of their appearance in the world, since they are to them what matter is to form. Similarly the lower animals 'have preceded the more perfect, at the beginning of creation, in so far as they take a shorter time to develop, compared with the more perfect, which take a longer time ... Moreover, sea animals have preceded land animals by a long stretch, because water came before earth, and the sea before dry land, at the beginning of creation.' The appearance of animals generally upon the globe must therefore have come after plants, and prepared the ground for the appearance of man, for whose sake not only the animal kingdom but everything else beneath it were created.

It is this particular feature which makes interpreting them tractable to evolutionary readings. For example, Malik et al. (2017, 7) mention the

following quote from the Brethren of Purity as evidence of them being evolutionists:

Plants come before (*taqaddama*) animals in the series of beings and serve them as material for the forms of animals and food for the nutrition of their bodies. From this point of view, plants would be like a mother who eats raw food, digests it, assimilates it and transforms it into pure milk which is absorbed very gently by those who drink it. The plants subsequently present this to the animals considered as their sons ... Plants occupy an intermediate position-necessary and salutary-between the four elements and the animals. All the parts of the vegetables which the animals consume such as seeds, leaves, fruit, and so on, come from the four elements digested and transformed by the plants ...

However, to fully appreciate such quotations from their work, we must carefully unpack their worldview before we can decisively render any evolution-friendly interpretations. Neoplatonists believed in an ontological hierarchy with man in the centre, the midpoint between the material and immaterial world. There are three kingdoms within the material world: minerals, plants, and animals. Each tier acts as sustenance for the ranks above it. So minerals fed plants which in turn fed animals. The culmination of these ranks and sustenance end with man, beyond which there will be no further gradation of physical forms. Once man reaches a state of spirituality that allows him to enter that reunion with God, the “process” ends. Thus, Nasr (1978, 73) states:

Man’s ‘evolution’ is therefore inward; God does not create something after man as he created man after the animals, because man, by virtue of being able to return to his origin, fulfills the purpose of the whole of creation. All the other orders of beings were created in order that this final stage of reunion might take place. Once the reunion has occurred, there is no metaphysical necessity for another form to be created. Man is the link between the three kingdoms and the heavens and therefore the channel of grace for the terrestrial environment; the three kingdoms depend upon him, and man in turn has the right to make use of them.

It can be gathered from this that the Brethren of Purity spoke largely in spiritual and teleological terms that aligned with the GCB. So the previous quote by Malik et al. (2017) has to be situated within a broader metaphysical scheme rather than a simple material observation. Up to this point, it can be argued that this can perfectly align with evolution. It can, but the Brethren of Purity do not stop there. As Neoplatonists, they believed in the fixation of species or natural kinds in the world of “ideas” that manifest

into particulars in this shadow-like world. This is explicitly mentioned in their own words (quoted in Nasr 1978, 73):

The species and genus are definite and preserved. Their forms are in matter. But the individuals are in perpetual flow; they are neither definite nor preserved. The reason for the conservation of forms, genus and species, in matter is the fixity of their celestial cause because their efficient cause is the Universal Soul of the spheres instead of the change and continuous flux of individuals which is due to the variability of their cause.

In other words, there is fluidity in particulars, but not essences. It follows from this that the Brethren of Purity occupied no conception of the biological derivation of latter species from earlier ones since every species is fixed; each one is an ontological and immutable designation defined by God who has set the spatial, temporal and adaptive boundaries of each kind (Goodman and McGregor 2012, 31). Each species is elected (rather than naturally selected) to manifest a certain function in the grand scheme of things in coordination with the heavenly spheres (Goodman and McGregor 2012, 30):

Every creature's tenure is no more than God has allotted. Animals, humans, jinn — every kind has its domain and its moment. Each species has its habitat and mode of life, the implements and skills it needs to carry on — to reproduce, in the case of higher animals; or to be reborn, for those that seem to arise by spontaneous generation. Ants and bees industriously stow their stores and guard their young. But even the careless grasshopper and negligent ostrich are looked after. So their kinds persist — but not forever. Each kind endures or flourishes for just the era God has allotted, marked out by the revolutions of the planets and the spheres.

Accordingly, there is no temporal sequence in the biological sense but instead atemporal divine prescriptions of ontological slots in alignment with the GCB that happen to have temporal implications. Even ideas such as “adaption” need to be carefully understood as divine settings rather than material correlations (Nasr 1978, 74):

... ‘Adaptation to the environment’ is not the result of struggles for life or ‘survival of the fittest,’ but comes from the wisdom of the Creator, Who has given to each creature what corresponds to its need. In the deepest sense, what separates all these ideas of the Ikhwān from their modern counterparts is that for the Ikhwān the hands of God were not cut off from creation after the beginning of the world-as is the case with the deists. On the contrary, every event here ‘below’ is performed from ‘above’ by the Universal Soul, which is God’s agent.

This makes the terrestrial similarities, e.g. plants coming before animals, observed between the worldview of the Brethren of Purity and evolution accidental and not correlative in any substantial sense. It is indeed astonishing that even as early as 1903 a philosopher by the name of Tjitze de Boer (1903, 91–92) noted the problem of mischaracterising the Brethren of Purity as evolutionists, and attempted to rectify this reading:

They [Brethren of Purity] have been represented as the Darwinists of the tenth century, but nothing could be more inappropriate. The various realms of nature, it is true, yield according to the Encyclopaedia an ascending and connected series; but the relation is not bodily structure, but by the inner form of substance. The form wanders in mystic fashion from the lower to the higher and vice versa, not in accordance with inner laws of formation, or modified to suit external conditions, but in accordance with the influences of the stars, and, in the case of man at least, in accordance with practical and theoretical behaviour. To give a history of evolution in the modern of the term was very far from the thought of the Brethren. For example, they expressly insist that the horse and the elephant resemble man more than the ape does, although the bodily likeness is greater than the last-named. In fact in their system the body is a matter of quite secondary consideration: the death of the body is called the birth of the soul. The soul alone is an efficient existence, which procures the body for itself.

It can be concluded that with the constant imbuelement of God or His agents (e.g. Universal Soul) as proximate causes, the terminology and the frame of reference for the Brethren of Purity is largely teleological and spiritual in nature rather than a mechanical one (Hameed 2014; Shah 2010, 148–149). More importantly, they denied any transformations of species, which is a marked difference with evolution. So there is no evolution of species over time as advocated in the latter even though a temporal chronology can be found in their works. Relying simply on their broad terrestrial chronology renders an evolution-friendly reading that is acontextual, ahistorical and anachronistic. At best, the observed similarities between evolution and the worldview of the Brethren of Purity are nothing but superficial.

Conclusion

From the preceding analysis of the three thinkers and one group, it seems, that their quotations have been taken in isolation without realising their underlying themes and context. These works are premised on the GCB, which is remarkably different in terms of its conceptual underpinnings when compared to modern evolution. Thus, these works only suggest an evolutionary reading when read selectively. This is evidenced by the language used and the consistent conceptual schemes that join physical entities,

e.g. plans, animals and man, with metaphysical ones such as angels found in their works. Reading evolution onto such historical works of Muslim authors is erroneous, and contemporary thinkers need to be aware of it from falling prey to such errors. If these texts are being used to have some respectful connection between modern science and Islamic intellectual history, then this is not the best way to go forward.

It could be countered that they could be read as evolutionary texts but aren't because of bad renderings of the translations since most of these are in Arabic or Farsi as in the case of Rūmī (Hameed 2014). This is a plausible argument but not necessarily a strong one. It is very difficult to believe that entire conceptual schemes can be reduced to bad translations. It is possible to stretch a word to certain renderings, but it is negligent to divorce an entire worldview, a conceptual infrastructure which these works are premised on. When viewed holistically, it seems that these works here have been read superficially and selectively, as has been demonstrated here (also see Iqbal 2003).¹³

That said, the possibility of historical documents revealing a close parallel to modern-day evolution is not being dismissed. It may very well be that there remain yet undiscovered manuscripts that genuinely discuss some prototype theories of evolution as it is understood today, i.e. species changing over time, but as far as the author is concerned such works have not yet materialised. At least for the works that have been reviewed here, readers should remain cautious.

Notes

- 1 For an excellent historical overview of this concept, see Lovejoy (2009).
- 2 However, see Ungureanu (2019), which offers a different perspective of this narrative.
- 3 He isn't alone in thinking this. Shah (2010, 153–154) believes that Darwin knew Arabic and was familiar with these historical works, which laid down the foundations for his theory.
- 4 See footnote 79 in chapter 9 in Guessoum (2011, 393).
- 5 Recall the quote earlier by Chittick (2017).
- 6 It is surprising to find the same misquotation in the work of the iconoclast, Muhammad Iqbal (2012, 121–122). It can even be found in the works of contemporary authors such as Dajani (2016).
- 7 The following is the original text in Farsi with the missing couplets emphasised:

| | |
|-----------------------------|-----------------------------|
| آمده اول به اقلیم جیاد | وز جیادی در نباتی اوفتاد |
| سالها اندر نباتی عمر کرد | وز جیادی یاد ناورد از نبرد |
| وز نباتی چون به حیوانی فتاد | نامدش حال نباتی هیچ یاد |
| جز همین میلی که دارد سوی آن | خاصه در وقت بهار و ضمیران |
| همچو میل کودکان با مادران | سر میل خود نداند در لبان |
| همچو میل مفرط هر نو مرید | سوی آن پیر جوانبخت مجید |
| جزو عقل این از آن عقل کلسنت | جنبش این سایه زان شاخ کلسنت |
| سایه اش فانی شود آخر درو | پس بداند سر میل و جست و جو |
| سایه شاخ دگر ای نیکبخت | کی یجنبد گر نجنبد این درخت |

| | |
|-------------------------------|---------------------------|
| میکشید آن خالقی که دانیش | باز از حیوان سوی انسانیش |
| تا شد اکنون عاقل و دانا و زفت | همچنین اقلیم تا اقلیم رفت |
| هم ازین عقلش تحول کردنیست | عقلهای اولینش یاد نیست |

8 The following is his Mojadedi's translation of the missing couplets:

"Like what disciples feel fill up inside Drawing them to the Sufi Master's side.
The Universal Intellect's the source Of this: the shadow trails its source
of course.
The shadow fades in him eventually And he attains the strong pull's
mystery.
How can another branch's shadow shake If this tree doesn't move. That's
a mistake."

9 For example, Egerton (2002, 143) notes that al-Jāhīz claimed that the lizard could hunt snakes down.

10 The following is the original text in Arabic:

قال النَّاسُ في المِسْخِ بأَقَاوِيلَ مُخْتَلِفَةٍ : فَمِنْهُمْ مَنْ زَعَمَ أَنَّ المِسْخَ لَا يَتَنَاسَلُ وَلَا يَبْقَى إِلَّا بِقَدَرِ مَا يَكُونُ مَوْعِظَةً عِبْرَةً ، فَقَطَعُوا عَلَى ذَلِكَ الشَّهَادَةَ . وَ مِنْهُمْ مَنْ زَعَمَ أَنَّهُ يَبْقَى وَيَتَنَاسَلُ ، حَتَّى جَعَلَ الضَّبُّ وَالْجُرْثُومُ ، وَالْأَرَانِبُ ، وَ الْكَلَابُ وَ غَيْرَ ذَلِكَ ، مِنْ أَوْلَادِ تِلْكَ الْأُمَمِ الَّتِي مُسِخَتْ فِي هَذِهِ الصُّورِ . وَ كَذَلِكَ قَوْلُهُمْ فِي الْحَيَاتِ

11 For an excellent historical analysis of metamorphosis in Islamic thought, see Cook (1999).

12 See al-Jāhīz (1938b, 211–215).

13 It is interesting to note that Wilczynski (1959) wrote a similar critique for people reading Darwinism in al-Birūnī's works. This is one of the eight scholars that Malik et al. (2017) looked at when claiming that historical Muslim scholars discussed evolutionary theories.

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