

Book Review:

**Islam & Natural Philosophy: Principles of Daqīq Al-Kalām
(Basil Altaie)**

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The discipline of *kalām* (Islamic rational theology) can be generally divided into two categories: *jalīl al-kalām* and *daqīq al-kalām*. The former mainly deals with theological questions whereas the latter deals with questions related to natural philosophy such as causality, free will, time, space, etc. The book under review deals with the latter: it provides an original attempt to revive and recontextualize *daqīq al-kalām*. Trained as a theoretical physicist in Mosul, Iraq, and Manchester, the United Kingdom, with some 30 years of exposure to the field of *kalām*, the Iraqi author offers an interesting interplay between classical Islamic theology and modern scientific discoveries.

The book is divided into three parts. The first part addresses the historical overview of *kalām*, beginning with the Ash'ari vs Mu'tazili debates to the latter development in the *daqīq al-kalām* by figures such as Ibn Ḥazm (d. 1064), al-Ghazālī (d. 1111), and Fakhr al-Dīn al-Rāzī (d. 1209), among others (pp.21-24). It is noteworthy to mention that the distinction between *jalīl* and *daqīq al-kalām* is explicit in some early *kalām* texts such as Abū Ḥasan al-Ash'ari's (d. 936) *Maqālāt al-Islāmiyyīn*. However, later Muslim theologians did not use it frequently (p. 12). The author also mentions some modern scientific discoveries that are relevant to the modern reformulation of *daqīq al-kalām* such as the theory of relativity and quantum theory (pp. 27-31).

The second part is the author's formulation of the main principles of *daqīq al-kalām*: atomism, temporality, the principle of re-creation, contingency and indeterminism, and the integrity of space and time. Succinctly described, the theologians believe in the finite divisibility of all things in nature (p. 41). This brings us to the concept of atom (*jawhar*), transient (*a 'rād*), occupancy (*taḥayyuz*), and void (*al-khalā'*). Theologians believe not only that the world was created out of nothing (*ex-nihilo*), but also that the world was created *with* time – not *in* time (p. 79). This indicates an integrated view of space and time and denial of absolute time – another principle of *daqīq al-kalām* which is also coherent with the general theory of relativity. Moreover, the theologians also believe in the discreteness of time and not just bodies or space. Together with the conception of transients that do not endure two instances (p. 107), this indicates that the world is re-created in every single instance. This obviously indicates a creator and sustainer of the world, i.e. God, upon which all things are contingent upon Him. Thus, the deterministic view of nature is denied – a view supported by findings in the field of quantum mechanics (pp. 130-131).

The third part is arguably the most interesting, as it provides fresh and original syntheses between *daqīq al-kalām* and modern science. Six topics are discussed in this section, namely the re-creation proposal, motion, natural causality, astronomy and cosmology, the anthropic principle and the multiverse, and evolution.

In the re-creation proposal, the author presents how the re-creation principle can be a *new* alternative interpretation for the quantum measurements in quantum mechanics, for which one of the main issues is measurement indeterminacy (p. 154). This problem is posed by the indeterminacy of quantum states, as depicted by the Heisenberg uncertainty principle: the position and momentum of a particle can never be determined simultaneously with absolute accuracy (p. 152).

There has not been a shortage of explanations to account for quantum measurements, ranging from John von Neumann's (1903-1957) interpretation to the many-worlds interpretation (pp. 156-160). However, the author offers a new interpretation under the light of *kalām's* principle of re-creation. It is postulated that: (1) all physical observables of a system

are subject to continued re-creation; (2) the frequency of re-creation is proportional to the total energy of the system (p. 160). Every time an observable is re-created, a new value is assumed. However, the range of the value is inversely proportional to the total energy of the system. This explains why macroscopic systems appear as deterministic despite the indeterminacy of the microscopic systems (p. 161). This proposal may also have physical implications for some phenomena discussed in modern physics such as macroscopic quantum states, quantum coherence, quantum Zeno effect, and quantum entanglement (pp. 162-164).

The chapter about motion highlights the unique position of the *mutakallimūn* on the matter. This is highlighted by al-Ghazālī's description of motion according to *kalām*: "the states that follow each other through continuous periods of time are described as movements only because they alternate by continuously originating anew and continuously ceasing to exist... the essence of motion is inconceivable without also conceiving nonexistence to follow existence." (p. 168) This means that particles do not necessarily traverse through continuous space, but rather "[occupy] successive positions in which [they] appear suddenly." (p. 168)

The *kalām* definition of motion can be understood more clearly by referring to the Mu'tazilī theologian and poet Ibrahim al-Nazzām's conception of *ṭafra* (leap). According to al-Nazzām, a particle in motion makes successive jumps. Interestingly, unlike mainstream theologians, al-Nazzām reportedly believes in the infinite divisibility of things – including space (p. 55). Thus, his position can be measured with what we now call Zeno's paradox: how can something move through an infinitely divisible distance in a finite time? Al-Nazzām's solution was the notion of *ṭafra*: a body leaps through space instead of traversing an infinitely divisible distance (p. 169). However, the notion of *ṭafra* can perfectly align with atomism and it can be conceived that a moving particle is actually being recreated in a different space every successive moment. The implication of the *kalām*'s definition of motion to the infamous double slit experiment is also highlighted by the author. According to the author's calculation, the rapid re-creation rate of a particle would make the impression as if it passes both slits simultaneously (p.176).

The chapter on natural causality highlights one of the most important subjects in *kalām* and the philosophy of science: what is causing any natural occurrence? Is it the innate property of an object or is there any external agent acting as a regulator? A quick glance into some of the Qur'anic verses (ex: Q.S. 6:99, 13:2, 25:45) and Ash'arite theology shows that all natural events are ultimately attributed to God and not as determinate as one would seem. This does not mean that secondary causes (such as natural causes) are rejected, but they are to be understood as means of execution and cannot make decisions on their own, let alone reject the divine order (p. 187). This position also anticipates Ibn Rushd's (d. 1198) concern over the implications of denying causality on the possibility of knowledge.

In the context of modern science, the Islamic position on causality can be harmonized with findings in quantum mechanics. In quantum mechanics, the world has an inherent uncertainty (p. 200). The occurrence of natural phenomena is viewed as probabilistic rather than deterministic (p. 201). However, this does not mean that an event in the quantum world is non-causal – it is the causal determinism that is abolished and not causality itself (p. 202).

On cosmology and astronomy, the author revisits al-Ghazālī's answer to two questions: whether the size of the universe can be bigger/smaller than the current one and whether heavenly objects such as the sun could corrupt over time. Though mainly answering Greek philosophers, it turned out that al-Ghazālī's treatment of time and space as being on equal footing greatly anticipated Einstein's theory of relativity which treats the universe as four-dimensional – three-dimensional space and time as the fourth dimension (p.228). Al-Ghazālī argues that there is no basic natural objection to having a universe larger or smaller than the existing one, and such a possibility would certainly reassure the conceptual integrity of space and time (p. 223). As for the sun's decay, despite lacking any precise observation device, al-Ghazali correctly argues against Galen (d. c. 216), saying that the sun is corruptible even at a rate that seems imperceptible (pp. 229-230).

Still related to the discussion about the universe, the author addresses two more topics of contemporary relevance: the anthropic principle and

the multiverse. Here, the author draws a comparison between the anthropic principle – that the universe appears to be fine-tuned to support intelligent life – and the idea of *taskhīr* (subservience) in Islam. Indeed, the Qur’an mentions in many verses how God compels heaven and earth to be of service to mankind (see Setia 2004). Seen from the perspective of Islam, the author argues that the anthropic principle is intended “to provide conditions for man’s existence to implement God’s will according to His Divine norm....” and “is a part of a comprehensive and integrated system concerned with the issue of the beginning, means and purpose of existence” (p.255). Ultimately, all of this is intended for humans to know their Creator.

As for the multiverse, it is acknowledged that some physicists (such as Steven Weinberg, 1933-2021) use it to explain the seemingly magical cosmological constant. However, the author laments that while the idea of multiverse in itself is interesting, it is “still immature and unfit to answer many questions” (p. 251). However, the author also comments that the idea itself does not contradict Islamic belief, since God is able to create whatever He wills (p. 251).

In the penultimate chapter, the author attempts to extend his new *kalām* proposal to an area outside his formal expertise, namely biological evolution. Here, the author gives an interesting interpretation of evolution based on the principle of *daqīq al-kalām*. Basically, the author argues that just as the probabilistic nature of quantum mechanics can be explained by the existence of a determiner (i.e. God), the seemingly appeal to randomness in natural selection and random mutation can also be treated accordingly. This is akin to Shoaib Malik’s interpretation of chance in the theory of evolution as epistemic chance – a reflection of our lack of knowledge – and not ontological chance – things occurring randomly without any prior cause – as the Neo-Darwinists might argue (see Malik 2021, p. 198). Unfortunately, this chapter falls short of explaining why there is no evidence to support the view among the early Muslim scholars that Adam has biological parentage, as shown in Tahseen Khan’s *The Provenance of Man* (Khan 2023). The author seems to take evolutionary theory for granted (minus the neo-Darwinian randomness) and attempts

to fit it as much as possible into Qur'anic readings instead of analyzing how early exegetes viewed this matter.

In conclusion, *daqīq al-kalām* “brings about a wider scope for research in important issues of natural philosophy” (p. 279). The author presents several research lines that could be pursued along the paradigm of this important topic. In the author's words, “[t]he new *kalām* is an ambitious project that aims to transform Muslims and non-Muslims alike with a new insight into God, Man, and the world” (p.284). One might draw a parallel between the research horizon provided by *daqīq al-kalām* to a ‘paradigm shift’ in the Kuhnian sense (after Thomas Kuhn, 1922-1996) and a ‘research programme’ in the Lakatosian sense (after Imre Lakatos, 1922-1974). The principles of *Daqīq Al-Kalām* can be studied more profoundly and elaborated with the discussions of formulating an Islamic research program, especially with the Lakatos research program, which has been examined and proposed as a model for building an Islamic research paradigm. In this model, the Islamic worldview serves as the solid core enclosed by a ‘protective belt’ that aims to explain the physical world from an Islamic perspective (see Setia 2007). The author's work can be incorporated into this framework.

This book strengthens the author's position as one of the leading contemporary Muslim thinkers in constructing natural philosophy based on the long discourse of *kalām*. The author has successfully delivered his ideas and framework clearly in this book. This book is an important reference in the discourse on Islam and modern science and should therefore be welcomed and appreciated, especially by Muslim scientists and students of Islamic thought.

References:

- Khan, Tahseen. (2023). *The Provenance of Man: A Sunni Apologetic of the Original Creation of Ādam ('Alayh Al-Salām)*. Chicago: Philasufical Publications.
- Malik, Shoaib. (2021). *Islam & Evolution: Al-Ghazāli and Modern Evolutionary Paradigm*. London: Routledge.
- Setia, Adi. (2004). "Taskhīr, Fine-Tuning, Intelligent Design, and the Scientific Appreciation of Nature," *Islam & Science*, 2(1), 7-32.
- Setia, Adi. (2007). "Three Meanings of Islamic Science: Toward Operationalizing Islamization of Science," *Islam & Science*, 5(1), 23-52.