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Nature, Argument and experiment

The Heavens Tear or Not?

Arguments for and against the Properties of the Heavenly Spheres in the Works of some Islamic Scholars

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On the issue of the substance of which the heavens are made and the cause of the movement of the heavenly bodies, Ptolemaic astronomy more or less follows the Aristotelian Physics. Ptolemaic astronomers believe that the heavens are made of the Fifth Element, which is called “the Ether”, an element different from the four earthly Elements. Also, they believe that the planets do not move but are carried by the spheres in their movements. While Aristotle does not discuss the main properties of the Fifth Element – that it is neither heavy nor light, that it is not susceptible of change, etc., -- we can find arguments for such theses in the Islamic Scholars’ works. In this paper, arguments of some Islamic Scholars, astronomers, Philosophers and Theologians for or against the thesis that the heavens do not tear are investigated.

The Place of Reason and Experience in Zakariyya Al-Razi's Scientific Worldview

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Al-Razi is the most prominent member of a movement in Islamic civilization that has a scientific methodology and ontology independent of Peripatetic philosophers. This movement, which can be called "the followers of the empirical approach", argued against Aristotle and Peripatetic philosophers, who believed that a scientific argument is valid if and only if there is a "causal relationship" between its premises and results. Although, Al-Razi has not explicitly written about his scientific method, according to his approach in offering scientific arguments, it is implicitly clear that, for him, a scientific argument is valid if and only if it could be proved that the argument is certain- not a causal relation between its premises and results. Having emphasized on experience, observation and rational reasoning, he sought to achieve certainty. This approach led him to criticize opinions that, for him, were not rational and certain. He believed that no opinion would be acceptable until it was verified by experience and reason. Although Peripatetic philosophers disapproved such an approach, today Al-Razi's approach is closer to the modern scientific methodology. To find his reason for this different approach, we should study his special point of view to nature of human reason. In his writings, the status of human reason, as a source which is common in all people, is higher than any other sources; he obviously and frequently reaffirms this point. In this research, by referring to his own works, we will try to explain Al-Razi's different view to human reason and the dignity of experience in his scientific ontology.

Mutakallimūn and the impact of four natures on the dreams

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According to an ancient theory, there are four natures/qualities _Heat, Coldness, Humidity, and Dryness_ which constitute everything in the physical world, as well as the human body. Dreaming as one of the bodily functions is assumed to be affected by the particular composition of these four. Muslim theologians, Mutakallimūn, were familiar with the theory of four natures and responded to it in various ways, from acceptance to downright opposition. The strongest disagreement came from al-Ash'arī who denied any intrinsic faculties working from within the physical objects. Among Muslim theologians who accepted the theory and worked it out in a variety of theological systems were some of Mu'tazilites, including Thumāma, Mu'ammār, Nazzām, Djāhiz, and Ka'bi, also thinkers as diverse as the Imamite Mufīd, Maturīdī, and Ibn Ḥazm. In the present essay, I will give an outline of the Mutakallimūn's responses to the theory of natures, explaining the terms used in the relevant discussions including what was meant by the title "Ahl al-Ṭabāyi" which was given by Muslim theologians to natural philosophers, alchemists, physicians and astronomers. I will also discuss the Muslim theologians' main arguments for and against the concept of nature in general and the theory of four natures in particular, concluding with an examination of some theological debates on the impact of four natures on dreams.

Avicenna and Natural Philosophy

Application of the experimental method by Ibn Sina in the extraction of asserts on sound

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This article, by applying the analytical method and referring to the works of Ibn Sina, answers the question that the method how is Ibn Sina in the extraction of sound pronouncements? Referring to Ibn Sina's discussions shows that to extract a judgment or showing the priority of a theory to another theory, on the topic of voice/sound, among various arguments, he uses empirical evidence. Even his rational arguments are conditioned by confirming by experimental evidence. Using his own method, he discussed topics such as effective factors in producing of sound; *Qar' anīf* (hammering by force); *Ghal' anīf* (stubbing by force); gradual or sudden flooding of the air; the acquisition of tinnitus; the transversality of sound; the creation of it due to the effects of air on the tin; non-equivalenting of sounds and hammering/stubbing; the external existing and undulatory of sounds and reflection.

Avicenna's Natural Philosophy in *the Physics of the Healing*; A
Philosophical Approach of Two Contemporary Thinkers:
Mohammad Ali Foroughi and Mirza Mahdi Ashtiani

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The Book of *Healing* of Avicenna is a philosophical encyclopedia including Logic, Natural philosophy, Mathematics and Metaphysics. Those sections concerning natural philosophy of this book are valuable historically and philosophically. Less than 100 years ago, in 1938 Mohammad Ali Foroughi (1875 – 1942) published his Persian translation of the *Physics of the Healing*, and three years later in 1941, he published two other sections of this book: "on the Heavens" and "on Generation and Corruption". Mirza Mahdi Ashtiani (1888–1952) evaluated Foroughi's translation in a book entitled "Controversies over the Translation of the *Physics of Avicenna*" by illustrating numerous examples which recently visited a publication. The structure of my presentation consists of the following parts:

1. Introduction
2. The Natural Philosophy of the Healing and its commentary Tradition
3. The Translation of the Natural Philosophy of the Healing from an Intellectual and Cultural Aspect
4. Mohammad Ali Foroughi: Thinker as a Translator
5. Mirza Mahdi Ashtiani: Thinker as a Critic
6. Philosophical Approach of the Thinkers
7. Some Problems of the Natural Philosophy in the Works of Foroughi and Ashtiani
8. Conclusion and Future Prospect
9. Bibliography

The Issue of Secondary Qualities in the Philosophy of Avicenna

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The secondary qualities of objects and their distinctions with the so-called early qualities of major issues have been at the top of the history of modern philosophy and science. The initial, serious and influential formations of this quality are associated with the name of Galileo and Locke. But the particularity of this type of qualities of objects has not been unprecedented in the history of thought and philosophy, and its roots are in the discussions of Greek philosophers and medieval thinkers. Avicenna is one of the philosophers who has come up with this subject in the discussion of the qualities of knowledge in natural sciences and science. Avicenna also affirms the difficulty of proving the existence of these qualities in objects, and a report on the history of this Gets discussion among Greek thinkers. Then, in detail, to the distinct form of the qualities of each of the five senses deals with the way in which these qualities are externally discussed. The dignity of Avicenna is not the same about the objective existence of these qualities, and different sentences concerning the perceptual qualities of the ephemera, it is a matter of tastes and passions. In this article, we discuss the issue of secondary qualities in the philosophy of Avicenna and his vote on the objective or subjective existence of these qualities in terms of various sensory abilities.

The science of Seismology; From Mythology to Natural causes, a Case Study of Ibn Sīnā

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Earthquakes have long been regarded as divine messages. But after Thales, Anaxagoras, Democritus and especially Aristotle (fourth century BC), to think that earthquakes have a natural origin. According to Thalès, hot water eruptions are the cause of earthquakes. According to him, the surfaces are floating on the water, and violent hot water eruptions can move the earth. For his part, Aristotle establishes his pneumatic theory in which pneuma (breath) is the cause of earthquakes. The pneuma is produced by the heat of the earth (the origin of which is the internal fire) or by the rays of the sun. When the tire is directed outward, it forms the winds. But when it sinks into the earth and accumulates, it produces earthquakes.

By the fundamental role of works of Aristotle in the sciences of the Middle Ages, this theory will remain one of the principal for several centuries. In this work I propose, to speak of Ibn Sīnā; of his scientific works in the field of Physics; the science of nature; on topic earthquakes; the classification of sciences; finally, the doctrine of Aristotelianism of Ibn Sīnā. I will also speak about the various sources of the doctrine of Ibn Sīnā. At the end; we will speak the current of Iranian Avicennism.

Kalam and Natural Philosophy

Damascius and al-Naẓẓām; A new suggestion for how Greek philosophy may have been transmitted to Islam by way of Persia

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I discuss relations between the philosophy of the late Greek Neoplatonist Damascius (c. 458 CE – 550 CE), and his possible relations with the Islamic philosopher and theologian Abū Ishāq Ibrāhīm Ibn Sayyār Ibn Hānī' al-Naẓẓām (c.775 – c. 845 CE). Scholars have pointed out similarities in some of their philosophical doctrines, but have been at a loss as to how to explain them historically. As a possible solution, I suggest that manuscript of Damascius' works may have been brought to Ctesiphon when the last seven Neoplatonic philosophers sought refuge at the court of Ḥosrow I in 531 CE, where they may have been translated into Middle Persian.

Simplicity in Fakhr Rāzī's Refutation of Hylomorphism

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Fakhr al-Dīn Rāzī defended Kalam Atomism in the last decades of his lifespan. Kalam Atomism presents body as the collection of *al-jawhar al-fard* or special atoms of Kalam. This idea is opposite of Aristotelian theory of body, namely Hylomorphism. Razi, tried refuted Hylomorphism as the rival theory. In *Risālat fī al-hayūlā* and *al-Maṭalib al-'āliyah* Razi tries to refute Hylomorphism without relying on Atomism. In this paper, I review Razi's refutation in contrast with Avicenna's argument. We are going to examine how Razi's refutation is based on a view which entails a view which necessitates a type of simplicity as a principle. To do this, I applied new logic notation to analyze arguments.

Al-Ghazālī and Methodological Critique of Peripatetics' Natural Philosophy

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As we know, al-Ghazali has made many criticisms of the opinions of the Muslim philosophers in twenty issues in the book *Tahafat al-Falāsafa*. Al-Ghazali's seventeenth critique refers to the nature of the necessity of the Peripatetic fundamental. Although Ghazali is biased by Kalam to criticize Peripatetic Naturalism, it is possible to consider his critiques independently. In this article, I will examine the methodological critique of Ghazali on the Peripatetic Natural philosophy.