

IBN SĪNĀ ON ATOMISM

TRANSLATION OF IBN SĪNĀ'S *KITĀB AL-SHIFĀ'*, *AL-ṬABĪ'ĪYYĀT 1: AL-SAMĀ' AL-ṬABĪ'Ī*, THIRD TREATISE, CHAPTERS 3–5

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Introduction

It is well known that the *Kitāb al-Shifā'* of Ibn Sīnā (980–1037) is based on Aristotelian philosophy. However, it is not just an exposition of or commentary on Aristotle's works, but rather an independent discussion of all subjects of knowledge raised by Aristotle and his school, including the further development of this school in the Islamic world; it also contains the results of Ibn Sīnā's own observations and reflections. Thus, it forms a compendium of Greek-Islamic philosophy and science up to his time. It was followed by similar works by, for instance, Abū l-Barakāt al-Baghdādī (*Kitāb al-Mu'tabar*) and Fakhr al-Dīn al-Rāzī (*Kitāb al-Mabāḥith al-Mashriqiyyah*).

The *Shifā'* has four main divisions, entitled *Logic*, *Physics*, *Mathematics* and *Metaphysics*. The part entitled *Physics* (*al-Ṭabī'īyyāt*) corresponds to the books on "natural science" in the Aristotelian corpus. The first section of this part is called *al-Samā' al-Ṭabī'ī*, and discusses subjects from Aristotle's *Physics*. A general survey of Ibn Sīnā's natural philosophy has been given in a book by al-'Irāqī, and Ibn Sīnā's discussion of time has been the subject of a thesis by Shayegan, but the rest of this first section of the *Ṭabī'īyyāt* has never been studied in detail, nor has it been completely translated into a Western language.

This part is divided into four treatises. The first treatise is entitled "The Causes and Principles of Natural Things"; it corresponds to Aristotle's *Physics*, Books I and II. The second treatise is entitled "Motion and Subjects that Should be Discussed in Connection with It". It contains a discussion of

motion, corresponding to Aristotle's *Physics*, Book III, chs. 1-3, where motion is defined, but also to other places in the *Physics* dealing with motion, such as Book V, chs. 1, 2 and 6, and Book VII, ch. 1. It further contains the discussion of place, void and time, corresponding to Book IV of the *Physics*. The third treatise is entitled "Properties of Natural Things Insofar as they have Magnitude". Here atomism is discussed, as well as other subjects connected with divisibility, especially the divisibility of motion, place and time, corresponding to several chapters from *Physics*, Book VI. It also contains a discussion of infinity, corresponding to *Physics*, Book III, chs. 4-8 and related subjects from Books VI and VIII, and of some other subjects that are not discussed by Aristotle in his *Physics*. The fourth treatise is entitled "The Attributes of Natural Things and their Mutual Relations and What is Connected with these Relations." Here various subjects are discussed, all related to motion, and corresponding to various places in the *Physics*, such as Book V, chs. 4-6, Book VII, chs. 2, 4 and 5, Book VIII, chs. 4-10. One sees that Ibn Sīnā in his first treatise organizes his discussion following Aristotle's discussion in the *Physics*, but that in the subsequent treatises his order of dealing with the various subjects is quite different.

In the third treatise, chapters 3-5, Ibn Sīnā discusses atomism, and he gives arguments for and against it. He not only deals with Greek atomists such as Democritus and Epicurus, but also with the Islamic atomism of the theologians (*mutakallimūn*).

Atomism has been one of the doctrines of the *mutakallimūn*, from the Mu'tazilites until al-Ash'arī and his school. Also, Muḥammad b. Zakariyyā al-Rāzī defended a form of atomism. Atomism in Islam and the anti-atomist reaction has been the subject of study of monographs by Pines, Baffioni and Dhanani. Important discussions of the subject are also contained in the works of Wolfson and van Ess. A part of Ibn Sīnā's text in the *Shifā'* on this subject has been discussed by Marmura, and one of Ibn Sīnā's arguments against atomism has been studied in an article by Shamsi. None of these works contains a complete study of Ibn Sīnā's treatment of the subject. Some parts of Ibn Sīnā's text are translated in notes by Dhanani, but certain phrases