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Ibn Rushd: Abū al-Walīd Muḥammad ibn Aḥmad ibn Muḥammad ibn Rushd al-Ḥafīd

Miquel Forcada

Alternate names

Averroes

Born Cordova (Spain), 1126

Died Marrakech (Morocco), 10 December 1198

Ibn Rushd, one of the best-known Islamic philosophers, challenged [Ptolemy](#)'s astronomical system on philosophical grounds and made interesting theoretical contributions to the Andalusian criticisms of the Greek astronomer. Along with [Ibn Bājjā](#), [Ibn Ṭufayl](#), and [Bītrūjī](#), he wished to formulate a model for the cosmos according to Aristotelian principles - *i. e.*, uniform and circular motions centered on the Earth - in which there was no need for eccentrics and epicycles. He was also an active and a first-rate scholar in many other disciplines, including Islamic religion and law, medicine, and the various aspects of Hellenistic philosophy.

Ibn Rushd was born into an important family of religious scholars, but in addition to religious sciences, he also studied medicine and astronomy. We know little of his formative period; he probably studied in Cordova and Seville, learning medicine from a physician named Ibn Jurrayūl. In Seville he met Abū Ja'far ibn Hārūn al-Tarjālī, a court physician who also had a profound knowledge of philosophy and mathematical sciences; Ibn Rushd became his pupil in these disciplines. In his *Summary of the Almagest*, Ibn Rushd himself mentions a master in astronomy named Abū Ishāq ibn Wādi', who is otherwise unknown. We know that in 1153 Ibn Rushd was in the service of the Almohads, a North African dynasty that ruled Muslim Spain (al-Andalus) and North Africa for many years. In 1153, according to his commentaries to [Aristotle](#)'s *De Caelo*, he observed several stars in Marrakech. In the *Summary of the Almagest*, Ibn Rushd goes on to say that he calculated the positions of Venus and Mercury, under the supervision of Abū Ishāq ibn Wādi', in order to check a conjunction of these planets with the Sun allegedly observed by the nephew of the Andalusian astronomer [Ibn Mu'ādh](#). These autobiographical data, together with his treatise on the *Almagest*, bear witness to a thorough knowledge of the fundamentals of astronomy, though he did not pursue these studies in his later years.

The personal and intellectual sides of Ibn Rushd's life are inseparable, and both were decisively

determined by the fortunes of the Almohad dynasty. These rulers had attained power advocating a new interpretation of Islam that was based on the thought of Ibn Tūmārt. The new ideology had a rationalistic side applied to religion that favored the growth of rational speculation and, therefore, of philosophy and science. Furthermore, between 1163 and 1184 the dynasty was ruled by Caliph Abū Ya‘qūb Yūsuf, a man of learning interested in philosophy, medicine, and astronomy, to whom Ibn Rushd was introduced, perhaps about 1169, by the philosopher and court physician Ibn Ṭufayl. According to the chronicles, Caliph talked with the two philosophers about complex issues of faith and philosophy such as the eternity of the world. Ibn Ṭufayl later told Ibn Rushd that the caliph had complained about the obscurity of Aristotle's texts and wished to find someone able to explain them and make them more generally accessible. Whether or not this story is true, Ibn Rushd spent the rest of his life involved in this task, and became the leading commentator on Aristotle, while working for the court administration as physician, judge, and theologian. He held the posts of judge of Seville (1169) and Cordova (1171) and later became chief judge of Cordova (1182); also in 1182, he succeeded Ibn Ṭufayl as the caliph's doctor. By this time, Ibn Rushd had been promoted to the highest ranks of the Almohad hierarchy because of his intellectual activity, mainly in the fields of medicine and law. During his last years (1195-1197), he fell into disgrace and was prosecuted together with other intellectuals because Caliph al-Manṣūr, challenged by the Christians, sought to gain the favor of a party of influential religious scholars who were hostile to the growth of philosophical speculation. He was exiled to Lucena (south of Cordova), but shortly before his death Ibn Rushd was rehabilitated and returned to the capital of the kingdom.

Ibn Rushd wrote his most important work on astronomy, the *Mukhtaṣar al-Majisṭī* (Summary of the *Almagest*), at the beginning of his career, sometime between 1159 and 1162. Perhaps under the influence of Ibn Bājjā, it was written in a period characterized by his search for those aspects of science necessary for human perfection. For this reason, his astronomical work shares many features with his medical writings, especially the *Kulliyāt fī al-ṭibb* (Generalities on medicine), where (also under the influence of Ibn Bājjā) Ibn Rushd discusses the role of philosophy for dealing with scientific materials. However, being less expert than in medicine, his *Summary of the Almagest* is more an attempt to understand the scope of theoretical astronomy in his time rather than an attempt at an authoritative work such as represented by the *Kulliyāt*. Ibn Rushd asks to what extent astronomy can be considered a true science and deals not only with mathematical astronomy but also with the physical representation of the cosmos. He discusses Ptolemy, comparing and contrasting his work to some of the most important Arabic and Andalusian mathematical astronomers who criticized parts of his system but respected its fundamentals. Ibn Rushd's main sources are the *Islāḥ al-Majisṭī* (Corrections to the *Almagest*) of the Andalusian [Jābir ibn Aflāḥ](#), the *Kitāb fī ḥay’at al-‘ālam* (Book on the configuration of the World) and *al-Shukūk ‘alā Baṭlamyūs* of the Egyptian [Ibn al-Haytham](#), and the treatises by the Andalusian [Zarqālī](#) on the motion of the fixed stars and on the Sun. Though he seems convinced that astronomy needs to be thoroughly redefined, in the meantime he is obliged to rely upon the questions on which all the astronomers agree. His short commentaries (*jawāmi’*) to Aristotle's works (generally written during the same period of his life) reflect the doubtful opinions expressed in the *Mukhtaṣar al-Majisṭī*. Underlying his short commentaries to the *De Caelo* and *Metaphysics* is the paradigm of contemporary astronomy even though it contradicts Aristotle. However, Ibn Rushd disagrees with Ptolemy and Islamic astronomers on many points such as the existence of a ninth sphere. To deal with these contradictions, he uses ambiguous explanations such as the metaphor of the “universal animal” (*ḥayawān kullī*) found in Ptolemy's *Planetary Hypothesis*, also echoed in Ibn Ṭufayl's *Risālat Ḥayy ibn Yaqqān*, which he uses to pose the problem of the existence of several motions in the planets in different directions.

Ibn Rushd's opinions evolved during the second period of his work, which was characterized by a strict reading of Aristotle, freeing it from the opinions that both Hellenistic and Islamic philosophy had added to it. For this reason, in his long commentaries (*tafāsīr*) to *De Caelo* and the *Metaphysics* in particular, he openly rejects the existence of eccentrics and epicycles insofar as they contradict the necessity of circular and uniform motions around the Earth for the planets. The main problem is

that Ibn Rushd is not aware of the astronomical theories formulated by [Eudoxus](#) and [Callippus](#) that underlie the Aristotelian cosmos and so has great difficulty in understanding Aristotle's texts on this point. Having no time and insufficient knowledge (as he himself confesses) to formulate a new proposal that allows the coexistence in the same model of the apparent planetary motions alongside Aristotelian tenets, he only suggests that planets have a spiral movement that accounts for both daily motion and motion in longitude. This intuitive idea based on the observation of the Sun (also shared by [Biṭrūjī](#)) has some precedents in [Plato](#) and [Theon of Alexandria](#), but in Ibn Rushd seems to have sprung from a misreading of Aristotle.

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