

# Preface

My first contact with the Arabic tradition and the work of Ibn Sīnā, better known in the West as Avicenna and often referred to as the ‘physician’, goes back to the publication of the volume *The Unity of Science in the Arabic Tradition* in 2008 of which I was a coeditor. Ibn Sīnā got the lion’s share; the majority of contributors chose to write about the author of *al-Shifā’*. I learned a great deal from the edition of this volume, and in particular, I became aware of the importance and complexity of history. My subsequent research focused on Ibn Sīnā’s scientific works.

One of the outcomes of the publication of the volume was the deepened understanding of Ibn Sīnā’s logical and mathematical thought. This was mainly the work of leading logicians and mathematicians such as Roshdi Rashed, Wilfrid Hodges, Shahid Rahman and his collaborators who have demonstrated in recent papers how far Ibn Sīnā advanced logical research by attempting to develop a synthetic logical approach that combined logic of quantification, logic of identity or equivalence and a theory of inference.

The present work is complementary to the latest research on Ibn Sīnā’s scientific works, and it concentrates on another feature of his thought: the dynamic interaction between his epistemic attitude and scientific practice.

More precisely his reflections on the basic concepts of mathematics and logic have led him to develop a basic epistemic standpoint, the results of which are then used to develop them further, and reflection on the further development of both disciplines in turn increases the understanding of the underlying epistemic acts.

This work has been developed in the context of the research project “Argumentation and Scientific Change: A case Study of How Ibn al-Haytham’s *al-Shukūk* Changed the Course of Astronomy Forever” sponsored by the Portuguese foundation of science and technology (Fundação para a Ciência e Tecnologia). The research was conducted in the Centre for Philosophy of Science of the University of Lisbon (CFCUL). I would like to thank the members of the Centre for their help and support, its head Prof. Olga Pombo and Dr. Zbigniew Kotowicz who very kindly read the final manuscript and with whom I had a number of elucidating and fruitful discussions on the subject of this study. My special

thanks go to an anonymous reviewer for his helpful comments and Ms. Lue Christi of Springer for her great assistance throughout the edition of this work. Most of all, I am particularly grateful to Shahid Rahman and Roshdi Rashed, both eminent experts respectively in philosophy and history of logic and philosophy and history of mathematics, for the time they took to read previous drafts and for their invaluable suggestions which significantly improved the manuscript.

CFCUL, Lisbon  
June 2015

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Mathematics and the Mind

An Introduction into Ibn Sīnā's Theory of Knowledge

Tahiri, H.

2016, IX, 76 p., Softcover

ISBN: 978-3-319-25236-0