

Zia Movahed,  
“Ibn-Sina’s Anticipation of the Formulas of Buridan and Barcan”,  
in Ali Enayat, Iraj Kalantari, & Mojtabi Moniri (editors),  
*Logic in Teheran: Proceedings of the Workshop and Conference on  
Logic, Algebra and Arithmetic, held October 18-22, 2003*, LNL 26  
Wellesley, MA: ASL/A K Peters, Ltd., 2003, pp. 248-255.  
341 pp. ISBN 1568812957 (hardcover)

## REVIEW

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In this article, Zia Movahed undertakes to provide evidence that Ibn Sina (Abu Ai al Husein ibn Abdallah Ibn Sina; Latinized as Avicenna; 973-1037 A.D.) pioneered some important results in modal logic, having anticipated the distinction between *de dicto* and *de re* propositions, upon which two formulae of Johannes Buridanus (ca. 1295 or 1300-1358 or 1360)<sup>1</sup> and two formulae of Ruth Charlotte Barcan Marcus (b. 1921).

Movahed begins (p. 248) by quoting from Rudolf Carnap’s *Meaning and Necessity* [Carnap 1947, 196] to the effect that modal logic would be of little interest to logicians if it were restricted to propositional modal logic. Movahed notes that, contrary to Carnap’s estimation, quantified modal logic proved to be of much greater interest than propositional modal logic (p. 248).

The chief interest in the various systems of quantified modal logics<sup>2</sup>, from the philosophical standpoint, says Movahed (p. 248), apart from the provability interpretation<sup>3</sup>, stems from these systems having become “a battleground for ongoing heated controversies over philosophical problems,” such as the ontological status of possible worlds, necessity, existence, etc.

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<sup>1</sup>See [Knuutila 1992] on Buridan on modal logic, in particular its connection with Aristotle’s modal logic.

<sup>2</sup>A survey of the systems of quantified modal logics as the one in which Movahed is particularly interested in this study, is to be found in [Garson 1984].

<sup>3</sup>George Stephen Boolos (1940-1996) developed provability logic in the late 1970s and early 1980s as an application of modal logic to study of formal provability; see, *e.g.* [Boolos 1979; 1993].