

Abstracts

Arabic Logic Commission

Friday, August 7 • 11:00–13:00

Main Building, Room 7

Could Ibn Sina's logic be undecidable?

Mohammad Maarefi

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11.00

Ibn Sina (Avicenna) started from Aristotle's non-modal syllogistic, which is encodable as a fragment of monadic predicate logic and hence is decidable. But Avicenna introduced several new logics, some of which involve relations between things and times, with multiple quantification. We are still identifying his logics in terms of modern logic. All the parts that have been unambiguously identified so far are decidable. But his writings contain suggestions for other extensions of logic where decidability is not so clear, and we are not in a position to say that all his logics have a property that implies decidability (for example needing just two variables). In this talk we approach him from the opposite direction, describing one way in which his temporal logic could lead naturally to undecidability.

Al-ʿAllāma al-Ḥillī and the early reception of the Shamsiyya

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11.40

Ḥillī wrote the first commentary on Katibi's Shamsiyya, and it reveals how often Katibi had silently adopted a disputed position in writing his textbook. Placing the Shamsiyya and Ḥillī's commentary in historical context, we can discern something of the nature of the logical discussion underway in the thirteenth century. This paper illustrates one method for reconstructing these discussions.

Taḥrīf in Medieval Arabic and Persian Logic Texts: A threat to Compositionality?

Lameer Joep

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12.20

In a recent publication in *The Oxford Handbook of Compositionality*,* Wilfrid Hodges introduces the Arabic concept of taḥrīf ('alteration', 'distortion', 'corruption'). Avicenna (d. 428 AH / 1037 CE), to whom Hodges refers, says actually very little about the matter. In logic, taḥrīf appears to be mostly post-Avicennan and to have two main areas of application: sophistics and the quantification judgments in the context of Aristotle's *de Interpretatione*. In

this lecture I shall give a brief overview of views on taḥrīf among the major representatives of the post-Avicennan logical tradition in Arabic and Persian. Special attention will be given to taḥrīf's compatibility with the principle of compositionality as implicit in the Peripatetic tradition.

* Wilfrid Hodges, "Formalizing the relationship between meaning and syntax", in: Wolfram Hinzen, Edouard Machery, and Markus Werning (eds.), *The Oxford Handbook of Compositionality* (Oxford University Press, Oxford 2012), 245-261.