

Non-classical modal logic for natural language

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Abstract

Modality is a central topic in natural language semantics [18,27,26,19,20]. Modal logic has contributed to the study of modality in natural language in important ways, including by providing perspicuous axiomatizations of the consequence relations defined by proposed formal semantics for fragments of modal language (see [13] for an overview). In this talk, based on joint work with Matthew Mandelkern [14], I will explain how attempting to solve one of the most discussed problems in modal semantics in recent years—accounting for the peculiar empirical behavior of *epistemic* modals [28,8,29,1,6,30,21,17,5,4,24,25,23,9,16,2]—led us to a non-classical modal logic for the relevant fragment of language. We have characterized the logic axiomatically as well as semantically, using algebraic semantics based on ortholattices, relational representations of ortholattices [3,22,7], and possibility semantics for modals [15,10,12,11]. Thus, I will discuss how the kinds of tools developed in the AiML community for mathematical modal logic can be brought to bear on a well-known applied problem.

References

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