

Argumentation-based logics for suppositional reasoning

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Formal methods can help us to study, represent, and assess real-life argumentative practices. In the works of e.g. Pollock (1987) and Dung (1995) we find formal evaluation semantics for assessing the epistemic status of arguments relative to the relations of attack and defeat that hold between them. On Dung's account, arguments are abstract in nature. Pollock, on the other hand, thought of arguments as inference trees constructed on the basis of a set of propositional formulas and defeasible inference rules. More recently, Prakken & Modgil developed a general framework (called ASPIC+) for instantiating Dung's abstract arguments by thinking of them as inferences trees – like Pollock did.

In this talk we look at a further enrichment of the ASPIC framework in which arguments can be constructed on the basis of hypotheses or assumptions. Such hypotheses occur naturally in a number of everyday reasoning patterns such as reasoning by cases or counterfactual reasoning. We explore various ways of accounting for argument construction and argumentative defeat in the presence of hypotheses, and zoom in on a number of hard problems faced by any formal account of suppositional argumentation.

References

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