



Metatheory of actions: beyond consistency

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Traditionally, consistency is the only criterion for the quality of a theory in logic-based approaches to reasoning about actions. This work goes beyond that and contributes to the metatheory of actions by investigating what other properties a good domain description should have. We state some metatheoretical postulates concerning this sore spot. When all postulates are satisfied, we call the action theory modular. We point out the problems that arise when the postulates about modularity are violated, and propose algorithmic checks that can help the designer of an action theory to overcome them. Besides being easier to understand and more elaboration tolerant in McCarthy's sense, we show that modular theories have interesting properties.