WHEN ARE CONTEXT-SENSITIVE BELIEFS RELEVANT?

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Abstract: I begin with the question of whether self-locating beliefs can be relevant to beliefs *de dicto*. Can it ever be rational for an agent to change her degree of belief in a belief *de dicto* as a result of gaining only self-locating information? To analyze this question, I develop a formal technique for modeling the ideally rational evolution of an agent's degrees of belief as she learns new information over time. This modeling technique improves upon traditional conditionalization-based techniques by being general enough to correctly model stories involving context-sensitive beliefs. It also makes explicit the assumptions that go into a model and leaves no question what that model says about a given story. These improvements are achieved by devoting special attention to the language over which a model is defined; the central innovation of the technique is a principle for determining whether the verdicts of a model change when the modeling language expands. As I develop the modeling technique, I apply it to a number of stories — including stories like Arntzenius's "Shangri-La" that involve the threat of cognitive mishap — and show that it yields intuitive results in obvious cases. I then apply the model to the Sleeping Beauty Problem and show that David Lewis's solution to the problem is incorrect. This result also demonstrates that self-locating beliefs can be relevant to beliefs *de dicto*. In a particular class of cases, it is rational for an agent who learns only self-locating beliefs to adjust her relative degrees of belief in a set of beliefs *de dicto* all of which are logically compatible with what she has learned.