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Selective Base Revisions

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Abstract The area of Belief Change (also known as Belief Revision) addresses the problem of rationally incorporating pieces of new information into an agent's belief state. One of the main contributions to the study of belief change is the so-called AGM model for belief change, proposed by Alchourrón, Gärdenfors and Makinson, in 1985.

In the AGM paradigm, an agent's belief state is represented by a logically closed set of sentences (also called belief sets) and primacy is given to the new information, in the sense that the new information is always fully incorporated into the agent's belief state.

In real situations, one may want to reject the new information or only accept a part of it. A constructive model called Selective Revision was proposed, by Fermé and Hansson (1999), to meet this need but, as in the AGM framework, it was defined for belief sets.

In this talk we recall the AGM model and some of its extensions, focusing on selective revision operators defined for belief bases, a model in which an agent's epistemic state is represented by a belief base (which is a not necessarily logically closed set of sentences) and that allows the acceptance of only part of the new information. We present several representation theorems for selective base revision operators based on different base revision operators.

Keywords: Belief Change, Non-prioritized Belief Change, Selective Revisions and Belief Bases.

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