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### **Hypotheses and questions in Belief Revision**

Classically, Belief Revision systems are built around three main operations on beliefs : expansion, contraction and revision. These form the center of any AGM 1 model for belief revision. However, these models account only partially for understanding of what belief change, and, more generally, non-monotonic reasoning is. The critique of AGM models could be conceived in several ways, two of which are :

1) These models do not clarify what beliefs are, taking them to be simply propositions.

2) These models do not explain what are reasons for the need of revising (except the formal criterion of having beliefs which contradict each other in a given belief set). The need of revision, as pointed, among others, by [F. Paglieri, C. Castelfranchi, 2005] comes from the argumentative process between the agents who make change one other's mind.

On the other hand, the hypothetical reasoning, despite being a very common form of reasoning, is rarely accounted for formally, especially in its relation to non-monotonic reasoning. One of the frames, which account for hypothetical reasoning (mostly, for proofs under hypothesis) is Constructive Type Theory, where you have categorical judgements of the form  $a : A$  (which is read " $a$  is a proof of  $A$ "), and hypothetical judgements of the form  $a(x) : A(x)(x : B)$  (which is read as " $a(x)$  is a proof of  $A$  under the assumption that  $x$  is a proof of  $B$ ").

Using the resources of Constructive Type Theory and Dialogical Frames I try to conceive the rules for hypothetical reasoning, which involve revision of hypothetical judgements at face of new information. I try to give further understanding of what belief, knowledge, and hypotheses could mean philosophically in the light of rules obtained.

Sources: Paglieri, F., Castelfranchi, C. "Revising beliefs through arguments: Bridging the gap between argumentation and belief revision in mas", in Argumentation in MAS, 2005.