

The Study of Reasoning in Philosophy, Psychology and AI: In Search of Synergies

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The theoretical study of reasoning and its application to solve problems is at the heart of Philosophy and has been since ancient times. Although Philosophers continue to make contributions to this day, e.g. through the development of logics and the analysis of logical concepts, other fields have emerged that have revitalised the study of reasoning and provided valuable insight. Two notable fields are Psychology and Computer Science. The former, particularly the branch that deals with reasoning, has thrown empirical light on the vagaries and limitations of human thought. The latter, particularly the Argumentation AI branch, has advanced the frontiers of the study of reasoning by, among other things, implementing and testing diverse models of reasoning in silico. In this talk, I go in search of potential synergies between these three fields. I start by identifying some crucial terminological differences. I then proceed to highlight some key features of philosophical accounts of reasoning and of the related concepts of justification and explanation. Particular attention is paid to the underlying motivation for these features. I finally attempt to draw connections between these features and some features deemed important in the Psychology of Reasoning and in Argumentation AI (especially in the context of XAI applications). The talk's hoped-for outcome is the inducement of lesson and method cross-pollination across the three fields.