Conclusive Update, Learning, and Computability

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I will present an original way of analyzing the computational aspects of propositional update. The framework is based on the paradigm of formal learning theory. I will explain how the inductive inference mechanism can be used to study the problem of convergence to certainty (i.e., the possibility of “conclusive update”). I will relate this problem to the concept of finite identifiability in formal learning theory. I will introduce preset learners, learning functions that explicitly use conclusive symptoms, as well as the concept of fastest learner, who comes up with the right conjecture on any input string that objectively leaves only the right choice. We will see how minimal symptoms influence the speed of finite identification. Throughout the talk I will outline and discuss the epistemic-logic motivations for considering finite identification in the context of conclusive update. The results presented in this talk come from a joint work with Dick de Jongh.