

Epistemic Logic: : Annotated Bibliography

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Disclaimer: To produce a comprehensive bibliography of the literature of epistemic logic and its applications in computer science and artificial intelligence would be a very substantial undertaking, and we have not attempted it. The works cited here are those that we personally have encountered and found important or helpful. We have also included a few philosophical works of epistemology that we have found particularly inspiring or thought-provoking.

For most of these references, we have given a brief annotation describing the contents. In a few cases we consider the title sufficient summary and have therefore omitted the annotation.

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Jon Barwise and John Perry (1983). *Situations and Attitudes*. MIT Press, Cambridge, MA. A new approach to developing logic, with applications to the logic of knowledge.

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H.H. Clark and C.R. Marshall (1981). "Definite Reference and Mutual Knowledge." In A.K. Joshi, B.L. Webber, and I.A. Sag (eds.), *Elements of Discourse Understanding*. Cambridge University Press. Common knowledge in interpreting referential phrases in discourse.

Philip Cohen and Hector Levesque (1986). "Persistence, Intention, and Commitment." In M. Georgeff and A. Lansky, *Reasoning about Actions and Plans: Proc. 1986 Workshop, Timberline, Oregon*. Morgan Kaufmann, San Mateo, CA. Formal development of the BDI (belief, desires, intention) model of cognition, and its application to plan analysis.

Ernest Davis (1988). "Inferring Ignorance from the Locality of Visual Perception." *Proc. AAAI-88*, pp. 786-790. Formal theory for describing and reasoning about perception and its connection to knowledge.

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- Daniel Dennett (1981). "Beyond Belief." In Andrew Woodfield, ed., *Thought and Object*. Oxford University Press, 1981. Critique of the *de re / de dicto* distinction.
- Jennifer Elgot-Drapkin and Don Perlis (1986). "Step Logics: An Alternative Approach to Limited Reasoning." *Proc. ECAI-86*. Model of cognition where an agent may one inference per time unit.
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- Ronald Fagin and Joseph Halpern (1985). "Belief, Awareness, and Limited Reasoning." *Proc. IJCAI-85* pp. 491-501. Modal logic of explicit belief that avoids the consequential closure assumption.
- Ronald Fagin, Joseph Halpern, and Moshe Vardi (1986). "What can machines know? On the epistemic properites of machines." *Proc. AAAI*. pp. 428-434.
- Ronald Fagin and Moshe Vardi (1986). "Knowledge and Implicit Knowledge in a Distributed Environment." In (Halpern, 86).
- Alan M. Frisch and Richard B. Scherl. (1991). "A General Framework for Modal Deduction." *Second Intl. Conf. on Princ. of Knowledge Representation and Reasoning*, pp. 196-207. Automated reasoning for modal logics.
- Haim Gaifman (1988). "Operational Pointer Semantics: Solutions to Self-Referential Sentences." in (Vardi, 88). Avoiding paradoxes of self-reference. Meaning is considered as applying to utterances rather than to sentences.
- John Geanakoplos. (1990) "Common Knowledge in Economics." In (Parikh, 90). Brief tutorial abstract.
- Christophe Geissler and Kurt Konolige (1986). "A Resolution Method for Quantified Modal Logics of Knowledge and Belief." In (Halpern, 86).
- Michael Genesereth and Nils Nilsson (1987). *Logical Foundations of Artificial Intelligence*. Morgan Kaufmann, San Mateo, CA. Graduate AI textbook. Chapter 9 deals with epistemic logics.
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- Joseph Halpern, (ed.) (1986). *Theoretical Aspects of Reasoning About Knowledge*. Morgan Kaufmann, San Mateo, CA. TARK is the major biennial conference on epistemic logics and their applications. See (Vardi, 88), (Parikh, 90), (Moses, 92).
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