



INSTITUTE FOR LOGIC, LANGUAGE AND COMPUTATION

A Critical Analysis of the Argumentative Theory of Reasoning

Caveats from the Evolution of Human Communication

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- ▶ Hugo Mercier and Dan Sperber
- ▶ Classically: function of reasoning is epistemic
- ▶ **Argumentative** theory of reasoning:
the function of reasoning is to produce and evaluate arguments

Mercier and Sperber (2011, p. 60)

"Reasoning has evolved and persisted mainly because it makes human communication more effective and advantageous."



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- ▶ 'Function' in evolution (Ayala, 1999)
 - ▶ Survival value



- 1 The stability of communication
- 2 The argumentative theory of reasoning
- 3 Human communication and cooperation
- 4 Criticizing the ATR



(Scott-Phillips, 2008)



(Scott-Phillips, 2008)



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sender

receiver

gain through deceiving

(Sperber, 2001; Sperber et al., 2010)



sender

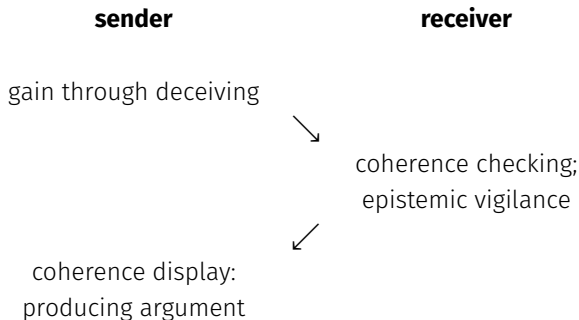
receiver

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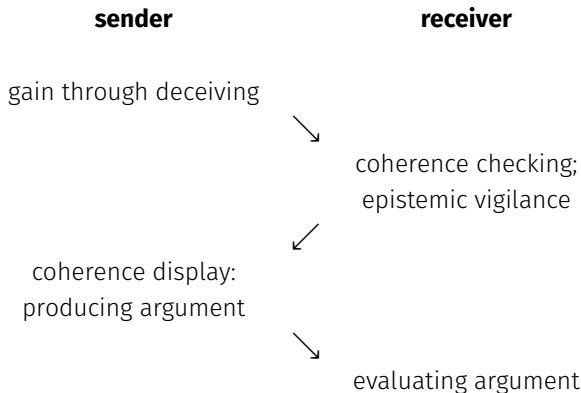


coherence checking;
epistemic vigilance

(Sperber, 2001; Sperber et al., 2010)



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Mercier and Sperber (2011)

- 1 Humans depend on cooperation; communication is crucial for this
- 2 Communication must be advantageous for both senders and receivers
- 3 It is advantageous to deceive, and disadvantageous to be deceived



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reasoning → argumentation



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reasoning → argumentation → communication



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reasoning → argumentation → communication → cooperation



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reasoning → argumentation → communication → cooperation → survival



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reasoning → argumentation → communication → cooperation → survival

- ▶ Empirical support
 - ▶ Reasoning performs its function well: argumentation
 - ▶ Explaining cognitive biases: confirmation bias









- ▶ Communication facilitates cooperation
- ▶ Function of cooperation
 - ▶ Protection against predation
 - ▶ Food sharing and shared labor
 - ▶ Cooperative breeding
- ▶ Evolution of human cooperation
 - ▶ Obligate collaborators in gathering food
 - ▶ Emergence of tolerance and trust
 - ▶ Sophistication of collaborative skills → communication
 - ▶ Mutual expectations become norms

(Tomasello, 2009)



- ▶ ATR is disconnected from broader context
- ▶ Cooperative function of communication
- ▶ Function of communication according to M&S:
 - ▶ For sender: causing 'desirable effects' → deception
 - ▶ For receiver: gaining information
- ▶ Underspecified from an evolutionary perspective
- ▶ Metatheoretical issues: vagueness in terminology and details



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