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Evidence Judgments by Constraint Satisfaction**

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(under review)

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Abstract

We suggest that making decisions from multiple pieces of evidence is performed by mechanisms of constraint satisfaction. Such reasoning is *bi-directional* — decisions follow from the evidence, but evaluations of the evidence shift towards coherence with the emerging decision. Using a factually complex legal case, we found that patterns of coherence shifts remained constant even when the distribution of decisions was manipulated by changes in the strength of the evidence (Study 1) and standard of proof (Study 2). Similar shifts were found across participants with different attitudes (Study 3). When participants changed their preferred decision, the evaluation of the facts dovetailed with the new preference (Study 4). Supporting the bi-directionality of reasoning, Study 5 showed that assigning participants to a verdict strongly affected their evaluation of the evidence. Coherence mechanisms also influenced evaluations of related background knowledge. Implications for algebraic models of judgment (Bayes Theorem and Information Integration Theory) and for the Story Model (Pennington & Hastie, 1986) are discussed. This research argues that Cognitive Consistency Theories should play a greater role in the understanding of human cognition.