

When making confidence judgments, people take into account bottom-up and top-down stimulus uncertainty

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Presentation Abstract Summary Humans can meaningfully rate their confidence in a perceptual or cognitive decision. A normative Bayesian framework predicts that confidence is a function of the posterior probability of being correct. To determine whether subjects take uncertainty into account in the way required by the Bayesian framework, or at all, we performed two binary categorization experiments. In one experiment, we manipulated reliability directly, by adjusting contrast. In another experiment, we manipulated reliability through attentional cuing: the subject was sometimes directed to attend to a nontarget stimulus. When reporting their confidence, subjects take stimulus uncertainty into account in a way that is qualitatively similar to that predicted by the Bayesian framework. However, quantitative model comparison suggests that they may do so in a way that is not exactly Bayesian.

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