

## **I expect you to do as I say! Prior intentional attributions bias the perceived kinematics of other's actions.**

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Prior expectations regarding action and perception influence perception by minimising the processing of correctly predicted stimuli and highlighting unexpected stimuli (prediction errors). Using a Representational Momentum paradigm (RM), we investigated the effect of top-down expectations regarding the goals and movements of the actor on the prediction of other people's actions. Participants observed a hand move toward or away from an object, which was safe or painful to grasp. Before action onset, participants said a word creating the expectation of an approach or withdrawal. The action and expectation were therefore congruent or incongruent. A static probe stimulus of the action was presented, either in the same position as the final frame, one frame forward or one frame backward of the final position. Participants judged if the probe was in the same or different position as the final position of the action. Accuracy was higher for backward probes than forward probes (RM effect), suggesting an anticipatory response. Importantly, RM was larger for actions congruent with the expectation than incongruent. This was evident for low-level movement (Forward) and high-level goal (Take It) expectancies, and movement expectancies alone independent of object type. These results support a top-down influence of prior expectations on action prediction.