

Decision, Memory, and Cognitive Representations

People suffer from a remarkably long list of cognitive biases—systematic deviations from rational information processing and behavior. Moreover, human behavior is often variable, even when an ideal observer would behave in a deterministic fashion. This talk will focus on biases and variability in the context of decision making when decisions rely on memory. In the first part of the talk, I will show that recorded biases, such as over-reaction to news and the recency bias, are natural consequences of imprecision in the update of memorized information following new observations. In the second part of the talk, I will discuss decisions from memory, i.e., situations in which a choice is based on recalling past experience. I will show that cognitive constraints can lead to the overweighting of extreme instances in past experience. In both cases, the results derive from optimizing cognitive processes subject to costs or constraints. Thus, broadly, the talk will put forth a picture in which biases and variability in human behavior reflect optimality under constraints—‘resource-rational cognition’—as opposed to mis-specified beliefs or the use of heuristics.

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