Ellsberg, Foraging and Forecasting: The Advantage of Sub-Optimal Models

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Why are critical decisions often observed to sub-optimally exploit available information?

Examples:

- Ellsberg's and Allais's "paradoxical" observations violate axioms of expected utility theory.
- Animals foraging for food usually employ energetically sub-optimal strategies.
- Econometrically sub-optimal models are better economic forecasters than optimal models.

Is satisficing only a last resort, or is it strategically advantageous?

By what methods should we decide on critical issues accompanied by severe uncertainty?

We analyze these questions with info-gap theory and show the advantage of nominally sub-optimal strategies. Specifically, we show that robust-satisficing entails enhanced probability of success, thus explaining the prevalence and perseverance of sub-optimal exploitation of available information.

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