

Real-world implementation of Newcomb's thought experiment, using mouse-tracking techniques

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Abstract: Newcomb's paradox is a famous thought experiment in the field of decision theory. There are two paradoxical, yet "rational", strategies to approach this decision-making problem. We addressed this debate by testing the paradox in a real world experiment. Analyzing participants' mouse movements allowed us to reveal the internal cognitive dynamics of their thought process during the task explanation as well as the actual decision. This knowledge of internal processes helped us to accurately (73%) predict their decision before it was made. Moreover, the consistency of mouse movements before and during the actual decision significantly interacted with RT. This suggests that subjects were revealing their indecision in the mouse movement, and that this indecision weighed on both possibilities. This work has implications for exploring human decision-making, as well as predicting consumers' choice in online setups.