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# Switching: Cultural fluency sustains and cultural disfluency disrupts thinking fast

Published online by Cambridge University Press: **18 July 2023**

In response to: **Advancing theorizing about fast-and-slow thinking**

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Article contents

## Abstract

Culture-as-situated cognition theory provides insight into the system 1 monitoring algorithm. Culture provides people with an organizing framework, facilitating predictions, focusing attention, and providing experiential signals of certainty and uncertainty as system 1 inputs.

When culture-based signals convey that something is amiss, system 2 reasoning is triggered and engaged when resources allow; otherwise, system 1 reasoning dominates.

**Type**

Open Peer Commentary

**Information**

[Behavioral and Brain Sciences](#), Volume 46, 2023, e136

DOI: <https://doi.org/10.1017/S0140525X22003119>



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People can reason fast or slow. Slow reasoning requires more attentional resources and fast reasoning supports rapid movement through non-problematic sequences. De Neys's fast-and-slow systems perspective highlights a problem – the monitoring system that triggers switching between fast and slow thinking can only function if it resides within the fast system. Hence switching must depend on a rapid, non-resource intensive mechanism which can somehow detect when the slow system is or is not needed. De Neys focuses on the possibility that the mechanism entails a certainty algorithm that continuously compares certainty regarding fast system ideas to some certainty threshold. Metaphorically, De Neys predicts an internal thermostat that is turned on and off by a certainty threshold. It turns on when possible responses are below threshold certainty and off again when relative certainty surpasses threshold. Monitoring focuses on the quality of the proposed responses.

If these certainty inputs are internal as De Neys proposes, then looking at wedding photographs or reading an obituary should not affect cognitive reflective task (CRT) scores (a classic system 2 task), but it does (Mourey, Lam, & Oyserman, 2015). The researchers had participants view wedding photographs with the ostensible task of rating their quality and attractiveness, then had them respond to the CRT. Half of participants were randomized to a culturally fluent condition in which the photographs included a groom in a black suit, a bride in a white gown, a white fondant-iced tiered wedding cake, and a wedding party. The other half of participants were randomized to a culturally disfluent condition in which photos included a bride and groom and a cake, but the cake was decorated with cogs, and the clothing included purple and green. Participants who saw the culturally disfluent version scored higher on the CRT. The shift to slow, system 2 reasoning was triggered not by the quality of proposed

responses as De Neys would propose but because the disfluent wedding photographs provided a situational signal that something is wrong. The implication is that system 2 is triggered by signals of a problematic state of affairs (outside input) and not simply by relative certainty about proposed CRT responses (internal input).

When familiar tasks are going well, vigilance is not needed and reliance on established routines and general intuitions is sufficient. When things go wrong, or tasks are unfamiliar, higher vigilance and effort are useful (Schwarz, 1990, 2001). One driver of these experiences is culture. Culture provides an organizational framework for how things will proceed, what matters, and how to make sense of experiences (Oyserman, 2011, 2017; Oyserman & Uskul, 2008/2015). People automatically use their culture-based expertise to make predictions, which typically sufficiently match what people observe that they experience a prediction-observation fit, yielding an experience of cultural fluency, a benign signal that things are as they ought to be (Lin, Arieli, & Oyserman, 2019).

From a culture-as-situated cognition perspective, inputs must come from features of the situation which themselves are cultural constructs. After all, thinking is for doing and doing is contextualized. People are not solving problems outside of contexts, they are solving them inside of contexts. Features of these contexts are of vital concern. An internally focused system that is not sensitive to contextual cues about certainty or uncertainty is evolutionarily implausible. From this perspective, what constitutes experienced certainty and uncertainty cannot be separated from the context in which thinking occurs. Hence, the switching mechanism must take into account what thinking feels like in the moment. The literature on the relationship between reasoning and culture provides a concretizing example as shown above.

Culture is a set of structures and institutions, values, traditions, and ways of engaging with the social and nonsocial world that are transmitted across generations in a certain time and place. Culture is thus temporally and geographically situated and multilevel. It is situated because it takes place in a certain time and place and dynamically changes as it is transmitted over time and across places. It is multilevel because its influence can be observed in societal-level constructs such as structures and institutions, group-level constructs such as traditions and ways of engaging in the world, and individual-level cultural mindsets – sets of mental representations containing culture-congruent mental content (knowledge about the self and the world), cognitive procedures, and goals (Oyserman, 2011). Considering culture highlights

two paradoxes: Accessible cultural mindset and experiencing cultural fluency and cultural disfluency affects thinking (Oyserman, Sorensen, Reber, & Chen, 2009; Oyserman & Yan, 2019). Each increases how confident people are in their inferences and this confidence can result in mismatches between reasoning and the task at hand. Moreover, culture shapes uncertainty avoidance, the extent to which a given level of uncertainty is likely to be subjectively experienced as a problem signal (Lu, 2023).

To get through the day, people routinely process enormous quantities of information. From an ecological perspective, people should be sensitive to cues about danger, shifting attention, and ratcheting up to system 2 reasoning in the face of danger signals – cues that something is not right in the situation. If fast reasoning is the default, the implication is that switching into and out of slow reasoning is a function of experiences that trigger uncertainty, suspicion, or other emotions relevant to danger. Culture-as-situated-cognition theory predicts that culture provides people with an implicit map for how everyday situations will unfold, what ambiguous situations likely mean, and why things happen (Oyserman, 2017). People use these feelings as informational inputs (Schwarz, 2001).

A culture-based perspective highlights that the metaphorical system 1 thermostat that turns on and off system 2 reasoning must receive inputs from subjective experiences drawn from the situation. First, the literature on the downstream consequences of cultural fluency and disfluency for reasoning suggests that people may switch to slow reasoning whenever they experience situations that are culturally disfluent. Disfluency provides a problem signal which should trigger system 2. Fluency provides an “all clear” signal that should support remaining in or returning to system 1. A metaphorical thermostat that shut out these cues would not be evolutionarily viable (Oyserman, Novin, Flinkenflögel, & Krabbendam, 2014).

## Acknowledgments

The author thanks Norbert Schwarz and Gulnaz Kiper who read an earlier draft and provided helpful comments.

## Competing interest

None.

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