

RUNNING HEAD: INTUITING AND DELIBERATING

What is intuiting and deliberating? A functional-cognitive perspective.

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In press. Behavioral and Brain Sciences. [Commentary on De Neys, W. (in press). Advancing theorizing about fast-and-slow thinking. Behavioral and Brain Sciences.]

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Abstract

We applaud De Neys for drawing attention to the interaction between intuiting and deliberating without committing to single or dual process models. It remains unclear, however, how he conceptualizes the distinction between intuiting and deliberating. We propose several levels at which the distinction can be made and discuss the merits of defining intuiting and deliberating as different types of behavior.

The idea of two distinct types of thinking has been highly influential within psychology and beyond. De Neys (this issue) refers to these types of thinking as intuiting and deliberating and identifies core aspects of the interaction between both. In doing so, he provides a valuable contribution to the literature.

It remains unclear, however, how the distinction between intuiting and deliberating itself should be conceptualized. There are at least three levels of analysis at which the distinction can be made: (1) at the descriptive level in terms of subjective experience (i.e., the experience of intuiting and deliberating); (2) at the functional level in terms of the environmental conditions under which thinking occurs (e.g., whether it requires time or the absence of other tasks); (3) at the mental level in terms of mental mechanisms and the mental representations on which they operate (e.g., associative or propositional representations).

Like others before him (e.g., Kahneman, 2011), De Neys draws the distinction in terms of speed and effort: whereas intuiting is used to refer to fast and effortless thinking, deliberating refers to slow and effortful thinking. It is not entirely clear whether speed and effort are conceptualized at the descriptive level (i.e., a subjective experience) or at the functional level (e.g., actual time required; interference by other tasks) but De Neys does not seem to situate the distinction at the mental level. For instance, he argues that “both single and dual process theories focus on the interaction between intuition and deliberation” and that his “criticism and recommendations equally apply to single and dual process models” (p. 7). Assuming that the distinction between single and dual process models is situated at the mental level, these arguments suggest that the distinction between intuiting and deliberating needs to be made at another level than the mental one.

We definitely agree that there are many benefits to separating to-be-explained phenomena (such as intuiting and deliberating) from explanatory mental mechanisms (e.g., spreading of activation; propositional reasoning; see Hempel, 1970; Hughes et al., 2016). However, in his target paper, De Neys does so in a manner that is not entirely coherent. Most importantly, he allows for the concept of low effort deliberation. If deliberation is by definition effortful (either descriptively or functionally), then how can it be effortless? In our opinion, the idea of low effort deliberation makes sense only if deliberation is situated at the mental level, for instance, when postulating a single process theory in which all deliberating involves the manipulation of propositional representations (i.e., propositional reasoning). Hence, by allowing for the idea of low effort deliberation, De Neys seems to implicitly conceptualize deliberation at the mental level. We encourage him to be more explicit about how exactly he draws the distinction between intuiting and deliberating, most importantly, with regard to the level of analysis at which this distinction is situated.

In the remainder of this commentary, we discuss two ideas for clarifying the nature of intuiting and deliberating that, in our opinion, have not yet been given sufficient consideration in the literature. First, when delineating intuiting and deliberating, we see merit in taking seriously the descriptive level. In recent years, important progress has been made in studying a variety of subjective experiences such as the experience of confidence (e.g., Desender et al., 2018), sense of agency (Marcel, 2003), conflict (e.g., Desender et al., 2014), making an effort (e.g., Naccache et al., 2005), and the urge to err (e.g. Questienne et al., 2018). We believe it would be interesting and feasible to study also the experience of intuiting and deliberating. This approach would draw attention away from the ontological and

most likely unproductive debates about what is the “true” nature of intuiting and deliberating. It would also allow researchers to document the conditions under which people report intuiting and deliberating, as well as the possible differences in decisions produced under these conditions (i.e., to conduct functional research on intuiting and deliberating as descriptive phenomena). Finally, knowledge about these conditions and differences would help constrain theories about the mental mechanisms that produce the subjective experience of intuiting and deliberating.

Second, clarifying the nature of intuiting and deliberating not only requires specifying how they differ but also what they have in common. Both are typically thought of as instances of thinking but what is thinking? Here we see merit in conceptualizing thinking as a type of behavior (De Houwer, 2022; De Houwer et al., 2018). Functional psychologists have successfully explored the benefits of this approach with regards to a variety of cognitive activities such as perceiving (e.g., Skinner, 1963), memorizing (e.g., Guinther & Dougher, 2014), and learning (De Houwer & Hughes, 2020, in press). Conceiving of intuiting and deliberating as behavioral phenomena allows one to distinguish them at the descriptive level (i.e., as different subjective experiences; see De Houwer, 2022) or at the functional level (e.g., as relational responding in a slow or fast manner; see De Houwer et al., 2018; Hughes et al., 2012) without making a priori assumptions at the mental level (i.e., about the mental mechanisms that allow for thinking as behavior). From this behavioral perspective, the primary aim of research is to understand the environmental conditions that moderate these phenomena. For this research, inspiration can be found in the extensive literature on known moderators of behavior in general (e.g., Catania, 2013; Fisher et al., 2011). For instance, it is likely that switching between the behavior of intuiting and the behavior of deliberating is

heavily dependent on antecedents (i.e., discriminative stimuli) and consequences (i.e., reinforcers and punishers). In line with the functional-cognitive framework for research on psychology (De Houwer, 2011; Hughes et al., 2016), knowledge about the moderators of intuiting and deliberating not only has merit as such (i.e., it allows for prediction and control) but also facilitates the development of theories about the mental mechanisms that mediate these phenomena. In this way, combining descriptive and functional definitions with a behavioral perspective can provide a new impetus for both functional and cognitive research on intuiting and deliberating.

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Acknowledgements

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Funding Information

The preparation of this paper was made possible by Ghent University Grant BOF16/MET_V/002 to Jan De Houwer.

Declaration of interest: none