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Challenges for a computational explanation of flexible linguistic inference

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Abstract

We identify theoretical challenges for developing a computational explanation of flexible linguistic inference. Specifically, the human ability to interpret a novel linguistic expression (like "mask-shaming"), where inferring plausible meanings requires integrating relevant background knowledge (e.g., COVID-19 pandemic). We lay out (i) the core properties of the phenomenon that together make up our construal of the explanandum, (ii) explanatory desiderata to help make sure a theory explains the explanandum, and (iii) cognitive constraints to ensure a theory can be plausibly realised by human cognition and the brain. By doing so, we lay bare the 'force field' that theories of this explanandum have to navigate, and we give examples of tensions that arise between different components of this force field. This is an important step in theory-development because it allows researchers who aim to solve one part of the puzzle of flexible linguistic inference to keep in clear view the other parts.

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