

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Rethinking Inference: A Multidimensional Model of Inference for Human and Nonhuman Animals

Permalink

<https://escholarship.org/uc/item/5wn031j8>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 46(0)

Authors

Newen, Albert

Sreckovic, Sanja

Publication Date

2024

Peer reviewed

Rethinking Inference: A Multidimensional Model of Inference for Human and Nonhuman Animals

Albert Newen

Ruhr-Universität Bochum, Bochum, Germany

Sanja Sreckovic

Ruhr University Bochum, Bochum, Germany

Abstract

Traditional conceptions of inference emphasize explicit following of logical rules, often tied to the possession of natural language, thereby implying that non-human animals cannot make inferences. However, comparative research shows extensive evidence of the success of several species of non-human animals in nonverbal reasoning tasks, putting pressure on the traditional view. We deny two traditional assumptions about inference: the lingualism of thought, and the requirement of explicit rule following. We suggest instead a multidimensional model of inference illustrated through several case studies. Thereby, we categorize informational transfers across three dimensions by marking the degree of context-independence, the format of representation, and the type of perspectivity involved. By allowing for a more nuanced interpretation of empirical data than the traditional view, our framework is able to accommodate inferential behaviors of both linguistic and non-linguistic agents, and shed light on varied manifestations of inference across species and developmental stages.