

NYU Semantics Group 10/03/25
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Title: Reasoning without Reference

Abstract:

Standard views in philosophy, linguistics, and psychology assume that words and concepts correspond to denotation-determining representations. Furthermore, these fields generally assume that domain-general inference operates over these denotation-fixing representations (e.g., Fodor 1998; Carey 2009). In this talk, we argue this standard picture is wrong.

Using a new inference paradigm with lexically ambiguous words (both homonyms and polysemes), we show that humans reason over **underspecified representations** (i.e., non-denotation-determining representations). Lexical ambiguity allows us to construct syllogistic arguments that instantiate valid inference schemas at some levels of representation but not others, making it possible to pinpoint what representations humans reason over. Our results are consistent with humans reasoning over underspecified representations, but are inconsistent with alternative strategies, such as reasoning over word form representations or denotational representations. In addition, we consider and reject several non-inferential heuristic explanations.

The upshot: inference does not require denotation-determining meanings. Instead, it exploits non-denotational structures. This challenges long-standing assumptions about the fundamental units of human reason.