



Thursday, 09 February 2023, 15:00 (CET)

# Language Circle

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## Linking neural systems to syntax using LLMs parsing models

"[T]here is absolutely no mapping to date that we understand in even the most vague sense." So writes David Poeppel in 2012 about the connection between Linguistics and neurobiology. I discuss our attempts to meet this challenge in the domain of syntax by comparing neural signals to the state spaces traversed by different classes of incremental parsers. This approach based on linguistically interpretable parsers contrasts sharply with others that use "black box" large language models based on deep neural networks. We see evidence from such comparisons favoring (a) grammatical accounts with greater fidelity to the expressivity of natural language, such as combinatoric categorical grammars, and (b) eager parsing strategies consistent with the key role for predictive processing in language understanding. Despite some success, we also see limitations in isolating primitives in our parsers that map in a one-to-one fashion to neural circuits. Ongoing work probes how to break this impasse by interrogating the role of memory in incremental parsing with a special focus on cue-based retrieval accounts.



Join online:

<https://zoom.us/j/95065830000>

Meeting-ID: 950 6583 0000



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