KNOWLEDGE AND LEARNING OF VERB BIASES IN AMNESIA
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- Listeners rely on verb-structure co-occurrence frequencies—verb biases—to disambiguate sentences on-line (e.g., Snedeker & Trueswell, 2004).
- Listeners dynamically update representations of verbs based on exposure to new verb-structure co-occurrence statistics (Ryskin, Qi, Duff, & Brown-Schmidt, 2016).
- The hippocampal declarative memory system plays an important role in the flexible binding of representations during on-line language processing (Brown-Schmidt & Duff, 2016).

**Question:** What is the role of the declarative memory system in the use and dynamic updating of verb bias?

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**Verb = Modifier- | Equi- | Instrument-biased**

**Modifier Training:** “Hmm, what animal should you hug? I know! You should hug the bunny with the sponge.”

**Instrument Training:** “Hmm, what should you use to hug the bunny? I know! You should hug the bunny with the bottle.”

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**Experiment 3:** No verb bias learning in patients with amnesia or healthy comparisons
8 initially equi-biased verbs are repeatedly paired with either Modifier or Instrument constructions. If they learn new verb biases:
- More fixations to Target Animal when the verb is Modifier-trained than Instrument-trained.
- More fixations to Target Instrument when the verb is Instrument-trained than Modifier-trained.

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**Experiment 1:** Verb bias effect in Amnesia with real objects
N=4 patients with lesions to the hippocampus + 4 demographically-matched comparison participants

**Experiment 2:** Verb bias effect in Amnesia on a computer
N=3 patients with lesions to the hippocampus + 3 demographically-matched comparison participants

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