
The Secret Mission of Memory

and How it Helps Us Make Meaning from Language

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Today's goal: We will figure out how the brain learns and processes language. To do so, we will look at faulty memory, which reveals why we have memory in the first place.

Task 1: Make a model of how you think the brain learns and processes a sentence like this:
"The dog jumped over the wall."



Part I: Memory

Recticular Activating System: a filter that controls sleepiness, alertness and what we pay attention too. It is especially sensitive to input related to:

- personal relevance
- recent thinking
- novelty

Four types of episodic memory faults

Forgetting – poor cueing

Interference – old memories interfere with new ones or new ones with the old.

Misattribution – forgetting the source, or forgetting you already learned something

False memory – the most mysterious, and far more common than you think

Task 2: Memory is imprecise. Why? What is the sole purpose of memory? Hint: It is more than just remembering the good and bad things so that we can seek or avoid them. It gives us an ability we use it every minute. (Schacter, Harvard)



Offshoot for the classroom

To reduce forgetting: make sure you have their attention, use multisensory input, repeat.

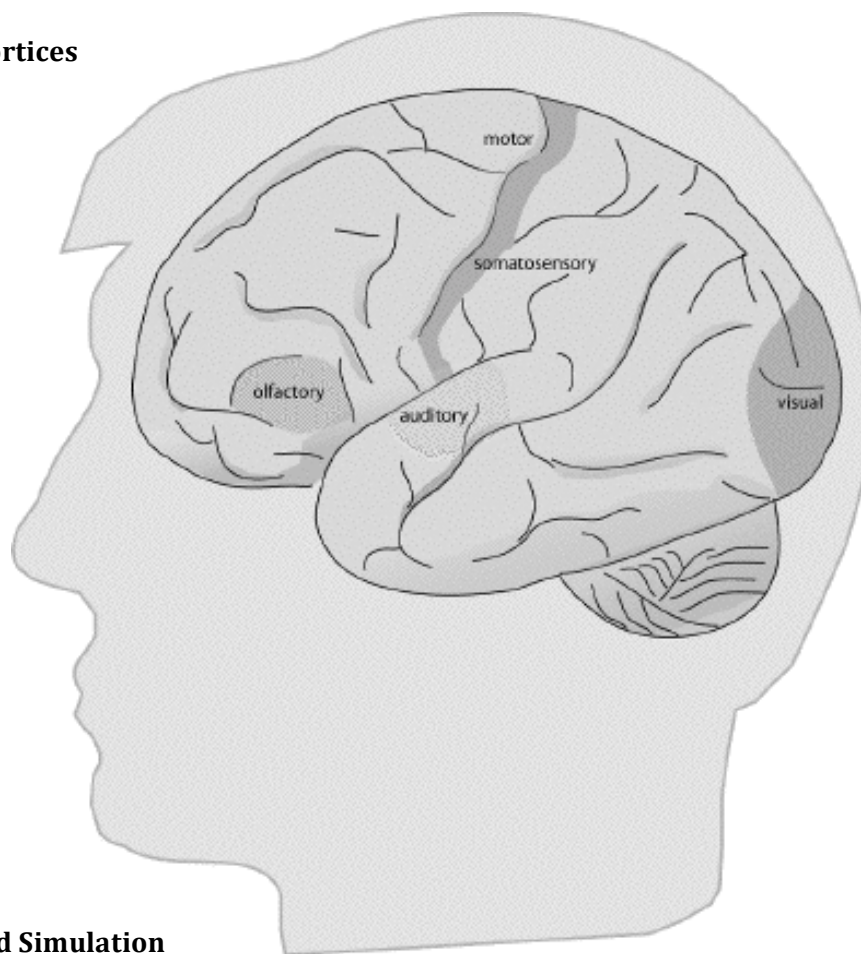
To reduce interference: use difference-noticing tasks

Misattribution: Don't expect them to remember details. Don't be too harsh on plagiarism.

False memory: Realize that faulty memory is normal. Be forgiving.

Part II: Making Meaning from Language

Sensory cortices



Embodied Simulation

Input, whether seeing the real thing or a symbol for it, activates the related networks in the sensory cortices. There is no dictionary, just memories simplified into general prototypes for each idea.

Finding out more:

BrainSciencePodcast.com

iTunesU – Pat Kuhl, Early Childhood Development

The Brain that Changes Itself - Norman Doidge

Louder than Words – Benjamin Bergen

The cognitive neuroscience of constructive memory - Schacter & Addis doi: [10.1098/rstb.2007.2087](https://doi.org/10.1098/rstb.2007.2087)