



# Attention and Memory

Lecture 20, Week 11

March 18, 2015

CSC318HIS

Velian Pandeliev

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# Announcements

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- The strike: options

# Marking Scheme

		Worth
A1	Introductions	2%
P1	Groups formed	5%
A2	Lit review	10%
P2	Instruments	8%
A3	Research	10%
P3	Design requirements	8%
A4	Low-fidelity prototype	10%
P4	System prototype	8%
A5	Reflection	4%
P5	Final deliverables	20%
	Group evaluations	5%
	Tutorial participation	5%
	Class participation	5%

# Phase 4



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- Today at noon: submit Phase 4, including prototypes.
- Friday March 20: come to the tutorial slot in this room to perform official evaluation for A5.
- Submit group evaluations for Phase 4.

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Your reflection of your participation will make up your **Assignment 5** submission.

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You will include the results of this research in your **Phase 5** submission.

st travel and the efforts of those who  
recruiting ground  
nforcement agencies with enhanced ability to  
offences and terrorist activity

## **What do you think?**

- ☐ **I agree with my MP Lawrence Toet!**  
We must take additional action to  
protect Canada from terrorism.
- ☐ **I disagree!** Terrorists are victims too.

## **HOW TO FOLD & MAIL:**

For your privacy, fold the newsletter with the  
side facing out. Then tape it shut and mail



**Curtis Brown**

@curtisatprobe



Follow

Someone in [@lawrencetoetMP](#)'s office (or the CRG) needs to go to  
survey question-writing school

7:11 PM - 9 Mar 2015

60 RETWEETS 23 FAVORITES



# Perception

Source: Brain Games

# Perception



Source: Brain Games

# Computational Model

# Computational Model

Input



# Computational Model

Input

Processing



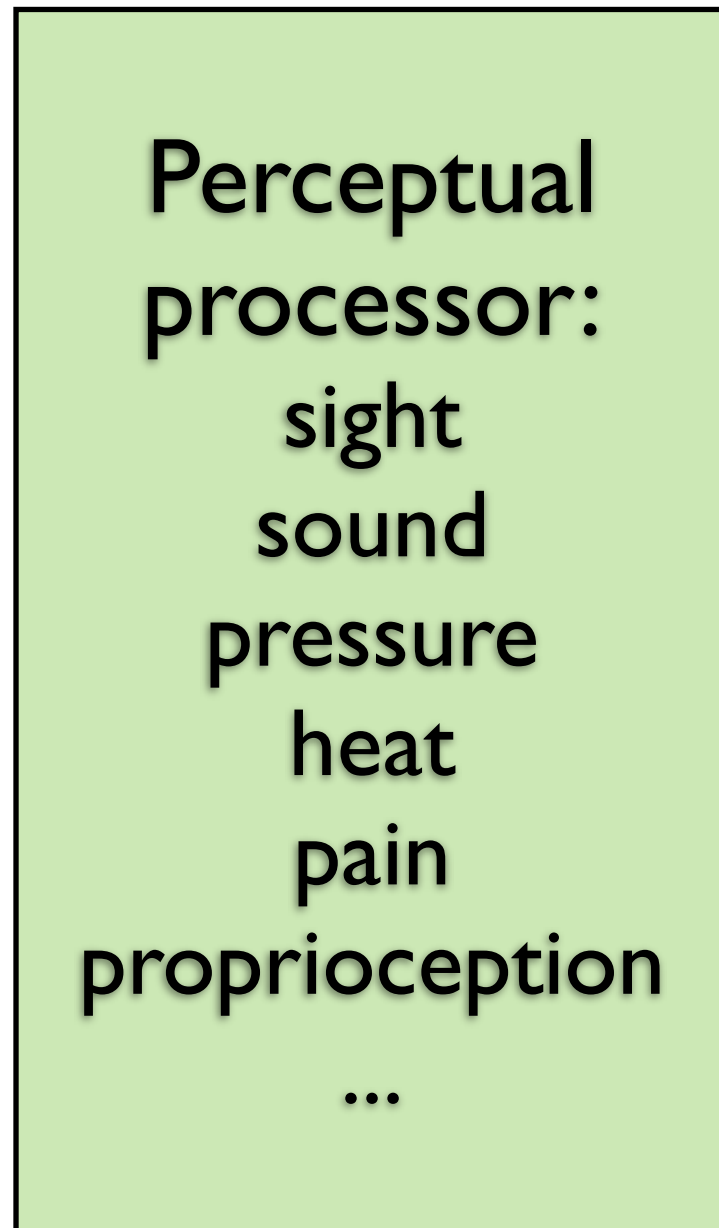
# Computational Model

Input

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Output

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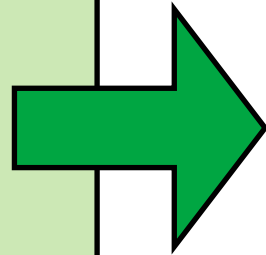
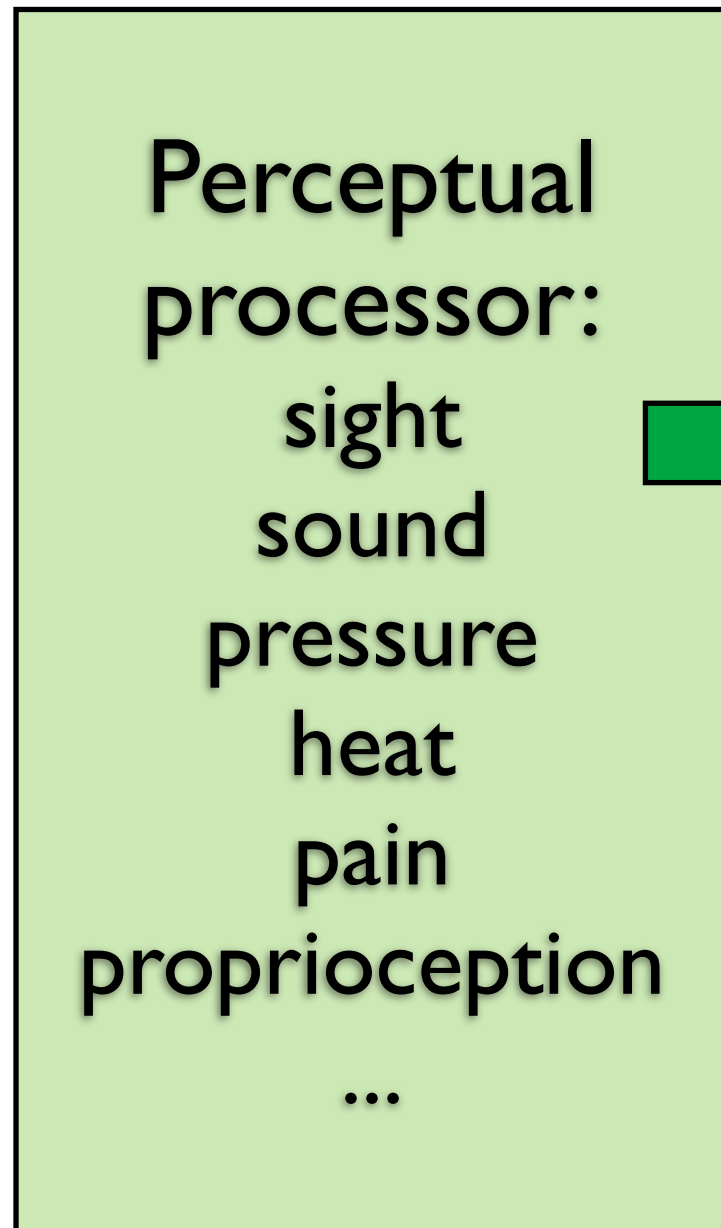


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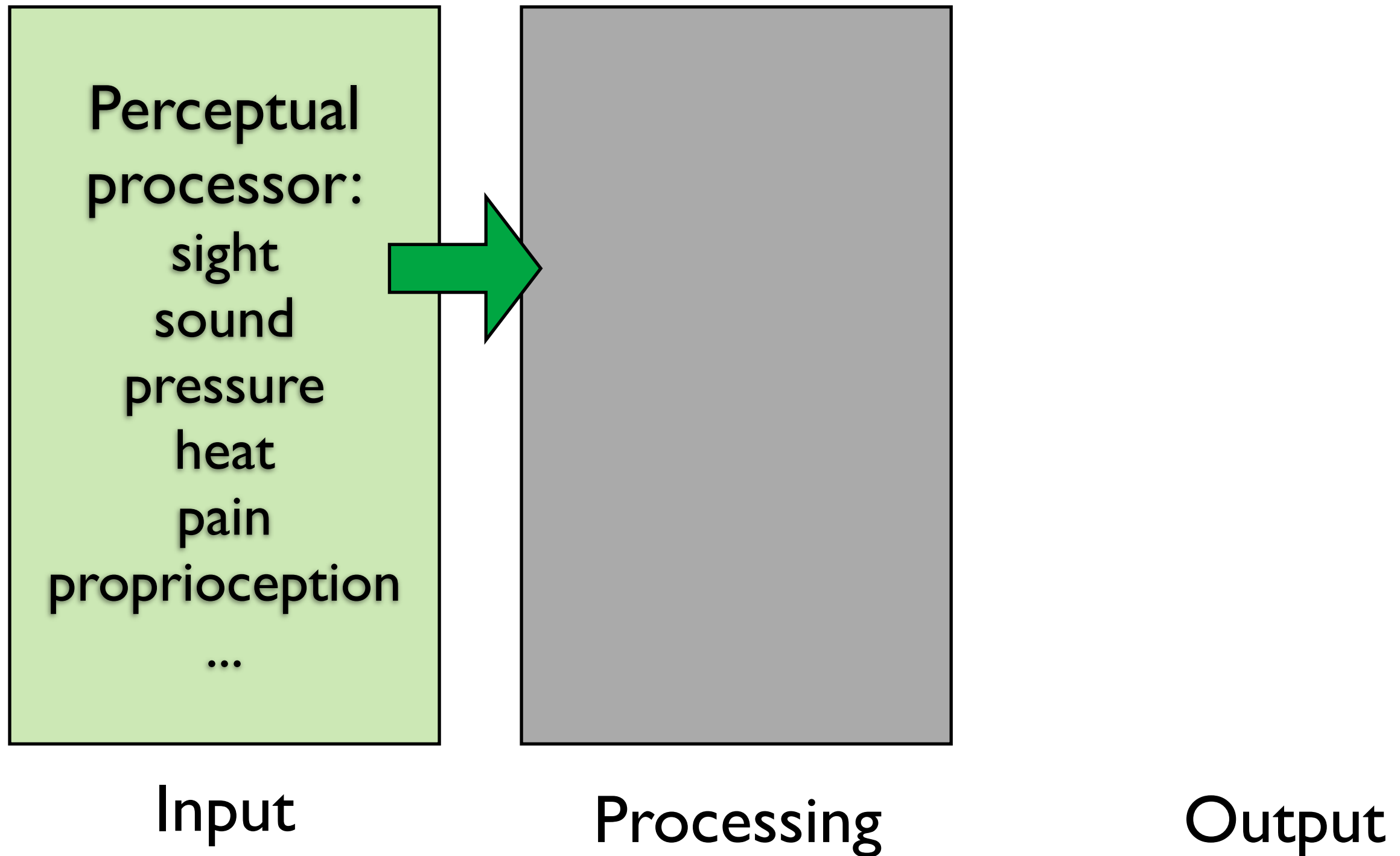


Input

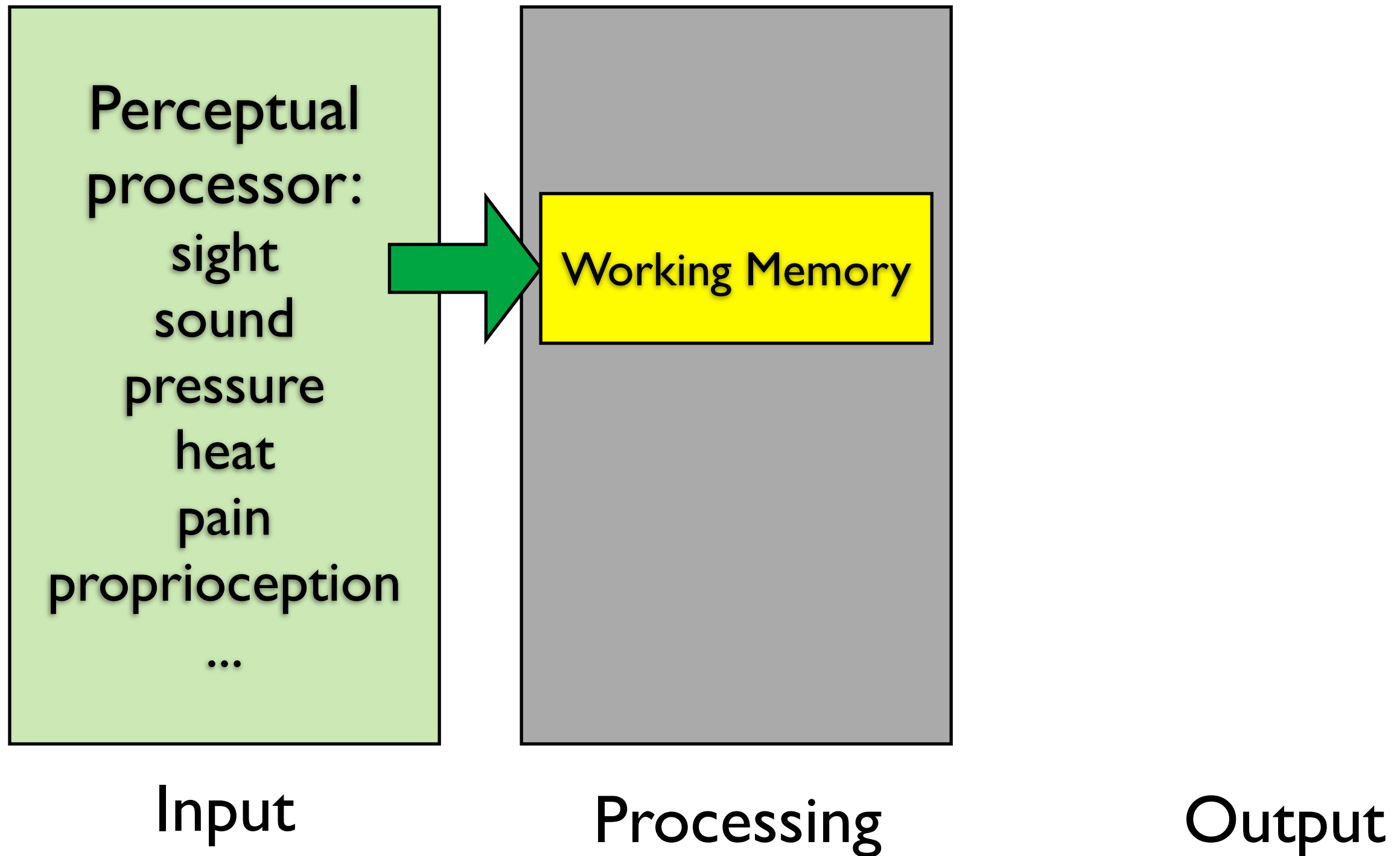
Processing

Output

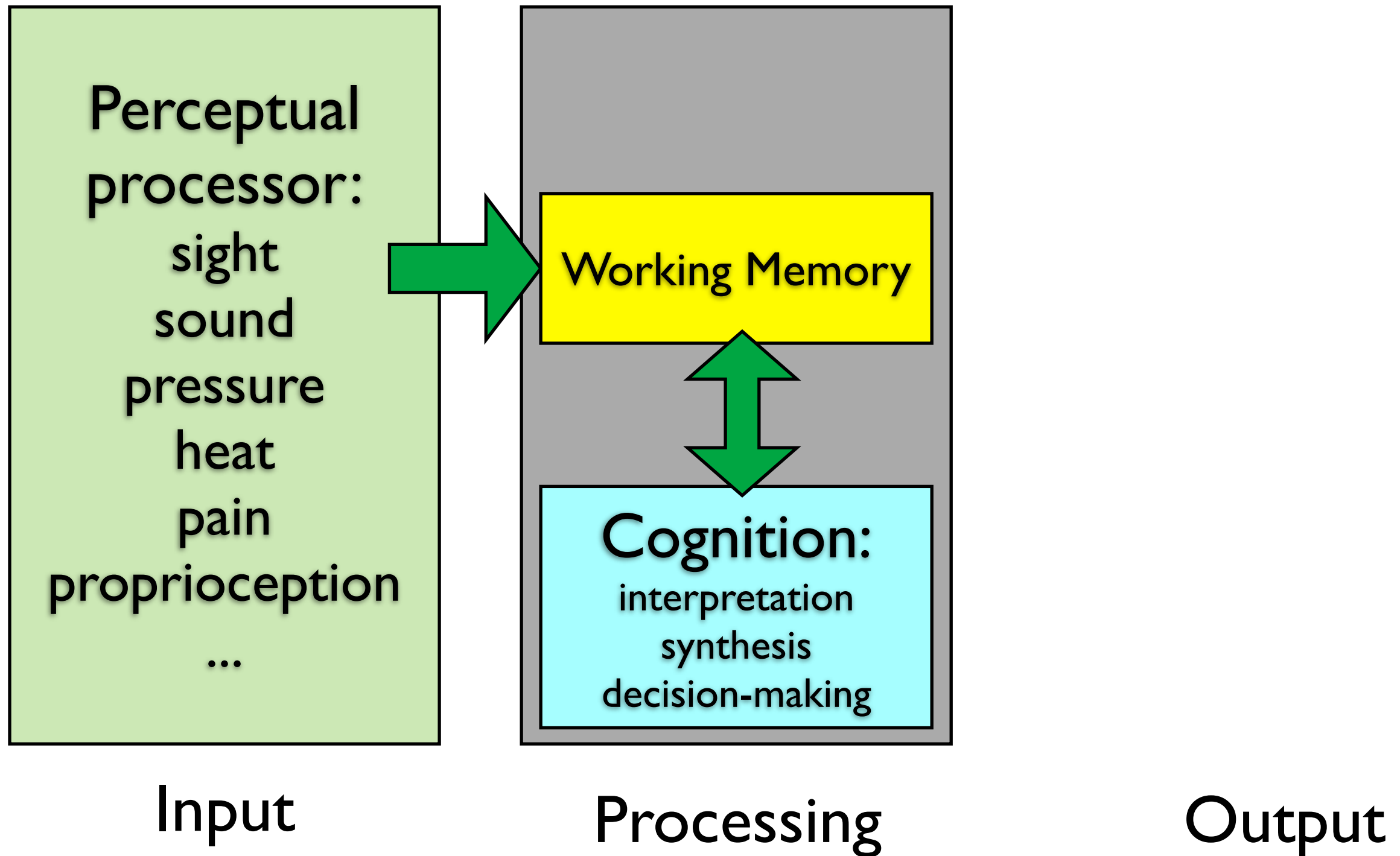
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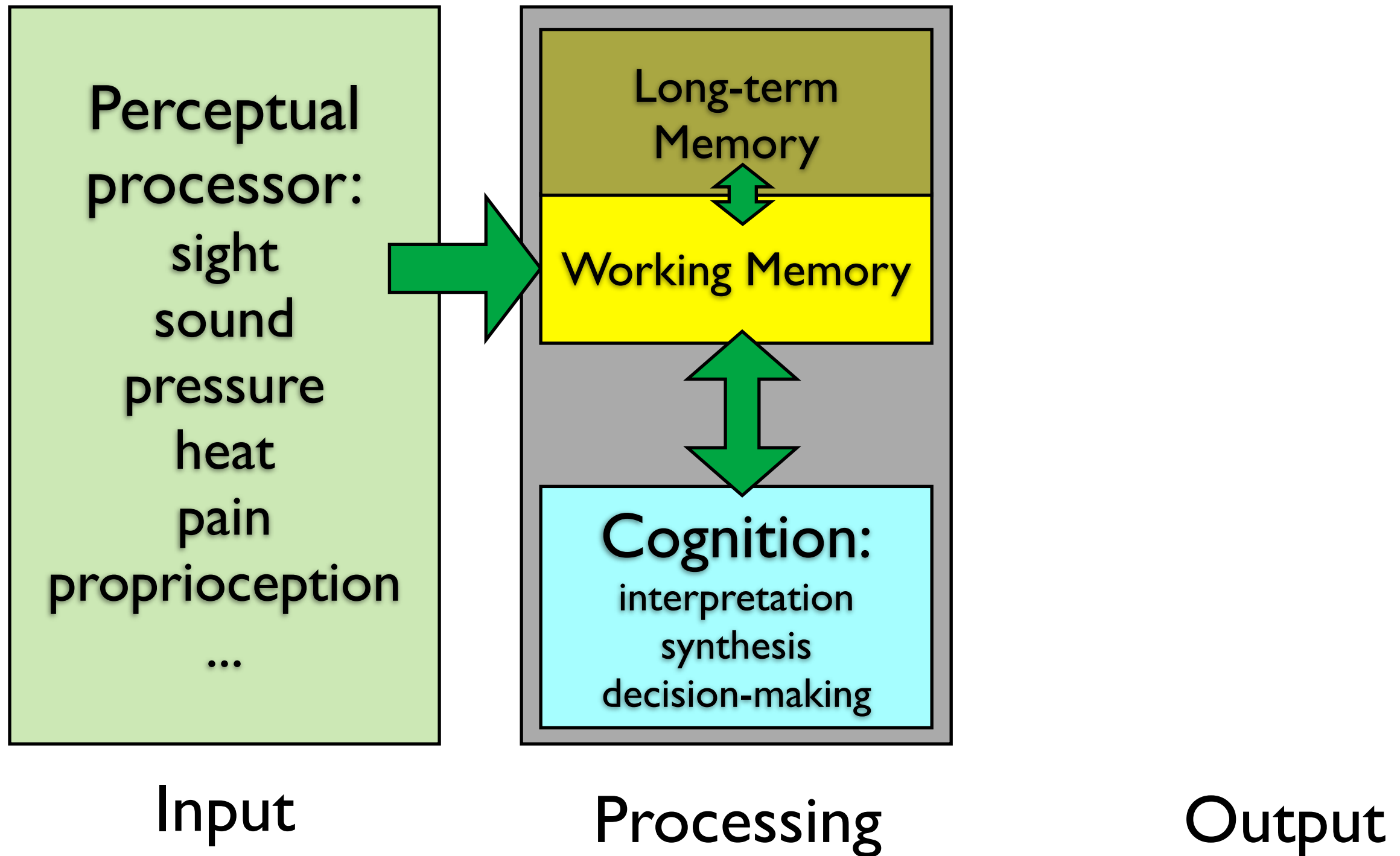
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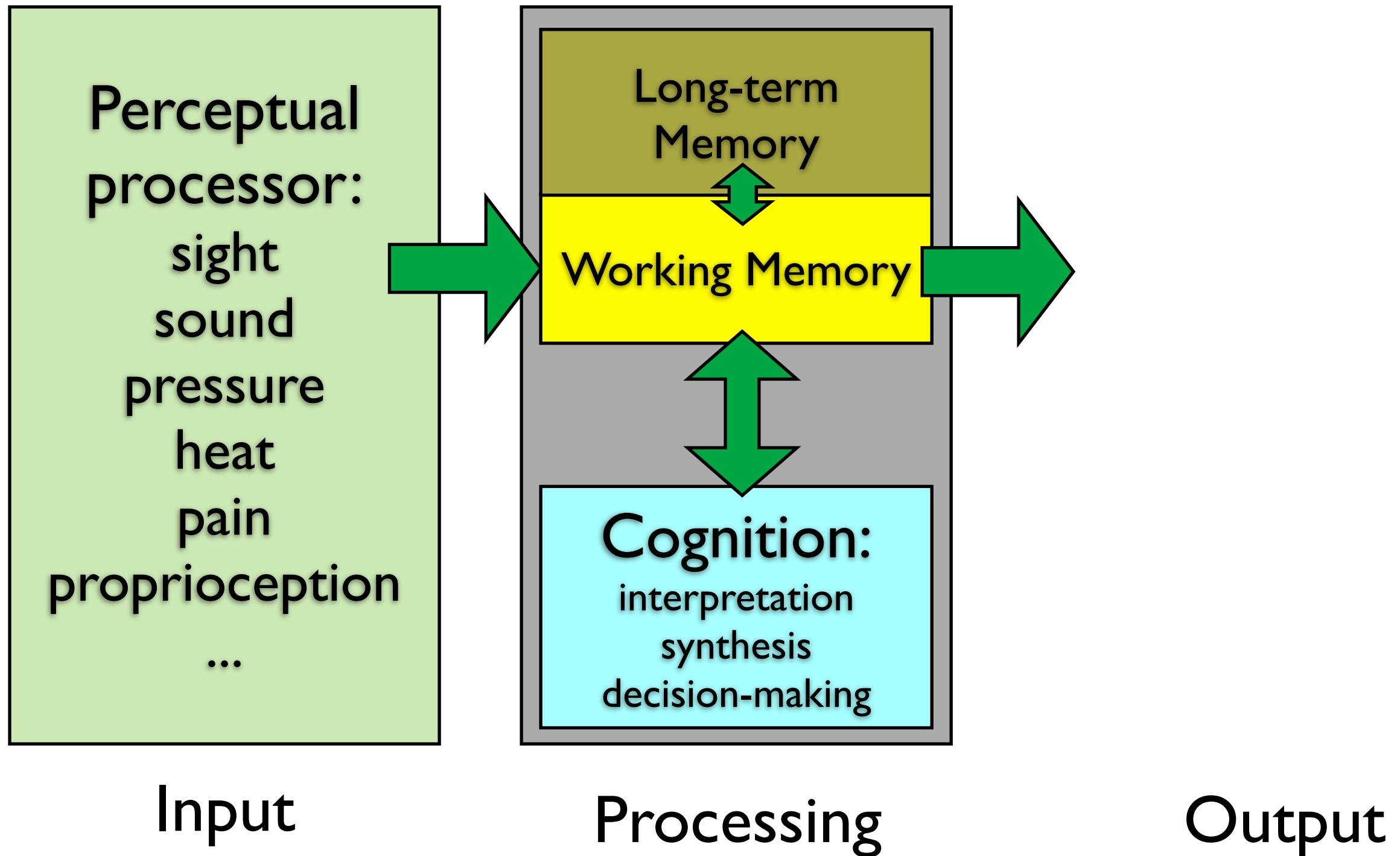
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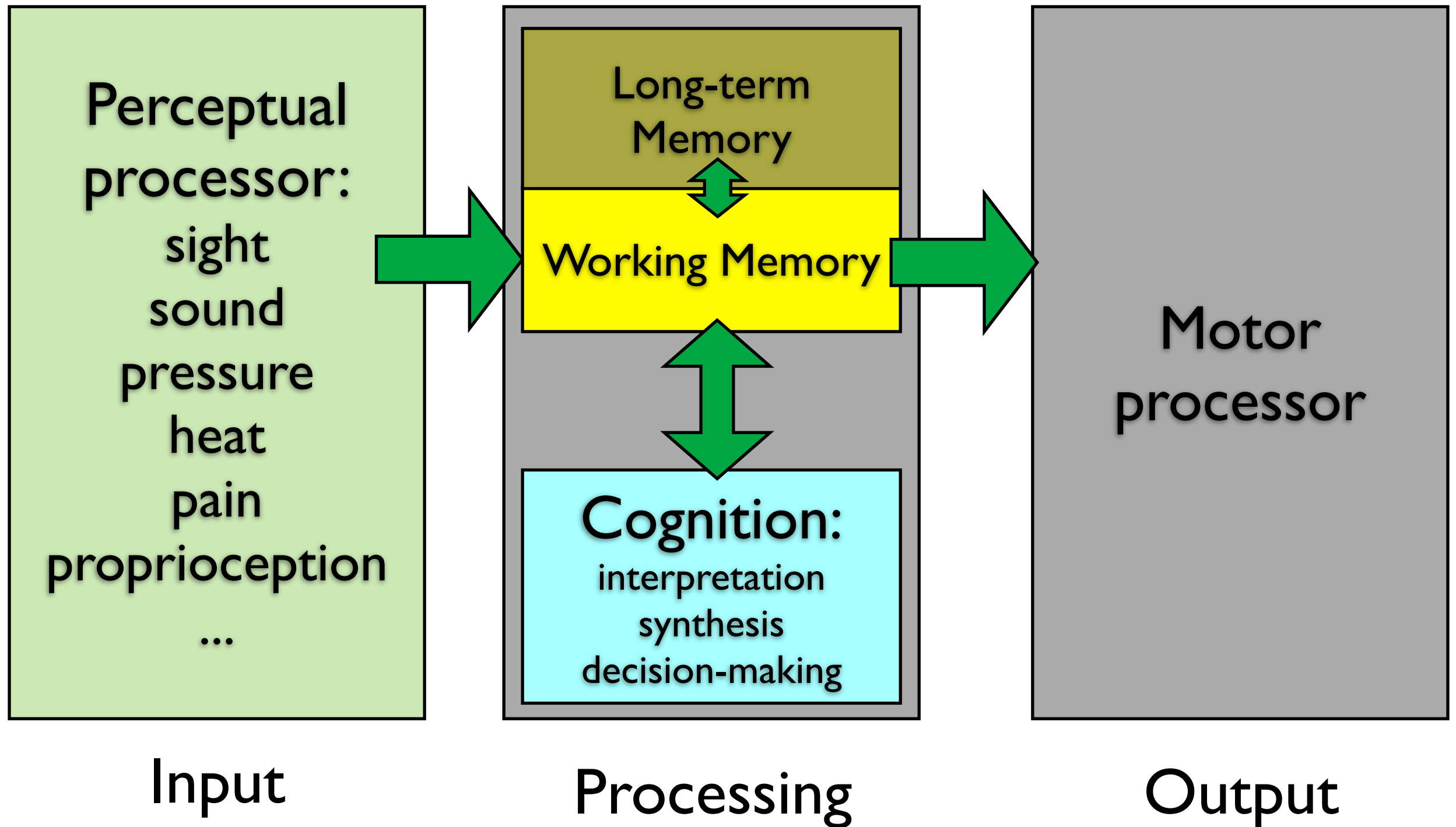


# Computational Model





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# Memory Models

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Working memory

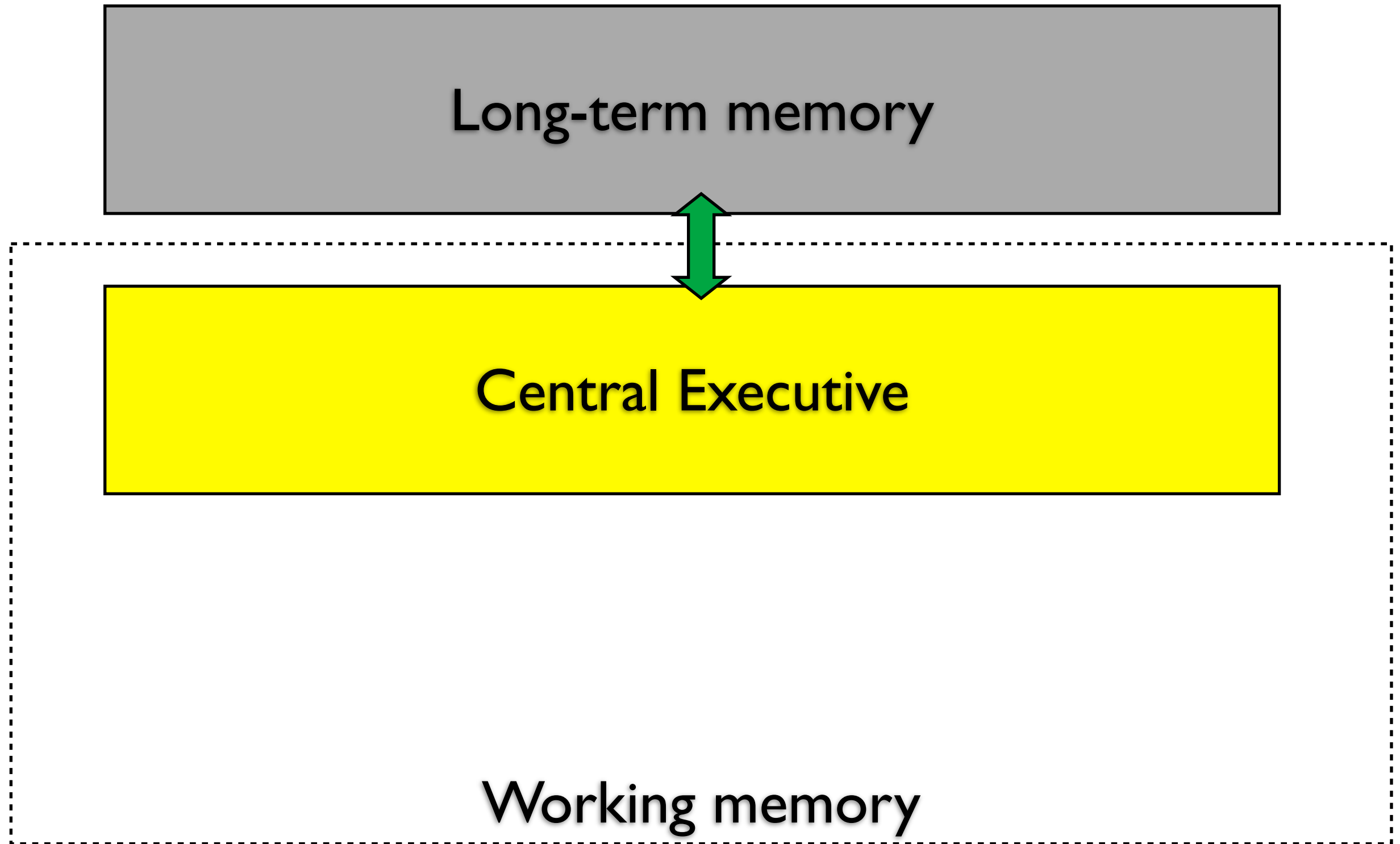
# Memory Models



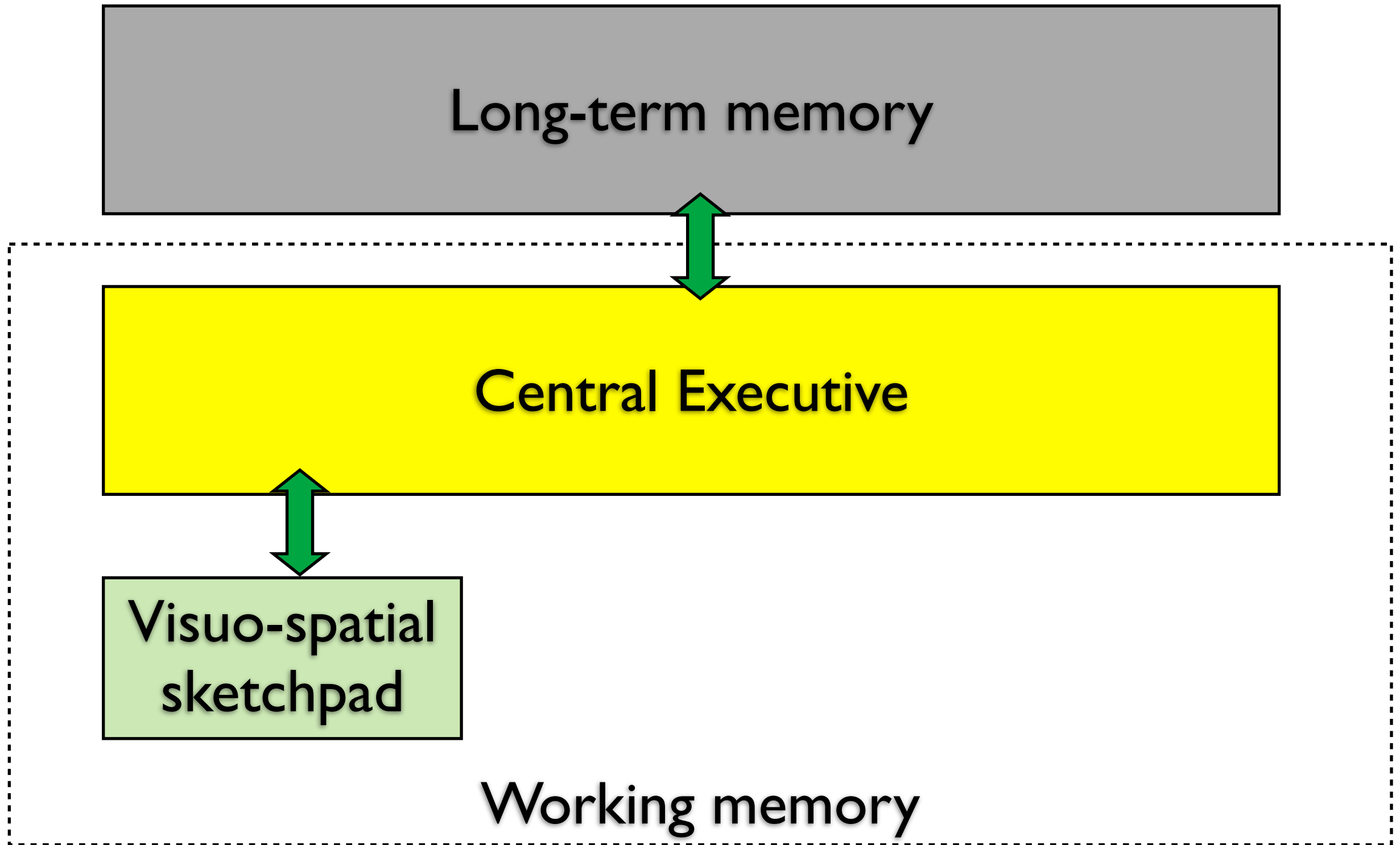
Central Executive

Working memory

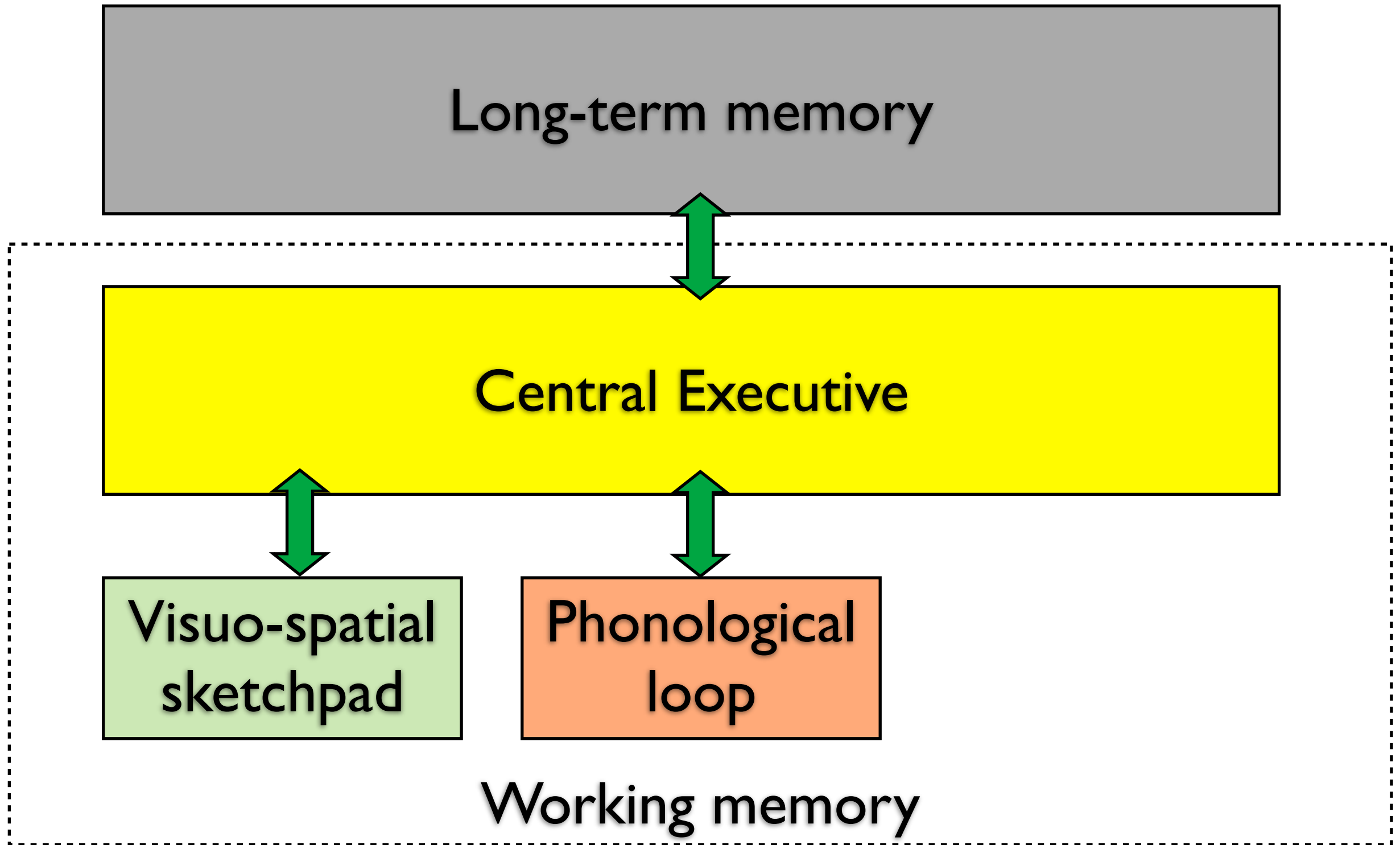
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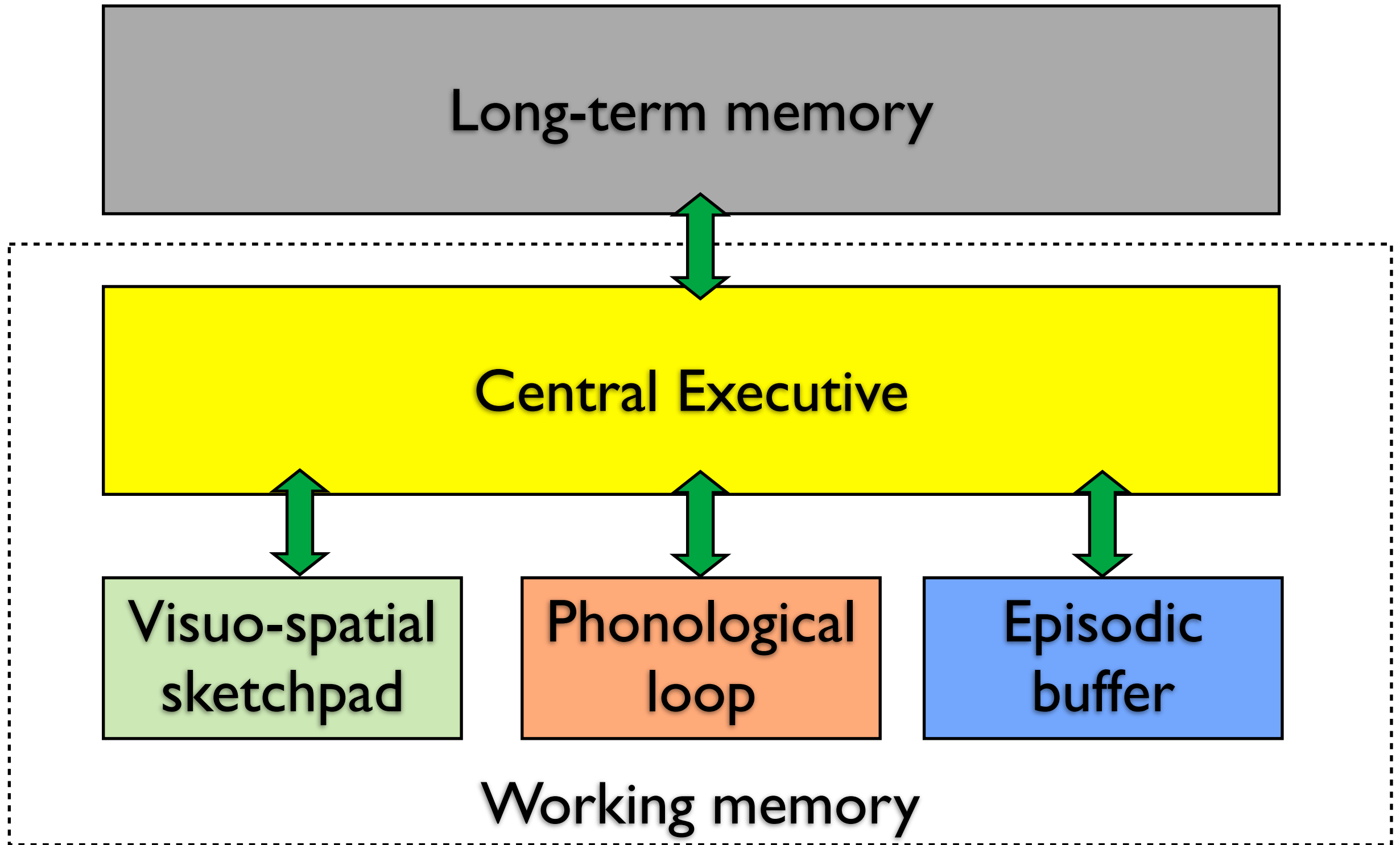
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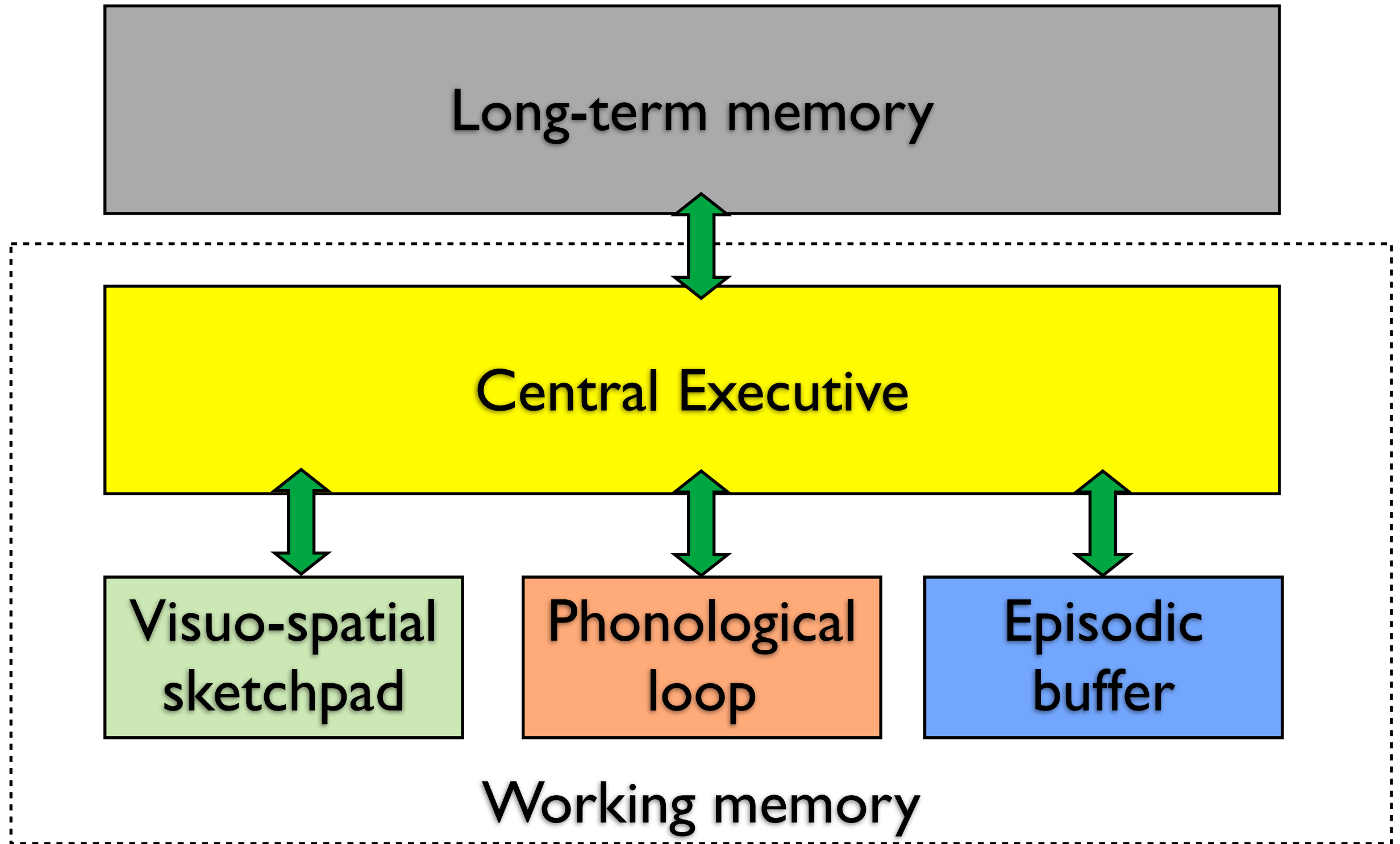


# Memory Models





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[Baddeley & Hitch 1974]

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Is conversing on a cell phone worse than in person?

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How do/can we use visuo-spatial skills to aid memory?

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LTM is also not an addressable store.

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**Context:** nodes that were encoded at the same time or are related are connected in memory. When one has a high activation, the activations of those around it increase and vice versa.

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However, if we had **recently** read *The Iliad*, then the concept for the Trojan prince named Paris might have a higher activation.

Finally, the **context** of the sentence matters a lot.

# Activation Example: Context





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Paris



# Activation Example: Context



Paris

Achilles

# Activation Example: Context



Paris

Troy

Achilles



# Activation Example: Context



Paris

Hector

Achilles

Troy

# Activation Example: Context



Paris

Iliad

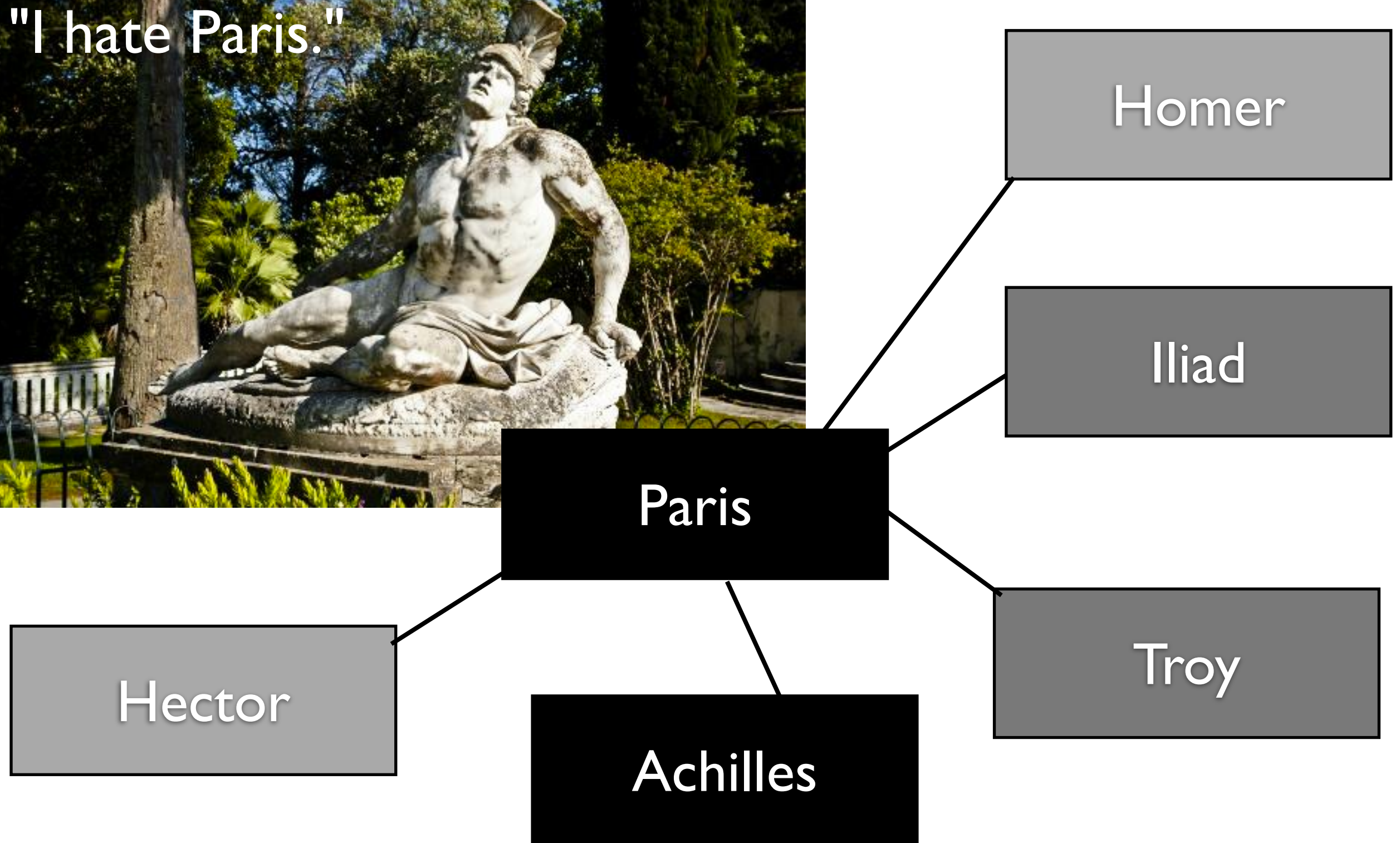
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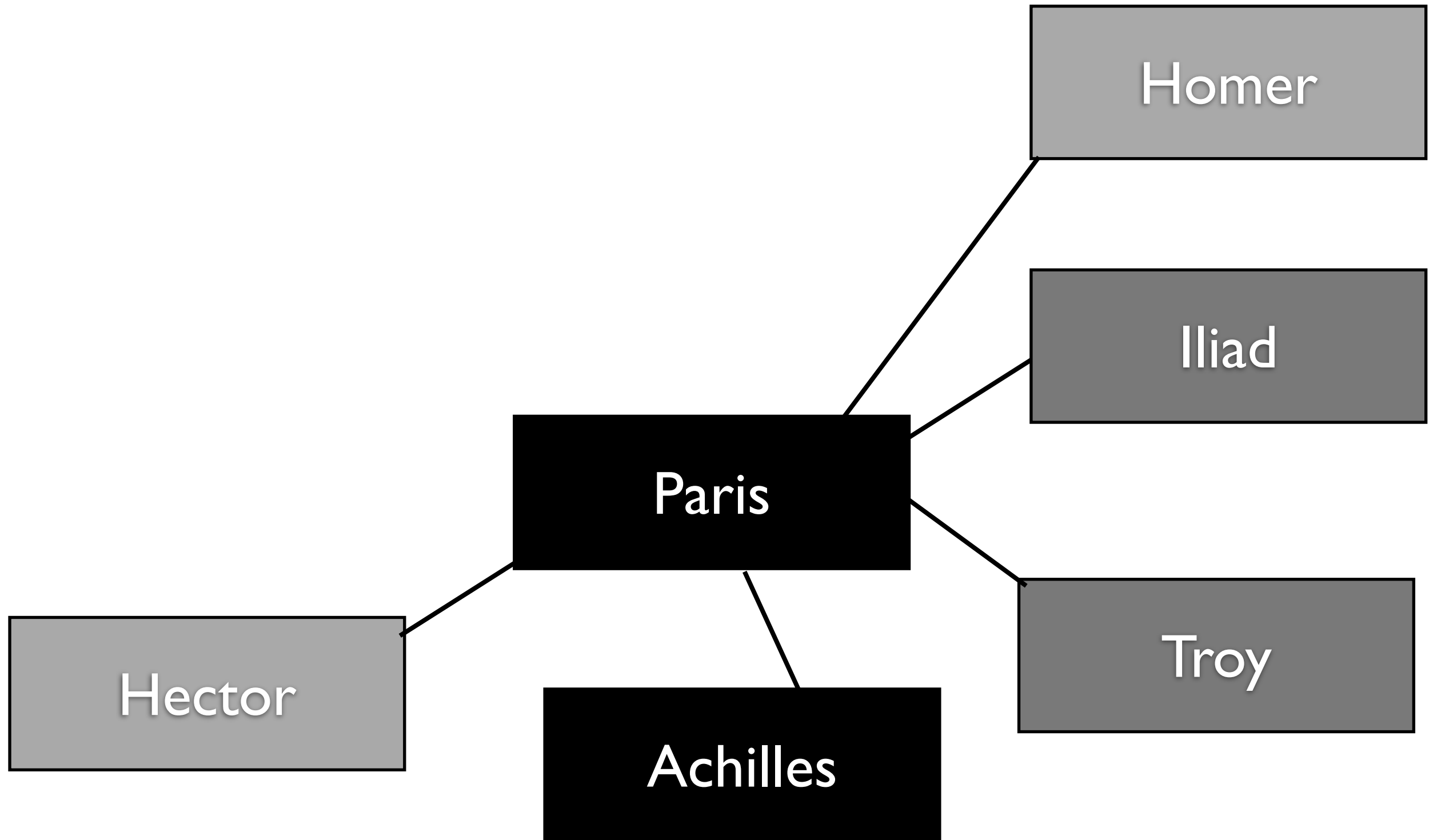
Troy



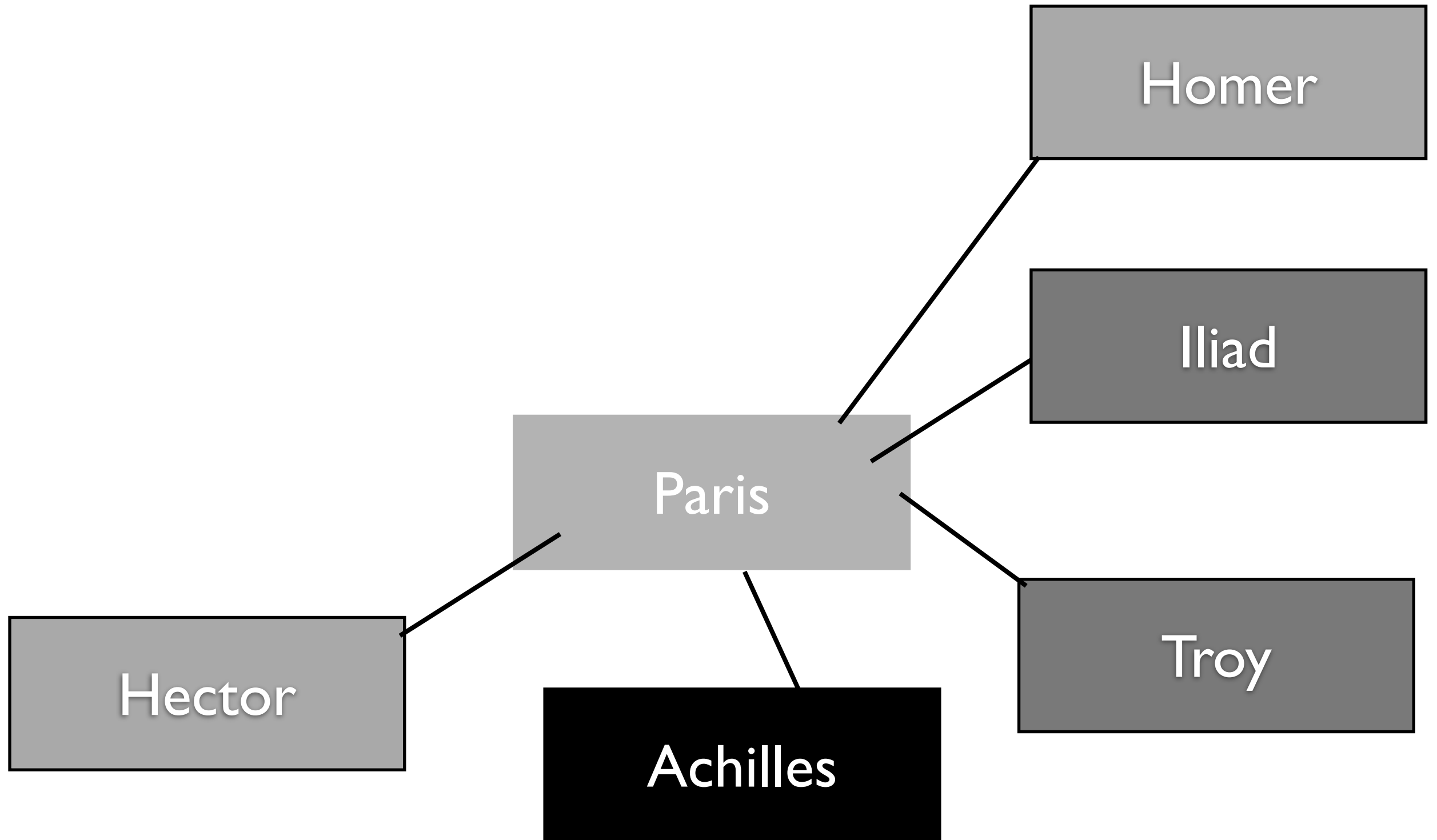
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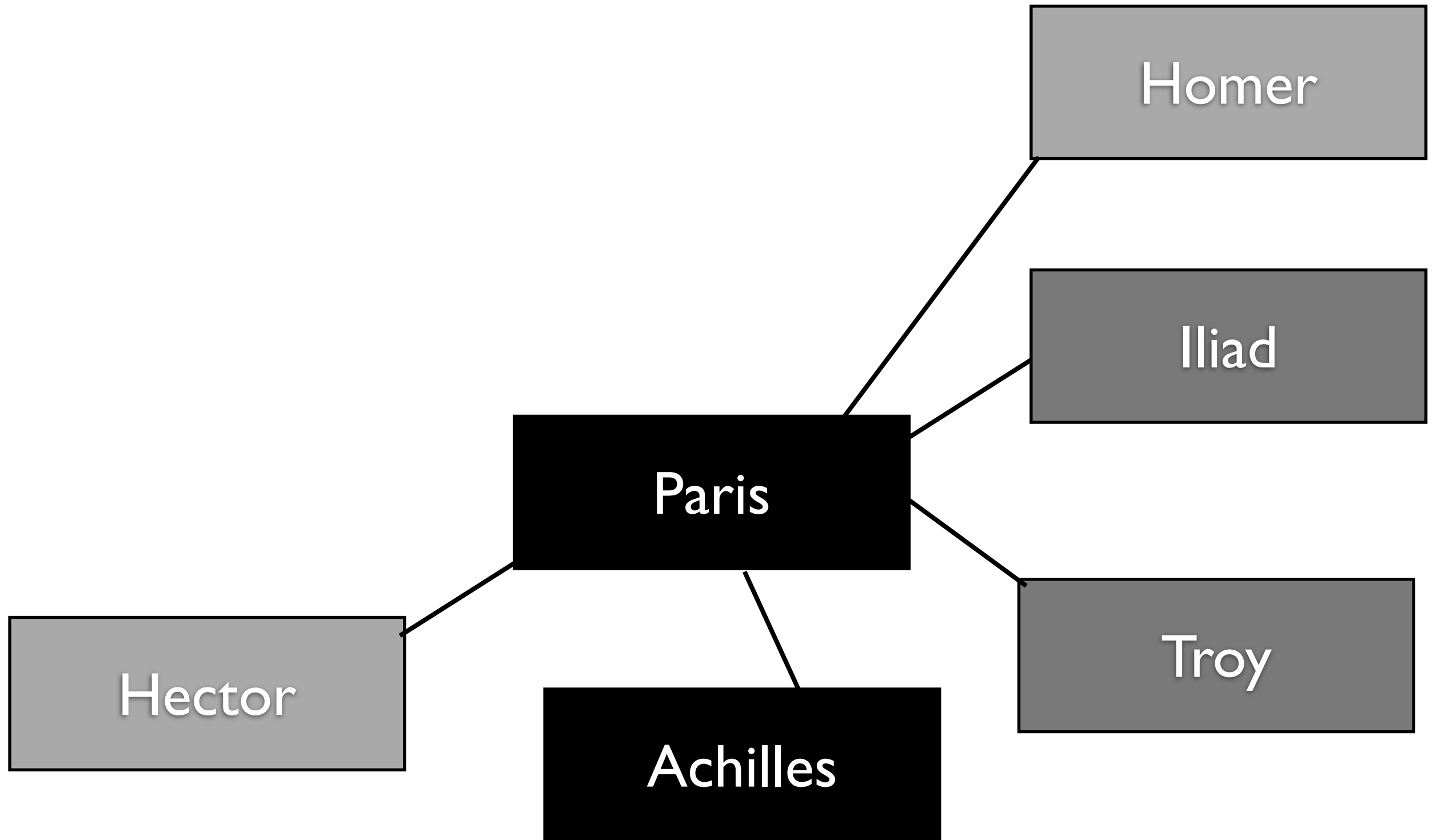
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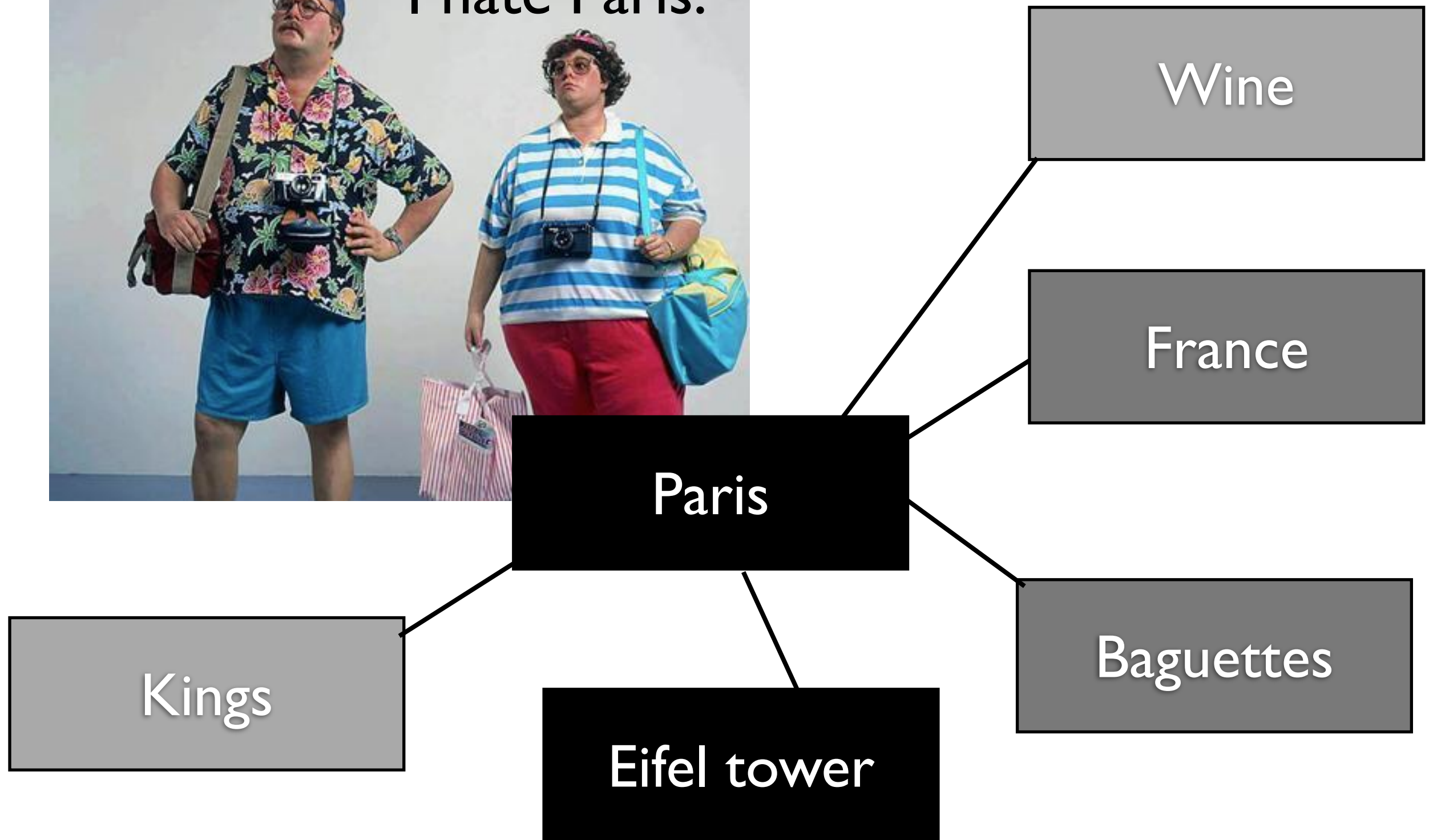


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*"Who wrote Moby Dick?" vs*

*"Did Herman Melville write Moby Dick?"*

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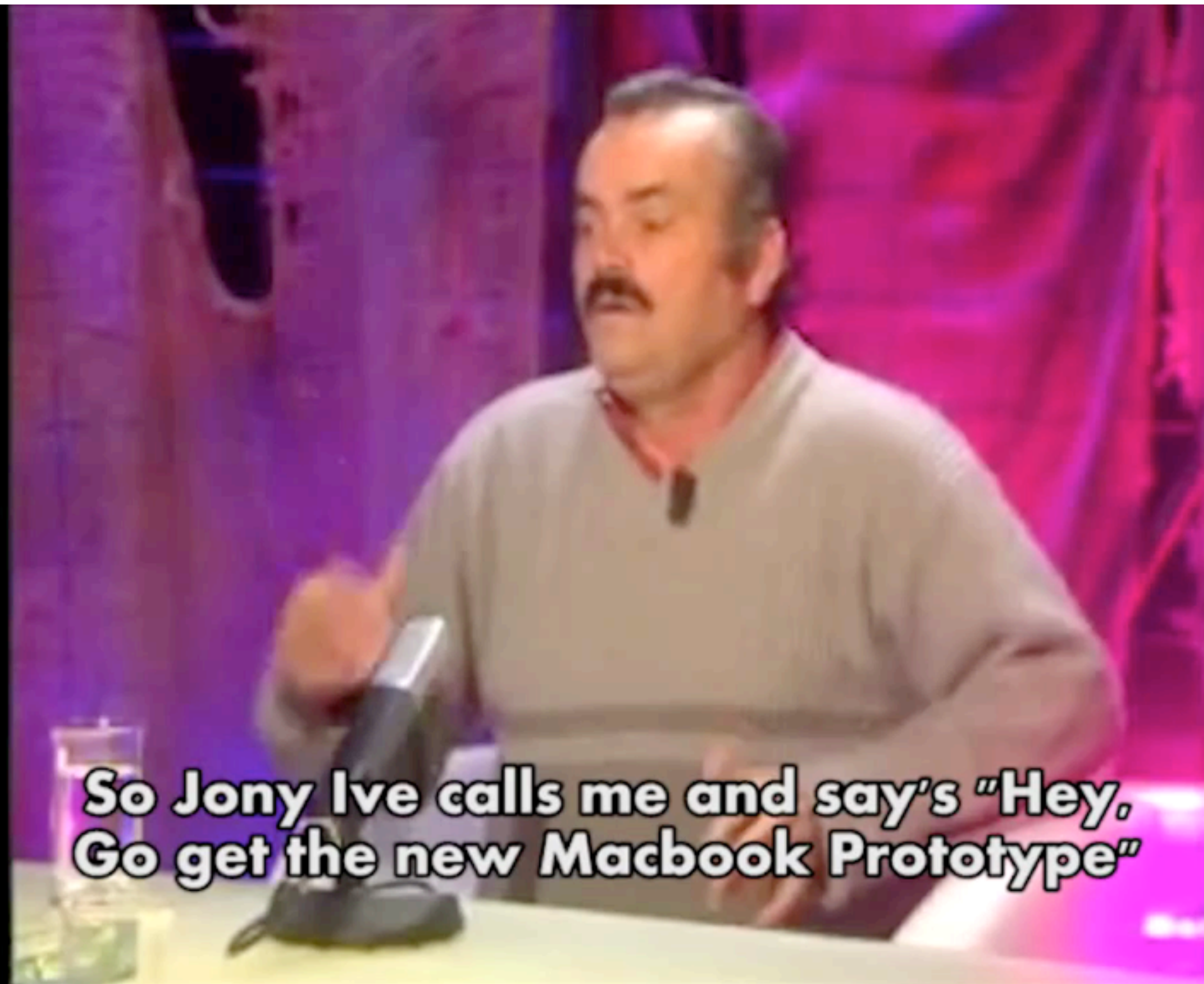
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- Prime the user with past memories: provide task, file and search history
- Enable the user to employ their own context-aiding strategies: spatial layout, tagging, colour-coding, etc.



# Real laptops have ports?

<https://youtu.be/KHZ8ek-6ccc>

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<https://youtu.be/KHZ8ek-6ccc>

# Questions?

This lecture is based on slides and content by:

ILONA POSNER

OLIVIER ST. CYR

Materials from:

*Interaction Design: Beyond Human-Computer  
Interaction.* Rogers, Sharp and Preece. 2011  
[idbook.com](http://idbook.com)