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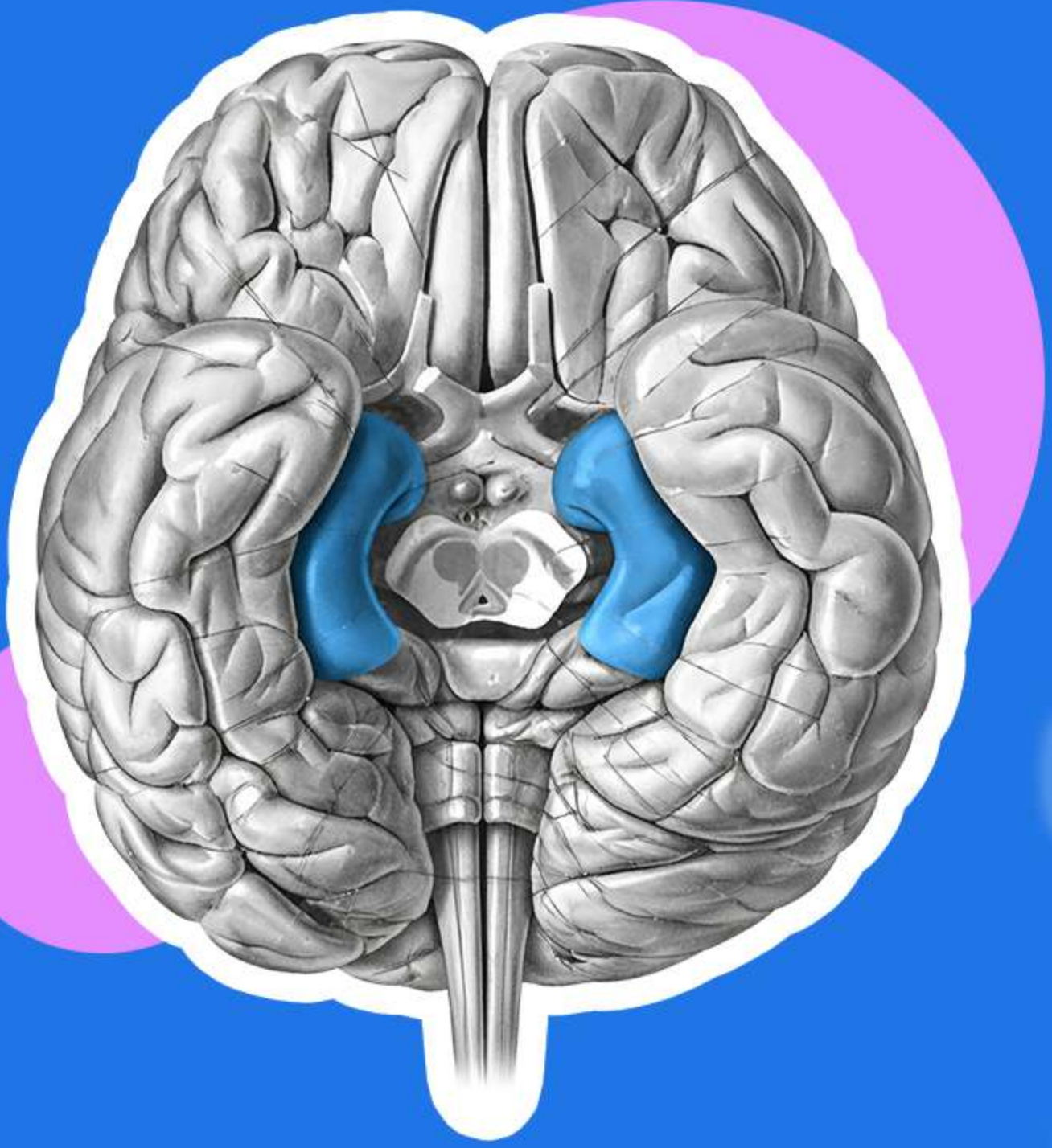
PARAHIPPOCAMPAL GYRUS

(Why Places Trigger Memories)



Why does walking into a specific room instantly bring back a flood of vivid stories?

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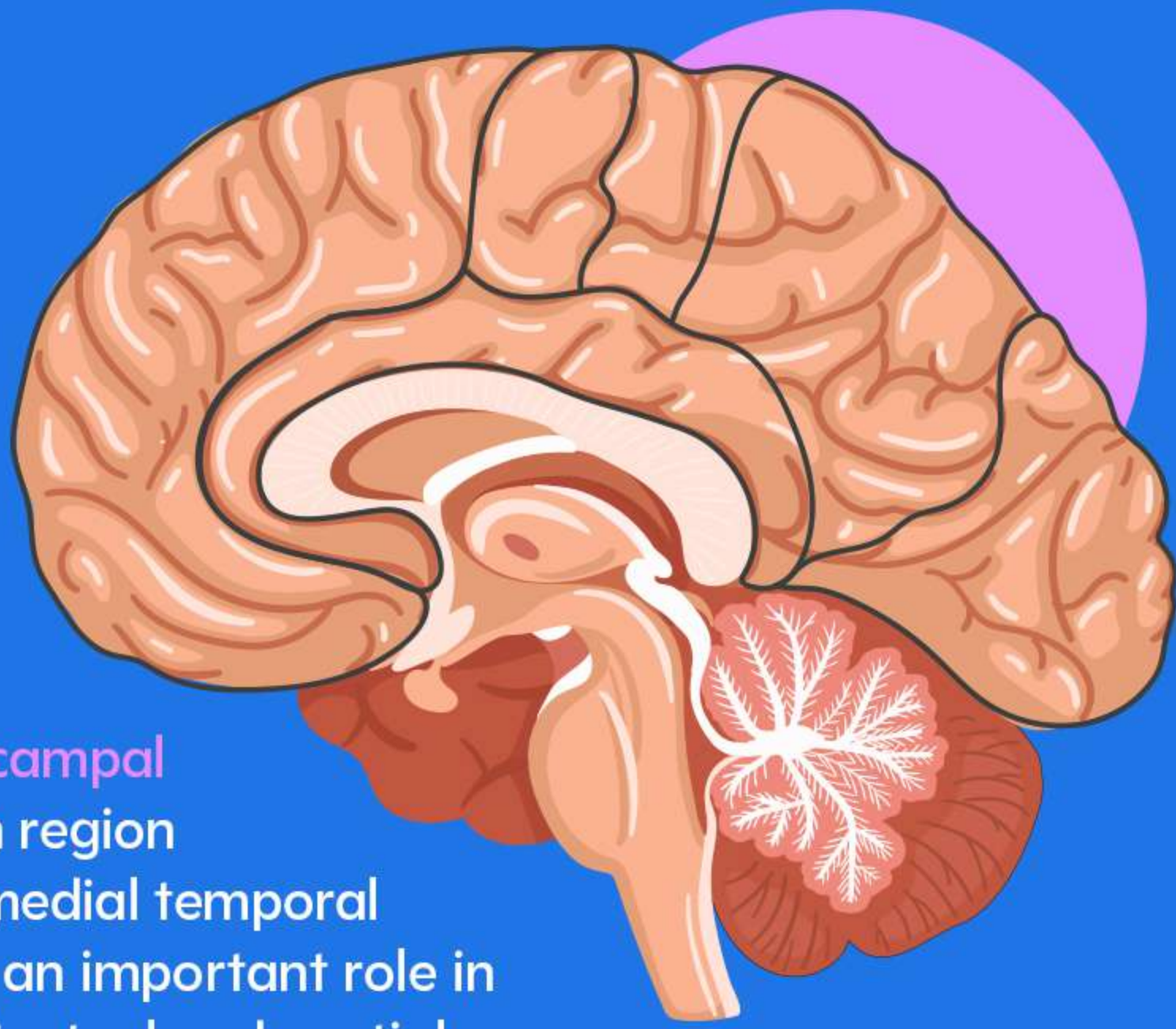

The Parahippocampal Gyrus is a brain region located in the medial temporal lobe that plays an important role in processing contextual and spatial information.

It helps the brain:

- Interpret environmental surroundings
- Connect events to specific locations
- Provide contextual meaning to experiences

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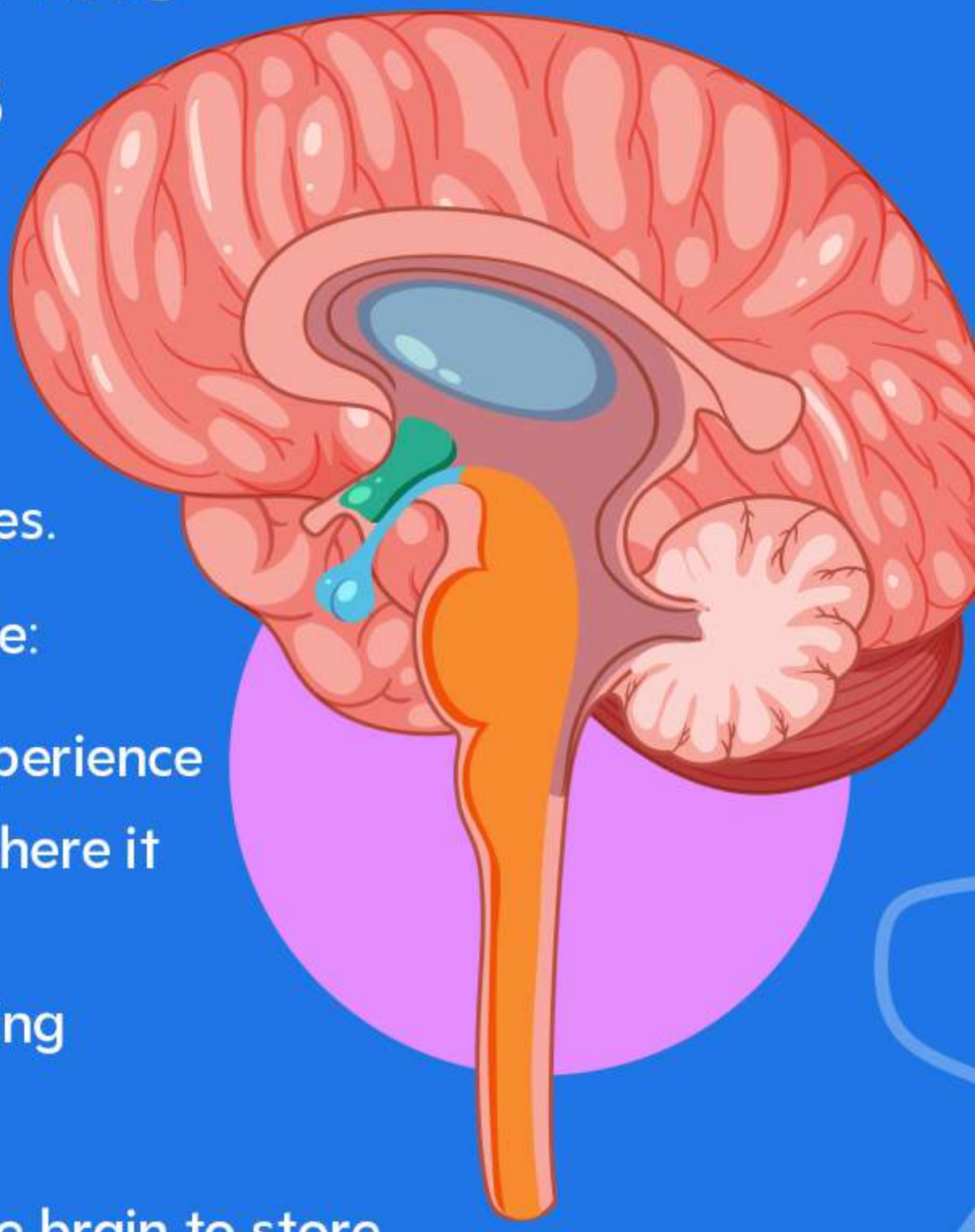
Working with the Hippocampus



The parahippocampal gyrus works closely with the hippocampus, a key structure involved in forming episodic memories.

Together they help encode:

- **What** – the event or experience
- **Where** – the location where it occurred
- **Context** – the surrounding circumstances

This integration allows the brain to store memories as complete experiences rather than isolated details.

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Navigation and Spatial Awareness

Beyond memory, this region also supports spatial awareness and navigation.

It contributes to:

- **Scene recognition** – identifying familiar environments such as rooms or landscapes
- **Spatial cues** – using landmarks to orient ourselves in space
- **Environmental mapping** – helping the brain build internal representations of places

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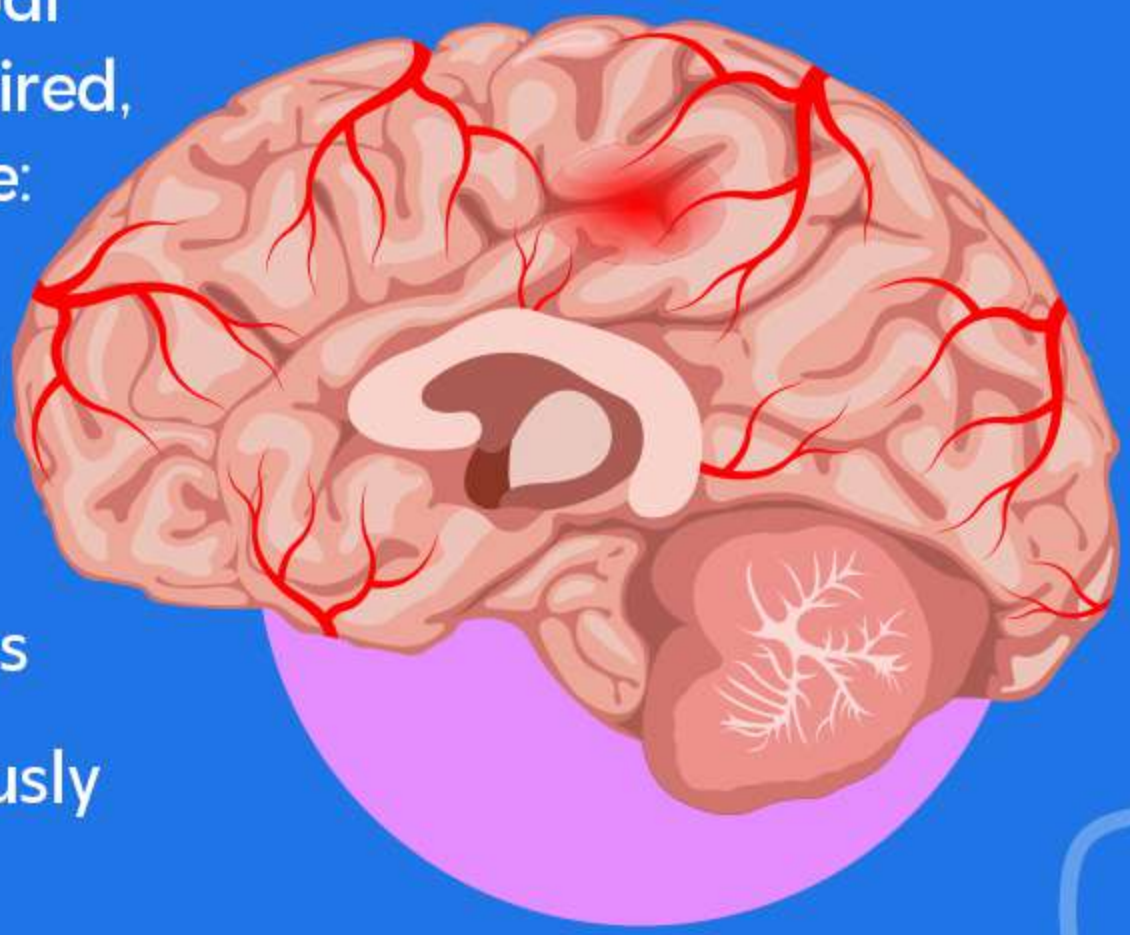
Functional Significance

When the parahippocampal gyrus is damaged or impaired, individuals may experience:



- Difficulty recognizing familiar places
- Problems forming new context-based memories
- Disorientation in previously known environments

These findings highlight how crucial this region is for integrating memory with spatial context

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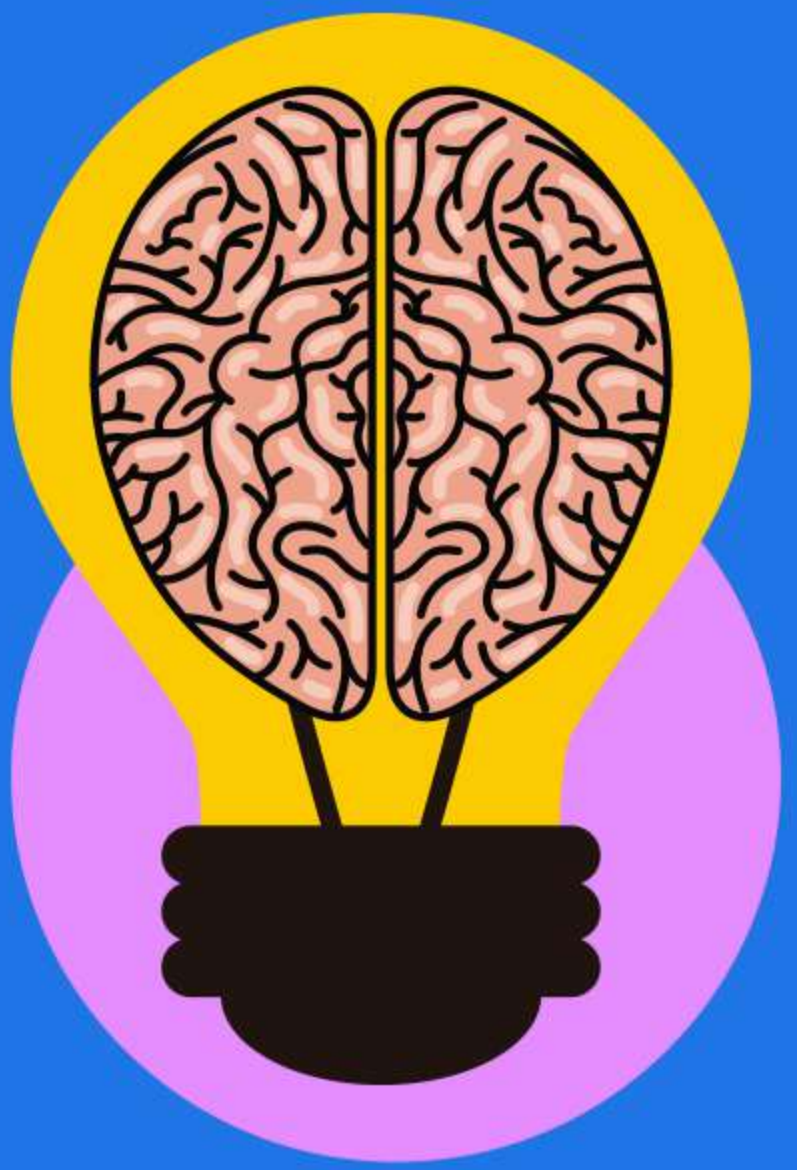
Creating "Rich" Memories

By linking experiences with environmental cues, the parahippocampal gyrus helps transform memories into multi-layered mental representations.



Instead of recalling a simple fact, the brain retrieves:

- the place
- the surrounding details
- the emotions associated with the moment

This process allows memories to feel more like revisiting a scene than recalling information.

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