



Daily Article (Bharath's Reading list) - Answers and Explanations 20.06.2023

Article link : <https://bit.ly/42JkKQ0> (Where Imagination Lives in Your Brain)

1. The dual role of the hippocampus makes sense, according to experts, due to all the following reasons except:

- A. Imagination depends largely, if not exclusively, on memory
- B. The purpose of memories is in the past and that of imagination in the future, so these are mutually distinct skills
- C. Both skills involve combining experience with emotions, inner commentary and things people have read or heard about
- D. Imagination gives memory a purpose, helping us make decisions based on what we have learned

Explanation : B

All options except B are true. Option B is false as, according to the article, memory is a form of imagination.

2. From experiments of neuronal activity in rodents, it was seen that the internal thought process is separated from reality as :

- A. The firing patterns of the place cells was seen to progressively change, representing three different locations separated in time
- B. The late theta activity alternated between two possible immediate futures whenever the animal approached a T-junction in a maze
- C. The imagination portion of the theta cycle was also seen to reflect a hypothetical direction of travel that differed from the animal's actual directional heading
- D. All the above

Explanation: D

All given points are mentioned in the article

3. "One mystery is how people separate a real symphony from music playing in their head". A possible explanation for this given in the article is that:

A. Like an orchestra conductor, the hippocampus cues up neurons in brain regions that represent the sights, sounds and smells that either are part of a recollection or fit together in some imagined thing

B. The brain separates fact from fiction by reconciling the sensory inputs received from the outside world with its own internal models

C. The same region of the brain, the hippocampus, is responsible for both memory and for conjuring up possible futures or alternative realities

D. None of the above

Explanation: B

Refer to the last paragraph. Note that options A and C, while true, do not explain how the brain separates fact from fiction.