

Ask the expert

Q&A

Q *What is déjà vu and why is it so common?*

A “Déjà vu” means “already seen” in French.

The exact cause of this phenomenon is still unknown, but there are a few hypotheses to explain this.

One popular theory is that déjà vu occurs when a stimulus erroneously or insufficiently activates an existing memory.

Such stimulus may elicit only an impression of familiarity without complete successful recall.

This hypothesis is supported by a recent virtual reality study, which showed that when a scene resembled a previously viewed but forgotten scene, the viewers tended to report higher familiarity and déjà vu ratings than when they saw a novel scene.

It is possible that déjà vu occurs when a few brain areas interact with each other closely, particularly the areas involved in memory formation (such as the rhinal cortices and hippocampus) and emotion (such as the amygdala).

Evidence supporting this idea came from a recent study of epileptic patients, who have neurological diseases characterised by epileptic seizures.

To localise the source of the seizures, it often requires implanting electrodes in the brain to monitor patients’ brain activities, and sometimes direct stimulation of the brain is necessary to see if/where seizures can be induced.

It was discovered that with direct electrical stimulation in the brain, déjà vu may be artificially induced in some epileptic patients.

Specifically, déjà vu is often observed when the neural activities in the rhinal cortices, hippocampus and amygdala are more synchronised.

This finding suggests that the neural basis of déjà vu may exist in the cooperation between these brain areas.

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