

Life is Like a Box of Hippocampal Scenes

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Summary: A new neuroimaging study of people watching the movie Forrest Gump reveals the hippocampus is sensitive to meaningful units of experience, rather than perceptual cues.

Source: SfN.

A neuroimaging study of human participants watching the 1994 film *Forrest Gump* and Alfred Hitchcock's 1961 television drama *Bang! You're Dead* suggests an important role for the hippocampus in segmenting our continuous everyday experience into discrete events for storage in long-term memory. The research, published in *Journal of Neuroscience*, is among the first to investigate hippocampal function during a natural experience.

Aya Ben-Yakov and Richard Henson found that the hippocampus responded most strongly to the films at the points that independent observers identified as the end of one event and the beginning of a new one. The researchers found a strong match between these event boundaries and participants' hippocampal activity, varying according to the degree to which the independent observers agreed on the transition points between events.

While watching the two-hour long *Forrest Gump*, hippocampal response was more strongly influenced by the subjective event boundaries than by what the filmmaker may consider a transition between scenes, such as a change in location.



The activity in a brain region called the hippocampus, which is involved in forming new memories, spikes at the boundaries between distinct events within a film. The movie frames shown here are for illustration purposes only, and taken from “The Sorcerer’s Apprentice (1961)” By Alfred Hitchcock. NeuroscienceNews.com image is credited to Aya Ben-Yakov and Richard Henson.

This suggests that the hippocampus is sensitive to meaningful units of experience rather than perceptual cues.

ABOUT THIS NEUROSCIENCE RESEARCH ARTICLE

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Original Research: The study will appear in Journal of Neuroscience during the week of October 8 2018.