

Timing is (almost) everything: Memory enhanced when events occur at behaviorally relevant times

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What determines whether a scene is remembered or forgotten?

According to a study published this week in the open access journal *PLoS Biology*, memory for visual scenes may not depend on attention level or what a scene contains, but when the scene is presented. The study, presented by researchers at the University of Washington, shows how visual scenes are encoded into memory at behaviorally relevant points in time.

The ability to remember a briefly presented scene depends on a number of factors, such as its saliency, novelty, degree of threat, or behavioral relevance to a task. Generally, [attention](#) is thought to be key, in that people can only remember part of a visual scene when paying attention to it at any given moment.

In this study, participants performed an attention-demanding "target detection task at [fixation](#)," while also viewing a rapid sequence of full-field photographs of urban and natural scenes. Participants were then tested on whether they recognized a specific scene from the sequence they had been shown or not. "Usually, the addition of a secondary task decreases performance on the first task. However, in this particular case, adding a second task (letter identification) actually enhanced performance in the first task (scene [memory](#)) when targets were accurately detected in the second letter identification task," says Jeffrey Lin, the lead author of the study.

This study adds to our understanding of how selective attention can influence the ability to remember specific features of our environment. The results point to a [brain mechanism](#) that automatically encodes certain visual features into memory at behaviorally relevant points in time, regardless of the spatial focus of attention. Timing may not be everything, but it's more important than you realize.

More information: Lin JY, Pye AD, Murray SO, Boynton GM (2010) Enhanced Memory for Scenes Presented at Behaviorally Relevant Points in Time. PLoS Biol 8(3): e1000337.
[doi:10.1371/journal.pbio.1000337](https://doi.org/10.1371/journal.pbio.1000337)

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