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# Time course of EEG oscillations during creative problem solving

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## Abstract

The Remote Associates Test is a creativity task that consists in finding a word that connects three unrelated words. We examined EEG power in healthy participants performing an adaptation of this task that allowed us to explore two mechanisms: remote semantic combination by varying the associative strength between the cue words and the solution, and the insight phenomenon reported by the subjects. Time-frequency analyses revealed that associative remoteness was associated with early synchronization in alpha and beta bands in laterotemporal and temporoparietal clusters and late frontal activity in the theta band just before the participants found the solution. Insight was associated with synchronization in alpha and gamma bands in inferotemporal clusters and a frontal synchronization in the theta band just preceded the response. Our findings provide new insights on the dynamic mechanisms involved in this verbal creativity task.