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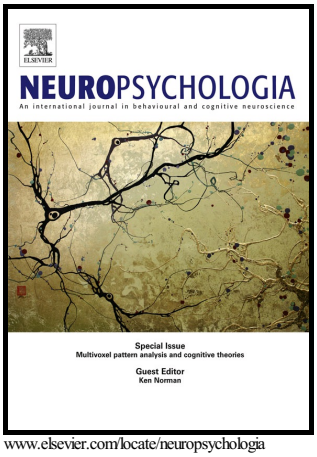

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Behavioral and electrophysiological signatures of word translation processes

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Abstract

Translation is a demanding process during which a message is analyzed, translated and communicated from one language to another. Despite numerous studies on translation mechanisms, the electrophysiological processes underlying translation with overt production remain largely unexplored. Here, we investigated how behavioral response patterns and spatial-temporal brain dynamics differ in a translation compared to a control within-language word-generation task. We also investigated how forward and backward translation differs on the behavioral and electrophysiological level. To address these questions, healthy late bilingual subjects performed a translation and a within-language control task while a 128-channel EEG was recorded. Behavioral data showed faster responses for translation