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Yang Li, Manon Jones, Guillaume Thierry

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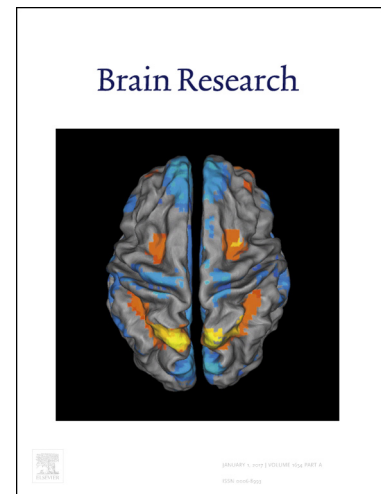
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Timeline blurring in fluent Chinese-English bilinguals

Yang Li, Manon Jones, Guillaume Thierry

School of Psychology, Bangor University, Wales, LL59 5HF, UK.

Abstract

Linguistic relativity effects arising from differences in terminology and syntax between languages have now been established in various domains of human cognition. Although metaphors have been shown to affect time conceptualisation, there is little evidence to date that the presence or absence of tense within a given language can affect how one processes temporal sequences of events. Here, we set out to characterise how native speakers of Mandarin Chinese—a tenseless language—deal with reference time misalignment using event-related brain potentials. Fluent Chinese-English participants and native speakers of English made acceptability judgements on sentences in which the adjunct clause started with the connective ‘after’ and was either temporally aligned or not with the main clause in terms of reference time conveyed by the verb. Native speakers of English failed to overtly report such reference time misalignments between clauses, but significant N400 modulations showed that they nevertheless required additional semantic processing effort. Chinese speakers, however, showed no such N400 modulation suggesting that they did not covertly detect reference time misalignments between clauses in real time. Critically, all participants manifested normal sentence comprehension as shown by a standard N400 semantic violation elicited by incongruent endings. We conclude that Chinese speakers of English experience difficulties locating events on a timeline in relation to one another when temporal information is conveyed by tense.

Keywords: *Reference time; tenselessness; event-related potentials; syntax-semantics interference; linguistic relativity; sentence processing.*

Corresponding author:

G. Thierry | School of Psychology, Bangor University, Wales, LL59 5HF, UK | g.thierry@bangor.ac.uk

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