

Aspect of pasts in Mandarin: An ERP study on the temporal restriction of the perfectives -le and -guo

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Reference to time, cognitive perception of time as passing by, is encoded with numerous devices in language. Semantically, tense (the “grammaticalized expression of location in time”; past, present and future tenses) and aspect (the “different ways of viewing the internal constituency of a situation”; perfective, perfect and imperfective) can be used to refer to time by establishing a time-relational dependency between time intervals [1, 2]. Yet, these devices are not equally found in different languages: while Indo-European languages have an obligatory category of tense, some others (e.g. Mandarin) are said to be tenseless. In such cases, temporal restrictions may be imposed on aspectual distinctions [3]. The verbal suffixes *-le* and *-guo* are taken as being perfective markers (with *-le* emphasizing the anaphoric assertion of the result state, and *-guo* the assertion of the posttime of the event), but their occurrence with a future time adverbial is generally not acceptable (*yufu zuotian/#mingtian diao-le/-guo guiyu*).

The goal of the study is to investigate whether such a temporal restriction on perfective markers in Mandarin relies on a common or distinct mechanism(s), by using the ERP technique. Both *-le* and *-guo* were placed in temporally congruent (i.e. after a past time adverbial) and incongruent (i.e. after a future time adverbial) contexts. The results from 26 participants (19 females, mean age: 23.1) showed the temporal incongruity of *-le* and *-guo* evoked qualitatively different ERP components when compared with their congruent counterparts: a short-lived frontal negativity (300-500 ms) for *-le*, and a P600 (500-700 ms) for *-guo* (see Table 1).

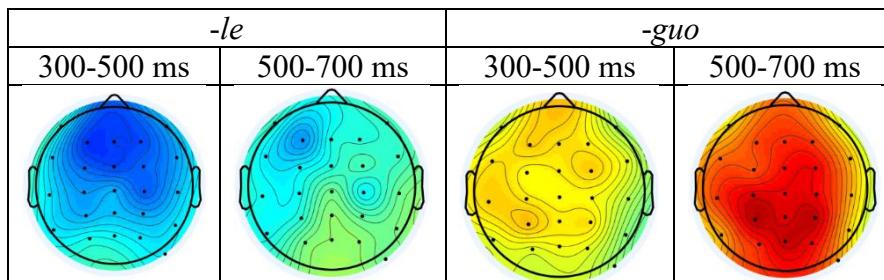


Table 1. Topographic maps of the difference wave (Future *minus* Past) for *-le* (left) and *-guo* (right) at two time windows (amplitude: -2.5 μ V (blue) to +2.5 μ V (red)).

The results suggest that referring to past time through perfective in Mandarin is modulated by the specific meaning of the aspectual markers, arguing against a common shared mechanism.

[1] Comrie, B. (1976). *Aspect: An introduction to the study of verbal aspect and related problems* (Vol. 2). Cambridge university press. [2] Klein, W. (1994). *Time in language*. Routledge. [3] Lin, J.-W. (2006). Time in a language without tense: The case of Chinese. *Journal of Semantics*, 23(1), 1–53.

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