

## Processing discourse referents in Mandarin active and passive SOV sentences

Ran Wang & Johannes Gerwien, Heidelberg University (gerwien@hulclab.eu)

In Mandarin Chinese, the canonical word order SVO can be altered to SOV. One possibility is to use markers such as *bèi* or *bǎ*. The fundamental difference between these two is that *bǎ* yields an active sentence and *bèi* yields a passive. As a consequence, the nouns in the subject and object slot receive different thematic roles in both structures. In the *bǎ*-construction the object is assigned the role of a patient or theme, in the *bèi*-construction it is the role of an agent. In this project, we ask, in how far information derived from these markers affect the *interpretation* of referents preceding and the *prediction* of referents following the markers.

In a visual world study, we compared sentence pairs, that had identical beginnings (e.g., *zhè gè chǔ shī de qī zī* 'This chef's wife'), but continued differently after the subject (*qī zī* 'wife'): in the *bèi*-condition, as a passive (*bèi dǎi tú bǎng jià le* '(was by the) gangster kidnapped'), in the *bǎ*-condition, as an active (*bǎ kā fēi zhǔ le* '(the) coffee made'). Sentence pairs (N=16) were matched with identical visual stimuli, e.g. a display showing a chef, a woman, a gangster, a cup of coffee (see Fig. 1). Two objects corresponded to the nouns mentioned in the sentences' beginnings (chef, wife). Depending on condition, one of the remaining objects was referred to after the marker. In the *bèi*-condition, this was the animate one (gangster), in the *bǎ*-condition, it was the inanimate one (cup of coffee). Importantly, filler items (N=16) were similar to critical items (8 *bèi*- and 8 *bǎ*- sentences), but the nouns mentioned after *bèi/bǎ* never corresponded to any of the objects in the visual display. Word onset times were kept constant for sentence pairs up to the target nouns. Two experimental lists ensured that every participant (N=28) encountered only one pair partner, 8 from each condition (but all fillers). Trials were randomized. After each trial, participants had to give a yes/no answer to a question testing event structure comprehension.

If participants initially assign the nouns that precede the markers the role of an agent (cf. Huang et al. 2013), more attention to the corresponding objects (e.g., wife) in the *bèi*-condition is predicted after the marker was perceived, because this initial assignment would have to be revised. If participants use information derived from the markers to predict upcoming referents, more attention directed to animate referents in the *bèi*-condition before target-onset is predicted (cf. Kamide et al. 2003).

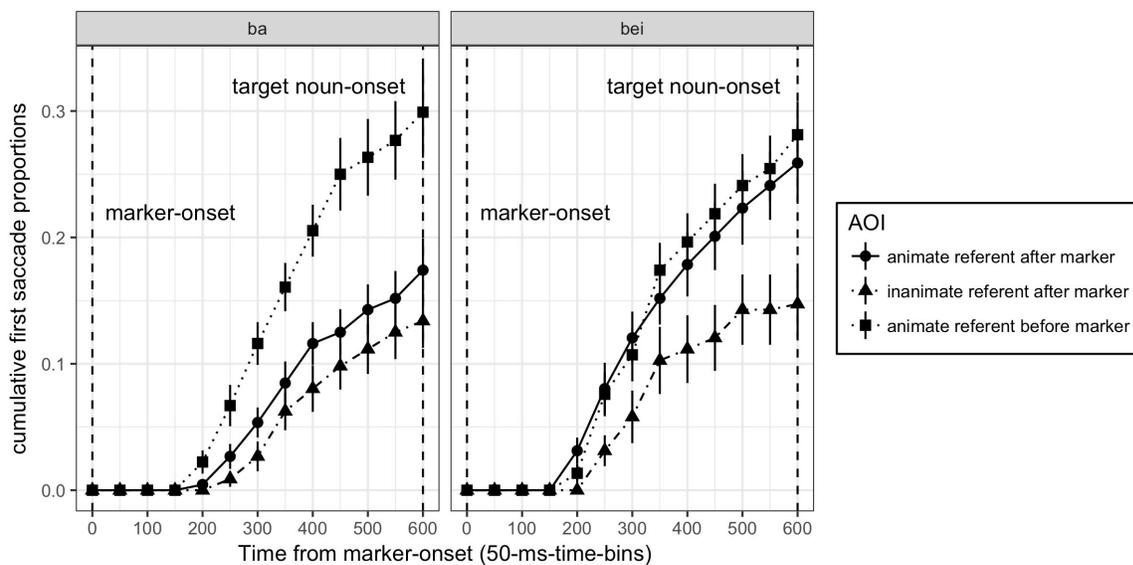
Analyses of the ET data show that (1.) there is no difference in attention allocation to objects corresponding to nouns preceding *bèi* compared to the same objects in the *bǎ*-condition; (2.) only in the *bèi*-condition, participants direct significantly more attention to animate referents than to inanimate referents before target noun onset; (3.) attention to animate referents is significantly higher in the *bèi*-condition than in the *bǎ*-condition before target noun onset (see Fig. 2). Participant's performance in the comprehension test does not differ between conditions.

In sum, no evidence for the revision of initial role interpretation (nouns preceding the markers) was detected, which suggests that participants (can) postpone argument linking to some extent. However, as soon as information is derived from the markers at issue in the present study, this is used to predict upcoming referents, which implies that a stable event representation has been constructed before the following noun is perceived. Since *bèi* is more reliable than *bǎ* (cf. Li et al. 1993), Mandarin speakers, are more likely to link a visual animate referent to the yet-to-be-filled agent slot in their event representation than they are to link an animate referent to a patient slot, or an inanimate referent to theme slot.

## Figures



**Figure 1: Example stimulus, coffee = target in the bei-condition = competitor in the bǎ-condition; gangster = target in the bǎ-condition = competitor in the bei-condition**



**Figure 2: Cumulative first saccade proportions to objects corresponding to the NP perceived before the markers (the sentences' subject, squares/dotted line), the animate (circles/solid line) and inanimate referent (triangles/dot-dashed line); eye tracking data registered before 200ms after marker onset were discarded from the analyses**

## References

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