Cross-Linguistic Priming of Passive Structure in Mandarin and English
Claire Stabile, Victoria Chen, and Kamil Ud Deen
University of Hawai‘i at Manoa

The Mandarin bei construction is controversial. Some claim it is a passive, involving movement of the familiar kind (Travis, 1984; Koopman, 1984), while others claim it has a biclausal structure, with the bei being the main verb that takes an experiencer external argument and an event complement (Hashimoto, 1987; Wei, 1994; see Huang, 1999 for an overview). We investigate this issue using cross-language priming in Mandarin-English bilingual speakers and L1 English child learners of Mandarin. We show that priming occurs across the languages, indicating that the passive in English and the Mandarin bei construction share an underlying abstract structure, and thus that the Mandarin bei is indeed a true passive.

A widely-held assumption is that if a pattern can be primed then an abstract representation of that pattern exists (Bock, 1986). Several recent studies have employed priming to show that young children have abstract knowledge of the passive at early ages (Bencini & Valian, 2008; Messenger et.al., 2012). Moreover, Hartsuiker et.al. (2004) found that cross-language priming (English-Spanish) was successful, concluding that the syntax of passive is shared by English and Spanish. Thus if Mandarin bei passives can be primed by English passive sentences (or vice versa), we can conclude that the former shares abstract structure with the latter, and is therefore a genuine passive construction, on par with the English passive.

We tested participants (within-subjects design) on four conditions: English Prime–English Target (EE); Mandarin Prime–Mandarin Target (MM); English Prime–Mandarin Target (EM); and Mandarin Prime–English Target (ME), using two puppets (one English-, one Mandarin-speaking) to ensure participants responded in the desired language. Each item consisted of a prime and a target. The prime was a picture depicting a reversible transitive event (Fig.1) and the experimenter described the picture using either the active or passive voice. Participants were then asked to describe a target picture (a different reversible transitive event) to one of the puppets (who only spoke one of the target languages). The dependent measure was the rate of passives produced in response to the target picture. Item pairs (prime+target) were balanced for actional (e.g., kick, hug, etc.) and nonactional verbs (e.g., see, hate, etc.), and all items involved two animate characters. All test sentences/pictures were normed with native Mandarin speakers for naturalness. Each participant received 12 item pairs, split between active- and passive-primes.

The adult bilingual results (child L2 data collection is ongoing) reveal that while priming did not occur with all participants, it did occur with most participants, and across both languages. We can therefore conclude that the bei construction shares an underlying abstract structure with the English passive. Furthermore, the priming occurred in both the EM and ME conditions, where participants were more likely to respond (in either language) in the passive when primed with passives, as opposed to when primed by actives. However, when the target was English, the strength of this priming effect was not as great as when the target was Mandarin. Thus in the ME condition, there were fewer passives produced overall (28%) than in the EM condition (57%). These differences are accounted for by the difference in language backgrounds – speakers are more comfortable producing passives in their first language. Taken together, these results show that the bei passive in Mandarin is indeed primed by the passive in English, suggesting that they share an underlying abstract representation, and therefore that the Mandarin bei is indeed a genuine passive construction.
Figure 1. Prime (left) and Target (right) Pictures. The prime picture was presented along with a description of the picture that was Mandarin or English in the active or passive voice (2x2). Participants were then presented with the Target picture and asked to describe it, either in the same language of the prime (either EE or MM), or in the cross-language (either EM or ME). We coded the rate of passive responses in each condition.

Prime: The zebra was fed by the monkey.
Banma bei houzi wei-le.
Zebra PAS monkey feed PERF

Passive Response: The sheep was kicked by the giraffe.
Yang bei changjinglu ti-le.
Sheep PAS giraffe kick-PERF

Active Response: The giraffe kicked the sheep.
Changjinglu ti-le yang.
Giraffe kick-PERF sheep

References