

## Investigating filler-gap dependencies in Chinese topicalization

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Psycholinguistic research on English wh-questions shows that a wh-word ('filler') results in the parsing mechanism searching for an upcoming gap. Chinese has no wh-movement, but it has been argued (e.g. Shi 1992, 2000, Huang, Li & Li 2004) that Chinese topic constructions may be derived by movement and thus involve a filler-gap dependency between the topicalized noun ('filler') and its trace/gap. Gap positions are constrained: A gap in an adverbial clause (AC) results in ungrammaticality but a main clause gap is fine. Crucially, an illicit AC gap can be saved by a licit main clause gap (1a). Ting & Huang (to app) analyze such AC gaps as parasitic gaps (PG). PGs are possible with transitive verbs but cause island violations after coverbs (1a).

**Our experiment** investigates (a) whether on-line processing supports the claim that there is a PG in the AC which is connected to the topic via filler-gap dependency, and generally (b) how syntactic and semantic information constrain the structural dependencies the parser considers during processing. We conducted a self-paced reading study manipulating (i) verb type (transitive verb//coverb) and (ii) plausibility (is the topic noun a plausible object of the verb in the adverbial clause), (ex.1). Phillips (2006) found that when the parser attempts to construct a wh-dependency for a potential PG in English, *implausible verbs lead to slower reading times than plausible verbs*. **Predictions:** If real-time processing is subject to island constraints such that a filler-gap dependency is constructed between the topic noun and the hypothesized PG with transitives but not coverbs, we predict plausibility to have no effect at the verb in coverb conditions, but to cause a slowdown at the verb in the transitive-implausible condition (1b) relative to the transitive-plausible condition (1a). The **results** reveal a slowdown at the verb in transitive conditions, with implausible verbs slower than plausible verbs ( $p < .05$ ). There is no significant difference between the plausible and implausible coverb conditions at the verb.

The plausibility effect at the verb in the transitive conditions supports the view that a filler-gap dependency is being formed, and is compatible with the claim that there is a PG which is connected to the topic via filler-gap dependency. Moreover, real-time parsing of topicalization appears to be sensitive to island constraints because the reading time pattern at the verb suggests that no filler-gap dependency is constructed in the coverb conditions. As a whole, our findings support the view that parsing mechanism aims at achieving both accuracy and efficiency.

(1a) *Plausible transitive verb // Plausible coverb*

Na-ge yuan-gong, zai lao-ban {**jian-guo** \_//\***han** \_jian-guo} zhi-hou, \_ li-ke jiu bei kai-chu le.

That worker, after the boss {**met** \_// \* **met with** \_ }, \_\_ was fired immediately.

(1b) *Implausible transitive verb // Implausible coverb*

Na-jia gong-chang, zai lao-ban {**jian-guo** \_//\***han** \_ jian guo} zhi-hou, \_ li-ke bei guan-bi le.

That factory, after the boss {**met** \_// \* **met with** \_ }, \_\_ was immediately closed.