I. INTRODUCTION

Theoretically, there can be 3 kinds of filler-gap relations in Doubly embedded head-final relative clauses (RCs):

(i) Gap 1 --- Filler 1 --- Gap 2 ---- Filler 2  
(ii) Gap 1 ---- Filler 2 ---- Filler 1

We focus on these two dependencies in Mandarin relative clauses.

A controversy in Mandarin relative clause processing: IS SUBJECT OR OBJECT RELATIVE CLAUSE EASIER TO PROCESS?

* Dependency effect: Serial dependencies > Nested dependencies  
* Extraction effect: Subject extractions > Object extractions in Mandarin

Using doubly-embedded head-final relative clauses (RCs) in Mandarin Chinese, we examined the following effects in this study:

- The effect of extraction types (Are subject extractions easier than object extractions in Mandarin? NO, Hsiao & Gibson 2003)

II. METHOD

We collected self-paced reading data from 48 Mandarin speakers on 24 sets of experimental sentences. To avoid garden-path effect in reading the sentences, the data reported below were based on an experiment in which we specifically told the participants that all sentences contained RCs. Participants were also instructed the position of the RCs in the sentences (i.e. whether they modified the subjects or the objects of the main clauses).

III. RESULTS

-- Comprehension accuracies and reading times on the lower embedded relativizers and the head nouns were compared across conditions.

We focus on these two dependencies in Mandarin relative clauses.

The effect of dependency types: Serial dependencies are easier than nested dependencies. (Bever 1970, Gibson 1998)

The effect of extraction types: Subject extractions are easier than object extractions in Mandarin Chinese. (replicating and refining the results of Lin & Bever 2006, thus supporting a structure-based accessibility account; counterering the claims of Hsiao & Gibson 2003 and their locality-based account)

IV. DISCUSSION & CONCLUSION

In the processing of doubly-embedded RCs in Mandarin, our data showed that the effect of dependency type was robust. Nested filler-gap relations were constantly harder than serial filler-gap relations across the board (in both comprehension accuracy & various RT data). Regarding the extraction effect, we found that when RCs were embedded in a nested filler-gap relationship (namely, when embedded in Subject RCs--conditions (a) & (b)), the extraction effect, with Subject-extracted RCs being read faster than Object-extracted RCs, was observed. In summary, our study demonstrated the following effects:

The effect of dependency types: Serial dependencies are easier than nested dependencies. (Bever 1970, Gibson 1998)

The effect of extraction types: Subject extractions are easier than object extractions in Mandarin Chinese. (replicating and refining the results of Lin & Bever 2006, thus supporting a structure-based accessibility account; counterering the claims of Hsiao & Gibson 2003 and their locality-based account)