

A UG-Based Processing Account of Chinese-Speaking Children's Comprehension of Gapped and Resumptive Relative Clauses

In this work, I first compare the role of innate grammar and input in Chinese-speaking children's comprehension of gapped and resumptive relative clauses (RCs) and then propose a U(niversal)G(rammar)-based processing account of their comprehension patterns. On the one hand, proponents of UG argue that there is not enough data in the corpus of material available to the child to learn a language (Chomsky 1965, 1986). On the other hand, non-UG approaches to language acquisition, such as frequency-based proposals (Matthews, Lieven, Theakston & Tomasello, 2005; Kidd, Lieven & Tomasello, 2006, 2010; Kidd, Brandt, Lieven & Tomasello, 2007), argue that input contains more information than what generative linguists have traditionally assumed. Here I compare a concrete proposal for a UG-derived principle of RCs utilizing the structural distance between the head noun and the relativized position, namely the Accessibility Hierarchy (AH) based on Keenan & Comrie (1977) with a non-UG, frequency-based proposal using both an experimental study with 68 children acquiring Chinese between the ages of 2;9 and 6;10 and a preliminary corpus study of Chinese in the Penn Chinese Treebank (Xue, Xia, Chiou & Palmer, 2005).

Study 1 used a truth value judgment task to investigate whether the pattern of children acquiring Chinese RCs match the order in AH. I looked at the top three types of RCs in AH: subject gapped RCs (SR), as in (1), direct object gapped RCs (DR), as in (2), and oblique object resumptive RCs (OR), as in (3). **Results:** Children before age 6 performed significantly better on SR than DR (children between 2;9 and 4;11, $p = 0.021$; children between 5;0 and 5;11, $p < 0.001$), which matched the order in AH. However, there was no significant difference between SR and OR among them, and children between 5;0 and 5;11 performed significantly better on OR than DR ($p = 0.001$). These results showed that the pattern of children acquiring Chinese RCs did not match the order in AH, hence not fully supporting the UG-derived principle that is based on the structural distance only.

Study 2 conducted a frequency analysis of different types of Chinese RCs in the Penn Chinese Treebank to examine whether the extracted frequency information can explain the results from Study 1. **Results:** SR accounted for 71.6% of the total RCs, and DR accounted for 21.5%. There were only two OR examples. Thus, the frequency information in the corpus does not explain the results from Study 1.

Taken together, these two studies suggest that neither the structural distance of UG nor input frequency itself can explain children's comprehension patterns of RCs, especially in terms of their unexpected good performance on OR that both proposals fail to explain. I provide an alternative UG-based processing account of Chinese RC acquisition that incorporates some crucial language-specific properties. I will show in detail how these language-specific properties, including two available RC formation strategies in Chinese, and the potential negative impact on children's acquisition from relative complex constructions that involve movement (e.g., van der Lely 1998), will guide the parser in children's acquisition of Chinese RCs.

(1) Subject Gapped RC

qin-le	maomi de	xiaogou	pao-zou	le.
_i kiss-ASP	cat	REL dog	run-away	ASP

'The dog that kissed the cat ran away.'

- (2) Direct Object Gapped RC
 xiaogou qin-le _i de maomi_i pao-zou le.
 dog kiss-ASP REL cat run-away ASP
 ‘The cat that the dog kissed ran away.’
- (3) Oblique Object Resumptive RC
 qingwa dui ta_i tiaowu de yazi_i pao-zou le.
 frog to it dance REL duck run-away ASP
 ‘The duck that the frog danced for ran away.’

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