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A Preliminary Report on Reconstruction Effects among Japanese-Speaking Children

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I. Introduction

This study examines the mastery of reconstruction effects by young Japanese-speaking children. Reconstruction effects occur when a ‘displaced’ phrase in the overt syntax is interpreted in its ‘original’ position at LF. We can observe these effects for scope, pronominal binding, and all binding conditions in all types of movement constructions. Among several kinds of reconstruction effects, our discussion is restricted to the one of Condition A of the Binding Theory (Chomsky, 1981; 1986), whose example in Japanese is shown in (1).

- (1) a. Ayako-ga₁ Sanae-ni [Tomo-ga₂ zibun-no_{1/2} inu-o
tataita to] itta.
Ayako-NOM Sanae-DAT Tomo-NOM self-GEN dog-ACC
patted COMP said
- b. [Tomo-ga₂ zibun-no_{1/2} inu-o tataita to]₃ Ayako-ga₁ Sanae-ni t₃ itta.
- c. [Tomo-ga zibun-no inu-o tataita to] Ayako-ga Sanae-ni [Tomo-ga
zibun-no inu-o tataita to] itta.
‘Ayako told Sanae that Tomo had patted self’s dog.’

Since the anaphor *zibun* has properties of subject orientation and long-distance binding, both the matrix subject and the embedded subject c-command *zibun* in the canonical sentence in (1a), either of them can be its antecedent. On the other hand, (1b) is derived from (1a) by scrambling of the embedded clause to the sentence-initial position. Although *zibun* is c-commanded by the clause-mate subject, not by the matrix subject in the surface structure, the sentence in (1b) has virtually the same meaning as (1a). That is, not only the embedded subject but also the matrix subject can be the antecedent of *zibun*. Here we can also observe a reconstruction effect for Condition A. Given the copy theory of movement (e.g., Chomsky, 1993), the structure of (1b) at LF would be (1c), where the scrambled phrase leaves its copy in the pre-scrambled position.

The emergence of reconstruction effects in child grammar is worth exploring in that the relevant information is not explicitly revealed in the adult input. While some language acquisition studies have demonstrated that 3-year-old children acquiring Italian and English master reconstruction effects for Condition A (and C) (e.g., Guasti and Chierchia, 1999/2000; Leddon, 2006), few attempts have been made to show whether or not the grammar of Japanese-speaking children demonstrates similar mastery.

It has been reported in the literature that around the age of 3 Japanese-speaking children already acquire the relevant properties of the sentences as in (1b) such as *zibun* and clause-internal scrambling (Otsu, 1994; 1999). With respect to children's acquisition of reconstruction, some research (e.g., Murasugi and Kawamura, 2005) suggests reconstruction is acquired very early. Yet, methodological problems have made the research somewhat inconclusive.

Making use of scrambled sentences containing the anaphor *zibun* and its two potential antecedents as in (1b), this study will provide evidence that children manifest an early emergence of reconstruction effects.

II. Experiment

2.1. Participants

The participants were 16 Japanese-speaking monolingual children aged 3;5 (years; months) -5;2 (mean age 3;11) living in the Tokyo area.

2.2. Procedure

The task was a version of the Truth-Value Judgment Task (Crain and Thornton, 1998). The child was told several stories with animation presented on a laptop computer. At the end of the each story, a Mickey Mouse puppet report verbally what he thought had happened in the story. The child was asked to judge whether Mickey's descriptions were true or false. The sample test sentences are in (2).

- (2) a. *Canonical, no adjective*
 Butasan-wa [_{CP} Pandasan-ga zibun-no hana-o tataita to]
 omotta.
 pig-TOP panda-NOM self-GEN nose-ACC patted COMP
 thought
 'The pig thought that the panda had patted self's nose.'
 b. *Scrambled, adjective*
 [_{CP} Pandasan-ga zibun-no ookina hana-o tataita to]_i
 butasan-wa t_i
 panda-NOM self-GEN big nose-ACC patted COMP
 pig-TOP
 omotta.
 thought
 'The pig thought that the panda had patted self's big nose.'

The test sentences followed a 2X2 design that manipulated the word order of the embedded clause (canonical vs. scrambled) and the type of the embedded object NP (no adjective vs. adjective). Though all the test sentences have two potential antecedents for *zibun*, all the scenarios (except one) were constructed to make the answers true only if children assign to the anaphor the matrix subject as its antecedent. Yet, with the adults' preference for the local reading and with the non-obligatoriness of reconstruction, it would be difficult for even children who already know reconstruction to permit long-distance reading. Thus, the adjectives representing the characteristic of the embedded object such as *big* were added in the two conditions (cf. (2b)) so that the participants could utilize them as a cue to facilitate long-distance binding to local binding.

2.3. Results

Children allowed the long-distance binding in the canonical / adjective condition at a high rate (85.7% of the time; cf. 71.4% of the time in the canonical / no adjective condition). In the scrambled / no adjective condition, the rate at which the participants admitted the long-distance reading was very low (35.7% of the time). On the contrary, in the scrambled / adjective condition, children permitted long-distance binding with no difficulty at a high rate (80.9% of the time) while also allowing local reading (92.8% of the time). This finding indicates that Japanese-speaking children aged 3-4 can leave a copy of the moved phrases in their original position as adults do, suggesting mastery of reconstruction effects.

III. Discussion

Though the results of the experiment are still preliminary, they suggest that young Japanese-speaking children can correctly form anaphoric relations between an anaphor and either of its potential antecedents in the matrix and embedded clauses, even though the embedded clause is in the sentence-initial position. These findings provide evidence that Japanese-speaking children acquire knowledge of reconstruction from a very early age.

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