

Children's Understanding of Binding Principle B in ACD Constructions

Previous studies have reported that children accept local coreference of pronouns in sentences like (1) roughly 50% of the time but reject bound variable interpretations with QP antecedents in (2) (e.g. Chien and Wexler 1990). In an investigation of the interaction between Principle B and VP ellipsis in coordinate structures like (3) in which Principle B prohibits bound variable (=sloppy) interpretations of the pronoun inside the elided VP, Thornton and Wexler (1999) found that children reject the illicit readings 78% of the time. Thus, although in both (1) and (3) the pronoun is in the same clause as the name, the higher rejections in (3) can be attributed to the fact that the pronoun must be interpreted as a bound variable. Nevertheless, the fact that the pronoun in (3) is in the same clause as the name in overt syntax may have induced some of the 22% errors.

Our study with preschool children investigates another kind of VP ellipsis called Antecedent Contained Deletion (ACD). The ACD structure is shown in (4), where the second clause is connected to the first by the relative pronoun *that*. Here, unlike the coordinate structure in (3), the pronoun is in same clause as the name only in the elided VP. This allows us to concentrate on the interaction between VP ellipsis and Principle B. In the ACD structure in (4), the pronoun *her*, cannot refer to *the Mermaid*. According to Fiengo & May (1994) and Fox (1999, 2000), coreference would violate Principle B at LF, after Quantifier Raising takes place, as shown in (5). Using the Truth Value Judgment task (Crain & Thornton 1998), fifteen children (age 4;1-5;10; mean age 4;8) were tested on sentences like (4). The child subjects rejected the illicit meaning 85% of the time, despite the complexity of the situations. This finding indicates that children can interpret Principle B correctly in ACD constructions.

Notice, however, that sentence (4) also violates Principle C on the surface; the pronoun *her* binds *the Mermaid*. To ensure that the violation of Principle C on the surface is NOT responsible for children's rejection of our target sentences, we also examined sentences like (6). The only difference between sentences like (4) and those in (6) is that the NP in the relative clause is a possessive NP like *the Smurf's father*. In (6), then, the pronoun *him* CAN refer to *the Smurf*. According to Fiengo & May (1994) and Fox (1999, 2000), since (6), does not violate any Binding Principle at LF, as illustrated in (7), coreference is possible. Thus adults and children alike should accept coreference in sentences like (6). The same fifteen children participated, accepting coreference 93.3% of the time. This suggests that in ACD constructions, children, like adults, must apply the Binding Principles solely at LF, not on the surface, as proposed by Fiengo & May (1994) and Fox (1999, 2000). That is, we observe that children can "feed" and "bleed" Binding Principles.

In conclusion, by using ACD structures to test children's knowledge of Principle B, we have been able to test children's knowledge of Principle B with referential antecedents, free of confounds. The results show that once a structure is found that is not open to the kind of local coreference interpretation discussed in Heim (1998), children's knowledge of Principle B can be shown to be intact, even with referential NP antecedents. That is, the non-adult local coreference interpretations observed in the literature for simple matrix sentences like (1) (and to a lesser extent in (3)) disappear. These experimental data show children responding to VP ellipsis sentences testing the Binding Theory in the same way as adults. In our view, this is because the Binding Theory applies at LF in ACD structures like (4) and (6), and the pronoun and the name are not in a local coreference relationship in overt syntax.

- (1) Mama Bear_i washed her_i
- (2) Every Bear_i washed her_i
- (3) *Gonzo_i covered him_i with sunblock and Snuffy_j did too. (=Snuffy_j did <cover him_j>.)
- (4) *Darth Vader found her_i the same kind of treasure that the Mermaid_i did.
- (5) *[the same kind of the treasure that the Mermaid_i did <find her_i>] Darth Vader found her_i.
- (6) Kermit gave him_i the same color paint that the Smurf_i's father did.
- (7) [the same color paint that the Smurf_i's father did <give him_i>] Kermit gave him_i.

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