SUBJECT-AUXILIARY INVERSION IN CHILD ENGLISH REVISITED

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1. Introduction

Within the principles-and-parameters framework, investigations into children’s acquisition of “subject-auxiliary inversion” phenomena in English (as in Can smart eagles swim?; Chomsky 1968) have played a prominent role in providing evidence that a biologically predetermined “Universal Grammar” constrains the course of acquisition from the earliest observable stages. For example, Crain & Nakayama (1987) demonstrated that the grammar of English-speaking preschool children is structure-dependent by showing experimentally that these children rely on structural closeness (rather than linear closeness) when locating the auxiliary that moves to the sentence-initial position.

Pursuing this line of acquisition research further, within the current Minimalist framework, this study investigates whether children acquiring English produce any incorrect yes/no-questions in which the most prominent element in the subject noun phrase undergoes inversion (as in (1b)). The results of this study show that children are adult-like from the very beginning in excluding sentences like (1b), which in turn suggests that the subject originates within a vP-internal position even in the grammar of very young children.

(1) a. Can smart eagles swim?
    b. *Eagles smart can swim?

2. New Puzzle in the Subject-Aux Inversion and the Simplest Answer

Addressing the “subject-auxiliary inversion” in English within the Minimalist framework, Chomsky (2010a,b) argues that there is an issue which “we should be puzzled about but nobody has been puzzled about” in the formation of yes/no-questions: Why is the Tense element raised to the C(omplementizer)
position (as in (1a)), not the nominal element in the subject noun phrase (as in (1b))? Given the structure shown in (2a), this question can be reformulated as follows: Why is the T element *can* regarded as structurally closer to the C position than the nominal element *eagles* contained in the specifier position of T?

(2) a. [ C [DP smart eagles] [T canT swim]]
   b. [ C [TP canT [VP [DP smart eagles] swim]]]

Chomsky (2010a,b) proposes arguably the simplest answer: The subject noun phrase is not there when the relation between C and T is established. This analysis builds on the so-called predicate-internal subject hypothesis (e.g. Kitagawa 1986, Kuroda 1988, Koopman & Sportiche 1991), in which the subject originates inside the verb phrase (as in (2b)) and subsequently moves to the specifier position of T. Thus, according to Chomsky (2010a,b), the ungrammaticality of (1b) constitutes a strong argument for the assumption that thematic subjects are base-generated within the verb phrase (see also Kitahara 2011).

3. Transcript Analysis

In order to determine whether English-learning children produce incorrect *yes/no*-questions of the sort illustrated in (1b), I examined longitudinal corpora for English from the CHILDES database (MacWhinney 2000). The spontaneous speech data from three children (Adam, Eve, and Sarah; Brown 1973) have been analyzed so far, which provided a total sample of more than 94,000 lines of child speech. The CLAN program KWAL was used to identify all the potential questions (the sentences that end with “?”), which were then searched by hand and checked against the original transcripts to locate the errors that correspond to the example in (1b).

The results are summarized in Table 1. Even though children produced both (i) inverted *yes/no*-questions with a “simple” subject (the subject which consists of a single word, like “Can I eat an apple?”), and (ii) inverted *yes/no*-questions with a “complex” subject (a subject which consists of more than a single word, like “Can this pig eat an apple?”), no question with an incorrect inversion was found in which a part of the “complex” subject noun phrase was moved. Furthermore, an account in terms of the frequency of questions as in (1a) in the adult input turned out to be quite difficult to maintain, because almost all the *yes/no*-questions produced by adults were those with a “simple” subject, and hence are superficially consistent with a rule like “Move the second element of the sentence to the front”, which would yield questions as in (1b). Thus, if Chomsky’s (2010a,b) analysis is on the right track, these results suggest that the
original position of the subject is within the verb phrase even in children’s grammar, and that children’s yes/no-questions are formed through the interaction between the simplest Merge and the structural closeness (which should result from the third-factor principle of computational efficiency).

<table>
<thead>
<tr>
<th>Child</th>
<th>Correct questions with a &quot;simple&quot; subject</th>
<th>Correct questions with a &quot;complex&quot; subject</th>
<th>Incorrect questions with a &quot;complex&quot; subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam (2;03 - 4;10)</td>
<td>1345</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Eve (1;06 - 2;03)</td>
<td>34</td>
<td>0</td>
<td>0</td>
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<td>Sarah (2;03 - 5;01)</td>
<td>570</td>
<td>17</td>
<td>0</td>
</tr>
</tbody>
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References


