Subject and direct object relative clause production in child Romanian

Anca Sevcenco, Larisa Avram, Ioana Stoicescu

Abstract. The aim of the present paper is to determine whether child Romanian has a subject vs. direct object asymmetry in the production of restrictive relative clauses similar to the one attested for a variety of languages. We show that both longitudinal and experimental data indicate that Romanian has the asymmetry. We identify a language specific property related to direct object relative formation in Romanian – coreference between the head of a direct object relative and the obligatory Accusative direct object clitic within the relative – as a relevant factor that conduces to the presence of the subject/direct object relative clause asymmetry in the early grammar. The omission rate of clitics in child direct object relatives found in the data represents the main piece of evidence for this claim.

Keywords: subject relative production, object relative production, Accusative clitics, long distance dependency, Romanian

1. Introduction

Crosslinguistic research on the acquisition of headed relative clauses has identified the existence of a clear-cut asymmetry between subject relatives (SR) and direct object relatives (DOR) both in production and comprehension, to the extent that the former are more
readily produced/comprehended than the latter (Brown 1972, Arosio et al. 2009, Belletti and Contemori 2010, 2012, Rahmany et al. 2011, Costa et al. 2011, Özge et al. 2010, among many others). DORs emerge later than SRs, which are easier to produce and to comprehend.

Language specific properties, however, may play an important part. Gutierrez (2011), Gutierrez and Ezeizabarrena (2012), for example, show that in Basque DORs are easier to comprehend than SRs. On the other hand, Gutierrez and Ezeizabarrena (2012) find that even in Basque the rate of produced grammatical SRs is higher.

Recent studies on the comprehension of headed relatives by typically developing monolingual Romanian-speaking children (Sevcenco et al. 2009, Bențea 2012, Sevcenco and Avram 2012) have provided data which show that the asymmetry holds for this language as well. For production, the analysis of spontaneous speech indicates early emergence for both types of relatives (before the child turns three) with DORs being less frequently used than SRs (Sevcenco et al. 2012). The comparison of relative clause production by children and by adults, however, reveals that both groups tend to avoid DORs, the avoidance rate being higher with adults. At first sight, the low number of DORs found with both children and adults might suggest that the asymmetry cannot be accounted for in developmental terms. The phenomenon could merely reflect a possible avoidance strategy which lasts beyond early acquisition stages. On the other hand, an important finding of the analysis of longitudinal data is that the early DORs differ from the ones in the target grammar, which might indicate that the underlying cause of avoiding DORs could be different in the two groups. Therefore, a promising investigation path would be one starting from the analysis of the sentences which children produce when they avoid producing DORs. This is only possible on the basis of experimental data. However, no experimental investigation has been done on relative clause production in child Romanian so far. The current paper aims precisely at filling this gap. Our main goal is to probe into the nature of this asymmetry by identifying what its underlying cause(s) might be.
The paper is organized as follows. Section 2 offers an introductory glimpse on the structure of Romanian relatives, with focus on those properties of DORs which are directly relevant for our hypotheses and predictions, experiment design and analysis. Section 3 presents the experimental data coming from three elicited production tasks, which we compare to both longitudinal data and to relative clause production in story telling. The experiments detect the SR vs. DOR production asymmetry. One important conclusion is that, in spite of the fact that the asymmetry is, at first sight, attested both in child speech and in adult speech, the low number of DORs cannot have the same underlying cause in the two groups, given the difference in response patterns. The analysis of these patterns, in Section 4, reveals that the asymmetry has a different underlying cause with children and adults. We argue that the relevant factors that conduce to the subject vs. direct object relative clause asymmetry in child Romanian is the long distance dependency relation between the head of the relative and the obligatory Accusative direct object clitic within the object relative clause, over an intervening subject, doubled by the movement of the object clitic over this subject. This structural difference between the two types of relatives creates differences in processing complexity. The omission rate of clitics in child direct object relatives found in the data represents the main piece of evidence for this claim. The asymmetry found with adults is argued to be a side effect of the task. Section 5 presents a set of tentative conclusions.

2. Main properties of Romanian headed relatives

2.1 An optional preposition

Romanian SRs are introduced by the d-linked wh-pronoun care ‘which’, as in (1):

(1) băiatul care găsește o minge
    boy.the who finds a ball
    ‘the boy who finds a ball’
The d-linked *wh*-pronoun *care* ‘which’ also introduces DORs, but in this case it is preceded, in standard Romanian, by the preposition *pe*, which some studies analyse as a marker of Accusative case (Dobrovie-Sorin 1994). DORs always have an obligatory Accusative direct object clitic that corefers with the head of the relative, as shown in (2):

(2) băiatul pe care îl caută
    boy.the PE which clitic look.for
        3RD MASC SG 3RD MASC SG
    ‘the boy whom he is/they are looking for’

Colloquial Romanian features DORs introduced by *care* ‘which’ without the preposition *pe* (see 3):

(3) băiatul care îl caută
    boy.the that clitic look.for
        3RD MASC SG 3RD PE SG
    ‘the boy that he is/they are looking for’

Grosu (1994) convincingly argues that *care* ‘which’ in (3) is no longer a *wh*-pronoun, but a complementizer (which is why we have glossed it with *that*). In the absence of the preposition, the relative can be ambiguous between a SR and a DOR reading. This is exactly the case of the example in (3), which may be understood as (i) *the boy who is looking for him* or (ii) *the boy that he is/they are looking for*.

Two factors contribute to the presence of ambiguity. First, the *phi*-feature set on the embedded verb may be interpreted as identical (third person, singular) with the *phi*-feature set on the head of the relative (D, singular), since the verb has the same form for the 3rd person singular and plural. This entails that the head of the relative could be construed as the subject of the embedded verb, hence the SR interpretation. Second, the Accusative clitic feeds the ambiguity as well because it may have (i) a discourse antecedent, in which case the SR reading is endorsed, *the boy who is looking for him/some guy*, or (ii) the relative head as antecedent, and then the DOR reading emerges. The ambiguity disappears if the verb inside the relative has a
phi-feature set that does not match the phi-feature set on the relative head, so the latter cannot be interpreted as the subject of the relative, as in (4):

(4) băiatul care îl cauți
    boy.the that clitic_{ACC,3RD,MASC,SG} look.for_{PRES,2ND,SG}
    ‘the boy that you are looking for’

Alternatively, the presence of an overtly realized subject in pre-verbal or post-verbal position also cancels the ambiguity:

(5) băiatul care (mama) îl caută (mama)
    boy.the that (mother)clitic_{ACC,3RD,MASC,SG} look.for_{PRES,3RD,SG} (mother)
    ‘the boy that mother is looking for’

Note that in (5) there is also gender mismatch between the head of the relative, masculine in this case, and the embedded subject, which is feminine. This might help with the resolution of ambiguity as well.

The data above show that the absence of the preposition might be an important ambiguity source. On the other hand, it also shows that DORs may evince different degrees of ambiguity, depending on how many salient cues are present in the sentence.

2.2 Two derivations for DORs

The difference between pe-marked and non pe-marked DORs goes beyond +/-ambiguity. It has been argued that the derivation of the DORs introduced by the complementizer-like care ‘which’ does not involve movement of the wh-element. According to Grosu (1994), when the relative pronoun care ‘which’ is preceded by the preposition pe, the obligatory direct object clitic inside the DOR cannot relate to the antecedent of the relative over an island. The head of the DOR in (6), băiatul ‘the boy’, cannot be co-indexed with the direct object clitic, îl ‘him’, which is embedded in a complex DP island:
When the DOR is introduced by a complementizer-like *care* ‘which’, the obligatory direct object clitic inside the relative can relate to the antecedent of the relative even over an island. This is illustrated in (7), which contains a direct object clitic embedded in a complex DP island and co-indexed with the head of the relative; yet, the sentence is well-formed:

(7) Băiatul care [ți- am arătat o fată boy.the that cliticDAT 2nd SG have shown a girl [care îl i simpatizează]].
who cliticACC 3rd MASC SG likes
‘The boy that I showed you a girl that likes him.’
(Grosu 1994: 234)

A DOR like the one in (7) is analysed as having a null operator base-generated in [Spec, C], as represented in (8) below:

(8) \[
\begin{align*}
&[\text{SPEC,C } \text{OP}_i [\text{C } \text{care } [\text{TP } \text{îl } \text{ desenez e}_i]]] \\
&[\text{SPEC,C } \text{OP}_i [\text{C } \text{that } [\text{TP clitic } \text{ACC 3rd MASC SG } \text{draw } \text{e}_i]]]
\end{align*}
\]

According to Grosu (1994), the direct object clitic has the status of a resumptive pronoun which is bound by the null operator and which binds, in its turn, an empty category in the object position. This explains the grammaticality of (7): resumptive pronouns are expected to occur in islands, configurations from which movement cannot take place.

DORs introduced by a relative pronoun preceded by the preposition *pe*, on the other hand, do not have a null operator base-generated in [Spec, C] and the clitic is an A’ bound clitic (see Sevcenco 2010).
Grosu, however, offers no proposal about their derivation. Dobrovie-Sorin (1994) analyses care ‘which’ as occupying the specifier position of a NP which is the direct object of the verb and which undergoes movement to the [Spec, C] of the relative. Since the relative pronoun connector is d-linked and does not have the status of a syntactic quantifier (a quantifier that can bind a variable), the trace in direct object position must be doubled by a direct object clitic, which also binds it, as shown in (9):

\[(9) \quad [\text{Spec, C} \left[ \text{NP care băiat}_i \right] \left[ \text{C} \left[ \text{TP îl}_i \text{ desenez t}_i \right] \right]] \]
\[(\text{Spec, C} \left[ \text{NP which boy}_i \right] \left[ \text{C} \left[ \text{TP clitic}_{\text{ACC 3rd MASC SG}} \text{ draw t}_i \right] \right]] \]

This movement account explains why (6) is ungrammatical: wh-movement of the relative NP crosses the boundary of an island and becomes, therefore, illicit.

### 2.3 Predictions for acquisition

If this analysis is on the right track, it means that what Romanian children actually receive in the input\(^3\) are two types of DOR, each with a different derivational history: movement vs. no movement of the wh-element. If movement creates relatively complex structures (as often assumed, see, for example, Roberts and Roussou 2003), the difference between the two types of DORs is also one of degree of computational complexity and, in developmental terms, one might speculate that children should preferentially opt – initially – for the less complex DOR, i.e. for the one which does not involve wh-movement.

Assuming that Romanian SRs involve movement, one could further predict that, if movement is indeed the cause of delayed acquisition, non-movement DORs should emerge earlier than SRs and than DORs whose derivation involves movement. But if SRs are

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\(^3\) It is important to mention that in the spoken language, one and the same individual may use both DORs introduced by the preposition pe and DORs introduced by a complementizer, which means that the input which a child receives is always variable in this respect. What may differ is the frequency of one type of DOR or the other.
produced at a higher rate than non-movement DORs, this could indicate that the underlying difference between the two types of relative is not related to the presence/absence of wh-movement in the derivation.

The Romanian data, therefore, could contribute to our understanding of movement as a possible underlying cause of the subject vs. object asymmetry in the acquisition of relative clauses.

3. The study

3.1 Relative clause production 1

3.1.1 Aim

The goal of the first experiment was to test the availability of a subject vs. object asymmetry in relative clause production in child Romanian.

3.1.2 Participants

32 typically developing children (16 boys and 16 girls), with an age range between 5;00 and 6;11, participated in the study. They were randomly selected from two kindergartens in Bucharest\(^4\); parent and institutional approval was obtained before testing sessions. 12 adults represented the control group. They were all university students. The participant data are summarized in Table 1:

<table>
<thead>
<tr>
<th>Number of participants</th>
<th>Age range</th>
<th>Mean age (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>5;00-6;11</td>
<td>5;07 (.47)</td>
</tr>
</tbody>
</table>

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\(^4\) We thank Sorina Lupu, the principal of Kindergarten 203, Mândica Furtună, the principal of Kindergarten 1 and the teachers Adriana Georgescu and Teodora Macovei for their help. A warm thank you also goes to the children who participated in our studies.
3.1.3 Method and procedure

The first experiment was an elicited preference task (a replica of Novogrodsky and Friedmann 2006), designed within COST Action 33 and presented in detail in Friedmann et al. (in preparation). Using this allowed us to compare our own findings with the ones reported for several other languages for which the same task was used. It contained 20 test items: 10 elicited a SR and 10 elicited a DOR. The verbs in all the experimental sentences denoted both irreversible (10 sentences) and reversible actions (10 sentences). Controlling for reversibility is important because it allows us to see whether thematic role identification may play a part in the delay in the acquisition of relative clauses (see Novogrodsky and Friedmann 2006). The scenarios were designed in such a way that in 10 sentences (5 SRs and 5 DORs) the subject was changed (e.g. X does z, Y does z, which child would you rather be?) and in the other 10 sentences (5 SR and 5 DOR) the verb was changed. (e.g. X goes to.../ X invites ..., which child would you rather be?). That allowed us to control for the possible effect of information structure on the response pattern (e.g. null vs. overt subject, pre- vs. post-verbal subject). Both animate and inanimate DPs were used in the two conditions (SR and DOR) in order to control for the role of animacy.

The experimenter told the participants that she wanted to make up a list of things which children like best and asked the children to help her with this task. There was a warm-up session in which the child was given an example of a SR and one of a DOR and instructed to answer the question by beginning with I would rather be the child who ... / I would rather be the child whom ...

The participants were tested individually, in a quiet room at their kindergarten, by two experimenters. The elicitation sentences were presented in randomized order. There was no time limit. The answers were recorded on specially designed answer sheets and also audio recorded for double-checking.

We coded the responses as on-target (if the subject produced a SR when such a response was elicited and a DOR when the elicitation question requested such an answer) and non-target (if the participant
produced, for example, a SR when a DOR was actually elicited, or a non-embedded clause instead of a relative, etc.) The on-target responses were assessed for grammaticality. We identified the following categories of DOR: (i) DORs introduced by a relative pronoun preceded by the preposition pe (illustrated in 10) and (ii) DORs without pe (illustrated in 11). Remember that only the former is accepted in the standard language, whereas the latter belongs to the spoken register. Both were assessed as grammatical in our analysis.

(10) copilul pe care îl trezește ceasul
child.the PE who clitic_{ACC,3RD,MASC,SG} wakes alarm.clock.the
‘the child whom the alarm clock wakes up’

(11) copilul care îl trezește ceasul
child.the that clitic_{ACC,3RD,MASC,SG} wakes alarm.clock.the
‘the child whom the alarm clock wakes up’

DORs without pe and with an erroneous first person clitic (as in 12) or with an erroneous resumptive DP (illustrated in 13) were assessed as ungrammatical.

(12) copilul care *mă trezește ceasul
child.the that clitic_{ACC,1ST,SG} wakes alarm.clock.the
‘the child whom the clock wakes me up’

(13) copilul care pupă (*un copil) mama (*un copil)
child.the that kisses (a child) mother (a child)
‘the child whom mother kisses’

Some DORs lacked both the preposition and the clitic; the only clue that they were intended as DORs was the overtly expressed pre-verbal or post-verbal subject (as in 14). These were also analysed as ungrammatical:

(14) copilul care vizitează doamna educatoare
child.the that visits Mrs kindergarten.teacher
‘the child whom the kindergarten teacher visits’
The last category includes relatives without the preposition \textit{pe}, the required clitic or an overt subject (illustrated in 15a) which could be interpreted, at first sight, as subject relatives. We have identified this category as DORs when the children, if asked the follow-up question \textit{Who VERB?}, answered the question by naming the subject of the relative, as shown in the example in (15b), but as ambiguous in the absence of such an available cue. The ambiguous answers were discarded from the analysis.

(15) a. Child: *copilul care tunde
copilul the that cuts.
child.the that cuts.hair
‘the child that gets /gives a haircut’

Target: copilul \textit{pe care îl} tunde
child.the PE who clitic \textit{ACC 3RD MASC SG} cuts.
hair
frizerul.

‘The child whom the hairdresser is giving a haircut.’


‘Who does the hair cutting?’ ‘The hairdresser’

Such responses were analysed as ungrammatical DORs, since they lacked the obligatory Accusative clitic.

The non-target responses included (i) SRs used instead of a DOR: SRs with thematic role reversal (illustrated in 16), SRs with reflexive verbs (illustrated in 17), and SRs with a passive predicate (see 18); (ii) non-embedded clauses (illustrated in 19); (iii) sentence fragments (illustrated in 20).

(16) educatoarea care viziteaz\textae copilul
kindergarten.teacher.the that visits child.the
‘the kindergarten teacher who visits the child’

Elicited answer: copilul \textit{pe care îl} viziteaz\textae educatoarea

‘The child whom the kindergarten teacher visits.’
3.1.4 Results

We obtained a total number of 456 responses (295 SRs and 161 DORs) from the group of children. They produced SRs at a very high rate: 92.18% but DORs in only 50.13% of the cases. This shows that child Romanian has the SR/DOR asymmetry in production that has been reported for other languages.

Interestingly, though, the SR/DOR asymmetry is found with the adult control group as well (as reported for other languages, for example Italian: Belletti and Contemori 2010, European Portuguese: Costa et al. 2011). The adults who participated in the experimental study produced SRs 100% but DORs in only 23.3% of the cases, i.e. the adults seem to avoid DOR production more frequently than children. Figure 1 summarizes the comparison between the results in the elicited production task obtained by the group of children and the ones of the control group of adults.
Our experimental results also match the results reported in Sevcenco et al. (2012) on the basis of three longitudinal corpora of monolingual Romanian. Their data indicate that SRs and DORs are attested very early (in between 2;2 and 2;7); in some corpora, the emergence of the two types of relatives is concurrent. But the asymmetry between SRs and DORs is found in spontaneous speech as well. Romanian children produce more SRs than DORs in spontaneous speech (see Table 2).

In order to test to what extent the asymmetry is also found in spontaneous child directed speech, we analysed adult speech in ten recording sessions (a total of 10 hours of spontaneous speech between a family member, the child and the experimenter) in one of the corpora used in Sevcenco et al. (2012). The comparison of our results for adult speech and the results for child speech reported in Sevcenco et al. (2012) are presented in Table 2, where the production of SR and DOR is analysed against the total number of attested restrictive relatives of any type in the files investigated.
Table 2. Early child relative clauses in spontaneous speech vs. adult relatives (adapted from Sevcenco et al. 2012)

<table>
<thead>
<tr>
<th></th>
<th>B.</th>
<th>A.</th>
<th>I.</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age-range</strong></td>
<td>2;2-2;11</td>
<td>2;2-2;11</td>
<td>2;1-2;11</td>
<td></td>
</tr>
<tr>
<td><strong>Nr of 60’ files</strong></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>RRC (all types)</strong></td>
<td>22</td>
<td>37</td>
<td>42</td>
<td>35</td>
</tr>
<tr>
<td><strong>SR</strong></td>
<td>77.27% (n=17)</td>
<td>59.45% (n=22)</td>
<td>85.7% (n=36)</td>
<td>62.85% (n=22)</td>
</tr>
<tr>
<td><strong>DOR</strong></td>
<td>9.09% (n=2)</td>
<td>18.91% (n=7)</td>
<td>2.38% (n=1)</td>
<td>37.15% (n=13)</td>
</tr>
</tbody>
</table>

We also investigated the production of SRs and DORs in narratives on the basis of Buja’s (2008) frog story corpus of Romanian. The number of attested relative clauses is extremely low, with some subjects producing no SR or DOR; but even so the subject-object asymmetry is obvious. The results are summarized in Table 3:

Table 3. Relative clause production in narratives

<table>
<thead>
<tr>
<th>Age group</th>
<th>Nr. of subjects</th>
<th>Nr. of utterances</th>
<th>SR</th>
<th>DOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>3;2-3;10</td>
<td>7</td>
<td>328</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>4;2-4;9</td>
<td>10</td>
<td>482</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5;3-5;10</td>
<td>10</td>
<td>666</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>9;1-9;11</td>
<td>10</td>
<td>602</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Adults</td>
<td>10</td>
<td>842</td>
<td>40</td>
<td>11</td>
</tr>
</tbody>
</table>
Summing up, the analysis of various types of data leads to the same robust conclusion: there is a subject vs. object asymmetry in the production of relative clauses in child Romanian. The same asymmetry is found with adults. The fact that the analysis of various types of data offers identical findings shows that the asymmetry cannot be a task side effect or a side effect of discourse type. The Romanian findings are, in this respect, similar to the results reported for other languages on the basis of longitudinal data and also on the basis of the same preference task designed in the research project COST A33 (see, for example, Costa et al. 2011 for European Portuguese, Belletti and Contemori 2010, 2012 for Italian, Ezeizabarrena 2012 for Spanish, Gavarrò et al. 2012 for Catalan).

The fact that the same asymmetry has been attested in adult speech suggests, at first sight, that the underlying cause is there to last. But the results of the qualitative analysis of the data suggest that there is a difference between DOR production in child and adult speech. One important result reported in Sevcenco et al. (2012) is that in spontaneous speech, during an early stage, children produce exclusively DORs without the preposition *pe. The experimental data reported here offer a similar picture. 94.4% of the total number of DORs produced by the children lacked the preposition *pe. This indicates a strong bias in production towards DORs introduced by a complementizer. Adults, on the other hand, omit the preposition at a rate below 10%.

The omission of *pe in relative clauses has also been reported for Romanian in a bilingual context (Romanian-Hungarian) (Tomescu 2012). What is interesting in this case is that the child T. erroneously overextends the use of the preposition *pe in contexts other than relatives, possibly because of transfer from Hungarian (see 21), but he omits the same preposition in DORs (the examples are all from Tomescu 2012):

(21) a. Nu pot să urc *pe picioare acolo.
   not can subj climb PE feet there
   ‘I cannot put my feet up there’. (T. 2;2)
b. Mai pornim o dată *pe sertar.
‘We start the drawer once more.’

(22) a. Petru mă strică jocu’ (pe) care construiesc eu.
‘Petru is breaking the game which I am building.’ (T. 2;3)
b. Āla (pe) care l -ai aruncat la gunoi.
‘The one which you threw to the garbage.’ (T. 2;4)

The omission of *pe in DORs seems to be a general phenomenon in child Romanian, both in monolingual and bilingual contexts, both in spontaneous data and in experimental data.

Returning now to our experimental results, one also notices a strong preference for overt post-verbal subjects in the responses of the group of children. Null subjects come in second while the percentage of pre-verbal subjects is quite low (see Table 4).

<table>
<thead>
<tr>
<th>Pre-verbal subject</th>
<th>Post-verbal subject</th>
<th>Null subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.83% (11/161)</td>
<td>68.32% (110/161)</td>
<td>24.84% (40/161)</td>
</tr>
</tbody>
</table>

Post-verbal subjects seem to be preferred in the scenario in which there is subject change (i.e. X does z, Y does z, which child would you rather be?) (82/161). This shows that children are sensitive to discourse packaging, felicitously placing DPs which are interpreted as focus in sentence final position.

When the children failed to produce DORs, they either gave other types of responses (grammatical and semantically appropriate in the context created by the task) or they simply gave incorrect answers (e.g. SRs with role reversal). The avoidance strategies to which they resorted included production of a SR instead of a DOR with active, passive or reflexive predicates. Table 5 offers details about these avoidance strategies.
Table 5. DOR production avoidance strategies in task 1

<table>
<thead>
<tr>
<th>Type</th>
<th>Produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject relative</td>
<td>12.81% (41/320)</td>
</tr>
<tr>
<td>Subject relative with reflexive verb</td>
<td>2.5% (8/320)</td>
</tr>
<tr>
<td>Subject relative with passivized predicate</td>
<td>3.75% (12/320)</td>
</tr>
</tbody>
</table>

The erroneous DORs may contain clitic agreement errors, clitic omission and resumptive DPs, but the error rate is very low in all these cases (as can be seen in Table 6).

Table 6. Errors in DOR production in task 1

<table>
<thead>
<tr>
<th>Error type</th>
<th>Error percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clitic agreement mismatch</td>
<td>8.12% (26/320)</td>
</tr>
<tr>
<td>Accusative clitic omission</td>
<td>4.06% (13/320)</td>
</tr>
<tr>
<td>DORs with resumptive DP</td>
<td>3.12% (10/320)</td>
</tr>
</tbody>
</table>

Error analysis reveals a difference between the group of children and the control adult group. Instead of producing DORs, adults chose to passivize the predicate and to relativize from subject position in 85% of their responses, a grammatical and pragmatically felicitous alternative to the DOR in the context created by the task. Children, however, resorted to passivization at a very low rate: 3.75%. Adults obviously avoid producing DORs, but the sentences which they produce instead are grammatical. Children produce a low number of DORs but neither the DORs nor the other sentences produced instead are always grammatical. One more frequently encountered error is related to the obligatory Accusative clitic in the DOR: they use a first person clitic (as in 12 above, repeated, for convenience, in 23 below):

(23) copilul care *mă trezește ceasul child.the that clitic_{ACC 1ST SG} wakes clock.the ‘the child whom the clock wakes me up’
This error has been attested for other languages as well in studies which used the same task (see, for example, Utzeri 2007, for Italian, Ezeizabarena 2012 for Spanish), which might indicate that it is a task side effect (remember that the question in the elicitation scenario was always participant-oriented: ‘Which child would you rather be?’; hence the child coincided with the I in the response: I would rather be the child who ...). That this might be indeed a side effect of the preference task is reinforced by the lack of such errors in spontaneous speech (either in the longitudinal data or in story telling).

Another clitic related error is clitic omission (as in 24):

\[(24) \text{vreau să fiu copilul (pe) care } \ast \text{(il)}\]
\[\text{want}_{1\text{ST SG}} \text{ subj be}_{1\text{ST SG}} \text{ child.the PE who clitic }_{\text{ACC 3RD MASC SG}} \text{ draws}\]
\[\text{desenează}\]
\[\text{Target: ‘I want to be the child whom (s)he is drawing.’}\]

No clitic-related errors were found with the adult control group.

To sum up, the child participants produced a higher number of SRs than DORs. When they produced DORs, there was a strong bias towards DORs without the preposition pe. Though the asymmetry was also found with the control group, the latter rarely omitted the preposition, produced a high rate of passive SRs instead of DORs and they did not produce ungrammatical sentences. In particular, clitic agreement errors and clitic omission were found only with children.

Another important difference between the two groups is that a significant number of the responses which children gave had to be discarded from the analysis because of ambiguity. In the task, the head of the elicited DOR had a phi-feature set specification that was identical with the phi-features on the embedded verb. This made it impossible to analyse the response as a DOR or a SR if the child omitted both the preposition and the subject (as in 25), even when the clitic was produced. If the clitic was also omitted, identification was really impossible (26).
(25) care îl îmbrăţişează
    which clitic 3rd Acc MASC SG hugs
    ‘who is hugging him’
    Intended meaning: the child whom father is hugging.

(26) care desenează
    who draws
    ‘who is drawing’

This explains the relatively high percentage (14.37%) of ambiguous responses when a DOR was elicited, which we could not analyse. In a second task, we tried to construct the scenario in such a way that the phi-features of the head be different from those on the embedded verb with the aim of reducing the number of ambiguous responses.

3.2 Relative clause production 2

3.2.1 Participants

25 typically developing monolingual Romanian children, with ages between 5;00 and 6;05 took part in the study (see Table 7). They were randomly selected from a kindergarten in Bucharest; parent and institutional approval was obtained before the testing session. We also tested a control group of 12 adults.

<table>
<thead>
<tr>
<th>Group</th>
<th>Nr of participants</th>
<th>Age range</th>
<th>Mean age</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>25</td>
<td>5;00 – 6;05</td>
<td>5;04</td>
<td>.48</td>
</tr>
</tbody>
</table>

3.2.2 Materials and procedure

The second task is also an elicited production preference task similar to the previous one. The participants were asked to produce 10 SRs and 10 DORs according to the same scenario as the one described
in section 3.1. This time, in order to reduce the number of ambiguous/uninterpretable responses, the elicitation scenario was designed in such a way that the head and the subject of the elicited DOR had different gender features (see the example in 27). The experimenter presented the same ‘list with what children like best’ story but the elicitation scenario manipulated gender features. Boy participants were presented with prompt sentences for DORs that had a feminine subject; girl participants, on the other hand, received prompt sentences with a masculine subject. The elicitation question was: ‘Which girl/boy would you rather be?’ The expected answers were of the type: *I would rather be the boy whom mother sees / I would rather be the girl whom father sees*. The advantage of this design was that it allowed the identification of the relatives without *pe* and without an overt subject, but with a clitic, as DOR or SR, since the clitic, if used correctly, could only have *phi*-features different from those of the subject of the DOR.

(27) O mătuşă desenează un băiat. O mătuşă fotografiază un băiat.
Tu care băiat ai vrea să fii?
‘An aunt is drawing a boy. An aunt is photographing a boy. Which boy would you rather be?’
Target: Vreau să fiu băiatul pe care îl desenează/ fotografiază mătuşa.
‘I would rather be the boy whom the aunt is drawing/photographing.’

The coding procedure was the same as for the results to task 1.

### 3.2.3 Results

The SR vs. DOR asymmetry found in the previous experiment is confirmed by the results of the second experiment: SRs were produced in 88.4% (221/250) of the cases whereas the DOR percentage remains significantly lower: 59.2% (148/250). As can be seen, the percentage of produced DORs is higher than the one obtained in task 1, reflecting – most probably – the decrease in ambiguous responses facilitated by the new design.
The increase in DOR production is doubled by an increase in clitic omission: 22.4%, higher than in the previous task. Table 8 contains the error type percentages in task 2:

Table 8. Errors in DOR production in task 2

<table>
<thead>
<tr>
<th>Error type</th>
<th>Error percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clitic agreement error</td>
<td>4.8% (12/250)</td>
</tr>
<tr>
<td>Accusative clitic omission</td>
<td>22.4% (56/250)</td>
</tr>
<tr>
<td>DORs with resumptive DP</td>
<td>2.8% (7/250)</td>
</tr>
</tbody>
</table>

The preference for complemetizer introduced relatives was the same as in task 1: 89.86% (133/148) of the DORs lacked the preposition pe. The participants resorted to the same avoidance strategies that were noticed in task 1 (see Table 9 for details), with a slight increase in the percentages of SRs with a passivized predicate (compare Table 9 to Table 5).

Table 9. DOR production avoidance strategies in task 2

<table>
<thead>
<tr>
<th>Avoidance strategy</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject relative</td>
<td>8% (20/250)</td>
</tr>
<tr>
<td>Subject relative with reflexive verb</td>
<td>2% (5/250)</td>
</tr>
<tr>
<td>Subject relative with passive verb</td>
<td>6% (17/250)</td>
</tr>
</tbody>
</table>

Just like in task 1, the adult control group produced SR at ceiling, but avoided DORs: they only produced DORs in 45.83% of their responses, in most cases with a complementizer preceded by a preposition. They produced passive SRs instead of DORs in 25% of their responses. No erroneous sentences were produced by the control group.
3.3. Relative clause production: task 3

3.3.1 Participants

35 typically developing monolingual Romanian children (15 girls and 20 boys) participated in this task. Their age range varies between 5;03 and 6;11. The data are summarized in Table 10.

Table 10. Participants in task 3

<table>
<thead>
<tr>
<th>Number of participants</th>
<th>Age range</th>
<th>Mean age (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>5;03-6;11</td>
<td>5;06 (.48)</td>
</tr>
</tbody>
</table>

They were all from kindergartens in Bucharest and had various socio-economic backgrounds. Parents’ consent was obtained before the study.

3.3.2 Materials and procedure

The third task, similarly to preference task 2, was also meant to find a way to reduce the number of ambiguous responses. This time, the scenario was designed in such a way that the person feature of the subject of the elicited DOR differed from the person feature of the head of the relative. The children were required to produce eight DORs. Four of them had a second person subject whereas the other four had a third person subject. Examples of the various scenarios are shown below:

2nd person singular subject

(28) Eu caut un copil. / Eu găsesc un copil. ‘I’m looking for a child / I find a child.’
Tu care copil ai vrea să fii?
‘Which child would you rather be?’
Target:Aş vrea să fiu copilul pe care aux want săSUBJ be_1STSG child.the PE whom
îl cauți/găsești (tu).

cliticACC 3RD MASC SG  look.for PRES 2ND SG /find PRES 2ND SG you

‘I would rather be the child whom you are looking for/find.’

3rd person singular subject

(29)  Bunica duce un copil la grădiniță./ Bunica ia un copil de la grădiniță.

‘Grandma takes a child to kindergarten. / Grandma takes a child from kindergarten.’

Target:  Aș vrea să fiu copilul pe care aux want săSUBJ be1ST SG child.the PE whom

îl ia bunica de la grădiniță.

cliticACC 3RD MASC SG  takes grandma.the from kindergarten

‘I would rather be the child whom grandma takes from kindergarten.’

All the predicates denote semantically reversible actions. The head and the subject of the DORs are [+human] DPs.

For the analysis, we followed the coding procedure adopted in the previous two experiments. DORs introduced by a relative pronoun preceded by the preposition pe (illustrated in 30) and DORs without pe (illustrated in 31) were assessed as grammatical.

(30)  Copilul pe care îl duce bunica la child.the PE who clitic 3RD ACC MASC SG  takes grandma.the to grădiniță kindergarten

‘the child whom grandma takes to kindergarten’

(31)  copilul care îl îmbrăcați child.the that clitic ACC 3RD MASC SG  dress 2nd PL

‘the child whom you are dressing up’

DORs without pe and with an erroneous first person clitic (as in 32) or with an erroneous resumptive DP (illustrated in 33), were assessed as ungrammatical.
(32) \textit{copilul care *mă duce la teatru}  
\textit{child.the that clitic ACC 1ST SG takes to theatre}  
\textit{‘the child whom she takes to the theatre’} 

(33) \textit{copilul care ia bunica de la grădiniță *copilul}  
\textit{child.the that takes grandma.the from kindergarten child.the}  
\textit{‘the child whom grandma takes from kindergarten the child’} 

Some answers featured DORs with no \textit{pe} or clitic, but with an overt pre-verbal/post-verbal subject (as in 34); they were coded as ungrammatical:

(34) \textit{copilul care mama împinge cu sania}  
\textit{child.the that mother.the pushes with sleigh.the}  
\textit{‘the child whom mother pushes in the sleigh’} 

Finally, the last category that we found in the data is represented by DORs without \textit{pe}, clitic or overt subject. Just as we did when analysing the results obtained in task 1, we identified this category as DORs after we asked the children the follow-up question \textit{Who VERB?}, and they answered by naming the subject of the relative, as shown in the example in (35). If they failed to give this type of answer to the follow-up question, we considered their responses ambiguous (and discarded them from the analysis):

(35) Child: \textit{copilul care ia}  
\textit{child.the that takes}  
\textit{‘the child that she takes’}  
Target: \textit{copilul pe care îl ia mama ....}  
\textit{‘The child whom mother is taking...’}  
Experimenter: \textit{Cine ia? } Child: \textit{Mama.}  
\textit{‘Who’s taking?’ ‘Mother.’} 

3.3.3 Results

The production rate of DORs in the third task is also relatively low: 54.28%. As in the previous cases, the majority of produced
DORs lack the preposition *pe:* 83.95%. Overall, there is no statistically significant difference between the second person subject scenario and the third person subject scenario (Wilcoxon signed rank, \( z = -1.43, p > .05 \)). Neither is there such an effect for the younger participants, the 5-year-old group (Wilcoxon signed rank test, \( z = -0.61, p > .05 \)). However, in the 6-year-old group, we note a statistically significant difference between these two conditions, confirmed by the Wilcoxon signed-rank test \( (z = -2.67, p < .05) \). More specifically, there were more produced DORs in the second person subject condition than were in the third person subject one with 6-year-olds.

In terms of type and position of subject in the produced DORs, this experiment shows a bias towards null subjects over lexically overt ones (pre or post-verbal), as can be seen in Table 11.

Table 11. Subject use in task 3

<table>
<thead>
<tr>
<th>Subject position</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-verbal subjects</td>
<td>14.81% (24/162)</td>
</tr>
<tr>
<td>Post-verbal subjects</td>
<td>13.58% (22/162)</td>
</tr>
<tr>
<td>Null subjects</td>
<td>65.43% (106/162)</td>
</tr>
</tbody>
</table>

The error analysis reveals a relatively high percentage of clitic omission (10.71%) with no overall (Wilcoxon signed rank test, \( z = -1.26, p > .05 \)) or age group (Wilcoxon signed rank test for age group 1: \( z = -1.34, p > .05 \); Wilcoxon signed rank test for age group 2: \( z = -0.44, p > .05 \)) significant difference between omission in the second person subject condition and the third person subject one. First person clitics are also used instead of 3rd person clitics (see Table 12).

Table 12. Errors in DOR production in task 3

<table>
<thead>
<tr>
<th>Error type</th>
<th>Error percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clitic agreement error</td>
<td>15% (42/280)</td>
</tr>
<tr>
<td>Accusative clitic omission</td>
<td>10.71% (30/280)</td>
</tr>
<tr>
<td>DORs with resumptive DP</td>
<td>3.21% (9/280)</td>
</tr>
</tbody>
</table>
The avoidance strategies are the same as in the previous two experiments, the only addition being that some participants resorted to reduced relatives, illustrated in (36):

(36) copilul lăudat
child.the praised
‘the praised child’
Target answer: The child whom you praise.

Table 13. DOR avoidance strategies in task 3

<table>
<thead>
<tr>
<th>Error type</th>
<th>Error percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td>10% (28/280)</td>
</tr>
<tr>
<td>SR with reflexive predicate</td>
<td>8.21% (23/280)</td>
</tr>
<tr>
<td>SR with passive predicate</td>
<td>6.42% (18/280)</td>
</tr>
<tr>
<td>Reduced SR</td>
<td>7.85% (22/280)</td>
</tr>
</tbody>
</table>

Summing up, the responses to task 3 have the same pattern as those found in the previous two tasks. They reveal a SR/DOR asymmetry, a high percentage of DORs without the preposition pe, the same types of avoidance strategies and the same clitic-related errors.

4. Discussion

The three elicited production tasks have revealed that the SR vs. DOR asymmetry that has been reported for a wide variety of languages exists in child Romanian as well. More precisely, in our tasks SRs were produced almost at ceiling, whereas DORs production was at chance level, with the exception of the results from the second task which were slightly over chance. The same asymmetry, however, was found with the control groups.

The question is which the cause of the SR/DOR asymmetry observed in child speech and in adult speech is and whether the asymmetry has the same underlying cause with both groups. It is interesting to mention at this point that previous studies which
investigated the comprehension of SRs and DORs in Romanian revealed an asymmetry between the two types of relative clause with children, but not with adults, the latter comprehending both types of relative equally well (Sevcenco and Avram 2012). This indicates that adults allegedly behave like children only in the production task and, at first sight, there seems to exist a surprising production vs. comprehension asymmetry in their case. The underlying cause of the asymmetry with children should be the same one for both production and comprehension. The fact that we do not find the asymmetry in both comprehension and production with adults indicates that the reason for which they avoid producing DORs is probably different from the reason for which children fail to produce DORs.

In order to address the nature of the underlying cause of the asymmetry, we shall focus on the errors which children made as well as on the avoidance strategies which they opted for, in comparison with the responses which we obtained from the control group.

The analysis of response patterns reveals four obvious differences between children and adults: (i) only children omit the preposition pe in DORs at a high rate; (ii) only children have problems with the Accusative clitic in DORs: they either omit it or they use an erroneous form; (iii) only adults opt – at a high rate – for passive SRs when a DOR is elicited; (iv) only children give ungrammatical answers.

These differences suggest that the underlying cause of the SR vs. DOR production asymmetry is different with children and adults. Let us address them in turn.

With children, the SR vs. DOR asymmetry could, in principle, be triggered by the derivational complexity that comes along with movement structures. In section 2, we mentioned that the derivation of pe-marked DORs involves movement whereas the derivation of no pe-marked DORs does not. SR derivation, on the other hand, involves movement. If movement derivations per se could be considered to be computationally more costly than derivations which do not involve movement, it would follow that DORs introduced by the complementizer should pose significantly fewer problems in acquisition than both SRs and DORs introduced by the relative pronoun. However, this prediction is not borne out by the results. It is
true that, in the vast majority of DORs produced, the preposition *pe* is omitted, which might indicate that children opt for non-movement DORs. However, the low rate of DORs shows that the mere fact that DORs introduced by the complementizer are not derived by movement does not make them any easier to produce. Besides, SR production, which involves movement, is the least difficult for children. Such data show that derivational complexity cannot be measured in terms of +/-movement alone. This is not to deny that Move is a more expensive operation than Merge. But the derivational cost of Move vs. non-Move can only be measured when we compare a set of competing routes for the same derivation, i.e. with the same intended output. In our case, we can only compare the competing routes for *pe*-marked DORs and non-*pe* marked DORs. But we cannot compare the derivational cost of SRs and DORs only in terms of the availability of movement. Though the high number of non *pe*-marked DORs which children produced across tasks clearly indicates a preference for non-movement operations during the early stages, the SR vs. DOR asymmetry cannot be accounted for in terms of derivational complexity defined in terms of +/- movement alone.

It is, actually, difficult to reach a definitive conclusion with respect to the developmental route of DORs. This is because one cannot tease apart syntactic development from the effect of schooling, i.e. it is difficult to pin down one single trigger of the change from almost exclusively no *pe* DORs in the early grammar to the much higher rate of DORs with *pe* in adult speech. This is because the structure with *pe* is the one allowed in the standard language and explicitly taught, with negative evidence, as early as kindergarten. Therefore, schooling (and explicit correction) could play an important part in the change and it could also explain the difference between children and the control group with respect to the presence/absence of the preposition.

It is not irrelevant that the findings reported in this paper with respect to the use of the preposition *pe* in DORs match the results reported in previous studies which investigated the role of the preposition in the comprehension of DORs with/without *pe* (Sevcenco et al. 2012). Previously reported experimental results showed that the
preposition has no facilitating role in DOR comprehension by either children or adults.

The second important difference between children’s and adults’ DORs is related to the use of the obligatory Accusative clitic. Only children occasionally drop the clitic and only children fail to correctly match the *phi*-features of the clitic with those of its antecedent. These data suggest that the alternative to movement as a source of the SR vs. DOR asymmetry is management of the long distance dependency that is established in DOR formation between the Accusative clitic and its antecedent.

Since most of the DORs which we obtained from children (94.4%) are of the complementizer introduced type, let us consider how the derivation of a DOR without movement proceeds, starting from the example below:

(37)  copilul care îl desenează
       child.the that clitic<sub>ACC 3RD MASC SG</sub> draws
       ‘The child that (s)he is drawing’.

The head raising analysis does not apply to these DORs (see section 2). The direct object position inside the relative is occupied by a referential object, which is null, and which merges in the complement position of the lexical verb. Hence (37) has, at some point in the derivation, the representation in (38):

(38)  copilul [<sub>Spec, C</sub> [C care [pro desenează null object]]]
       child.the that pro draws null object
       ‘The child that (s)he is drawing’.

Romanian bans null referential objects; the Accusative clitic spells out the *phi*-feature set of the null object (Avram and Coene 2009) and, for referentiality reasons, it moves, across the subject, to a higher projection (possibly Uriagereka’s 1995 FP):
The d-linked relative pronoun instantiates a non-quantificational operator that can A-bar bind both the clitic and the null category in the direct object position without creating weak cross over effects:

(40) copilul care_{k} mama lui_{k} îl desenează pro_{k}
child.the that mother.the his clitic_{ACC,3RD,MASC,SG} draws pro

‘The child that his mother is drawing.’

If the relative pronoun had been a quantificational operator that moved from the direct object position and also crossed a pronominal element, weak cross over effects would have appeared.

Returning to acquisition, if the derivation we have adopted for DORs is on the right track, children have to cope with the dependency between the null category in object position, the clitic and the A-bar binder of both the clitic and the null category. At the same time coreference between the clitic and the head of the relative must also be managed. Establishing a long distance dependency seems to be vulnerable in the derivation of DORs. Moreover, movement of the clitic to a higher functional projection involves crossing the subject chain; crossing chains has been argued to introduce derivational cost (see, for example, Zesiger et al. 2010). We argue that it is this vulnerability which can account for the SR vs. DOR asymmetry in child Romanian. Across tasks, there is a relatively high percentage of clitic related errors: clitic agreement errors and clitic omission. Direct object clitic omission is attested in root clauses in the longitudinal data only up to approximately 3 years (see, for example, Coene and Avram 2012); and yet, they do so in DOR production at the age of 5. It is not irrelevant to mention that the omission rate is different across tasks. The highest omission rate (22.44%) was found in the task in which there was gender mismatch between the head of the relative and the
subject. The highest agreement error rate (15%) was found in the task where there was person and number mismatch between the head and the subject. This suggests that the feature make up of the head of the relative and that of the intervening subject might play an important role in the derivation of DOR, with gender affecting the distance dependency as well as the movement over similar phi-feature bundles differently from person and number. Regarding the intervention created by the person specification on the subject, we notice the presence of an age effect. Task 3 reveals that more DORs are produced when a second person subject intervener is present than when a third person one is, but only in the case of the older, 6-year-old group. DOR production in the younger, 5-year-old group, does not seem to be influenced by the person specification on the subject intervener.

The result about the part played by gender in production partly correlates with what has been reported for DOR comprehension in other languages. Studies on Italian have shown that both number and gender mismatch facilitates comprehension of centre-embedded DORs (Adani et al. 2010), with the former being a stronger facilitator. Sevcenco and Avram (2012) have shown that gender mismatch acts as a facilitator of comprehension of right-branching DORs only for the older children who participated in their experiment, i.e. 6-year-olds. The same response pattern emerged for the contribution of number to comprehension, i.e. only the older children had a better comprehension of DORs disambiguated by number agreement on the verb. Nevertheless, further testing is in order for Romanian to precisely determine the role that gender, person and number specifications play in relative clause production at various ages.

As already mentioned, the clitic agreement errors can be interpreted as a side effect of the task. Nevertheless, it is important to note that even though task design may have determined the use of a 1st person clitic instead of a 3rd person one, the erroneous clitic inherited the phi-features of an intervening subject (the one in the relative) which was misunderstood, in the context of the task, as being co-referential with the subject of the main clause. The agreement errors provide further evidence that it is the long distance dependency over an intervening subject (null or overt) which is the vulnerable
domain in the derivation of DORs. The fact that such errors are not found in the responses of the control group shows that it should be indeed correlated with a developmental stage.

The last difference that we noticed was that only adults used passive SRs instead of elicited DORs. We take this to be a side effect of the task. The questions that elicit DORs are compatible with answers in which the head of the DOR may be interpreted as a kind referring noun, i.e. I would rather be (the kind of) child whom mother greets. This interpretation might be favoured by the ambiguity of the present tense which can denote both an episodic state of affairs and a generic one. The responses with passive SRs represent a pragmatically viable way of answering this kind of generic question. The passive predicates are ambiguous between an adjectival and a verbal passive interpretation. Note also that the passive predicates in the answers are always in the present tense and can be interpreted as generic state predicates, which tips the balance in favor of the hypothesis that the adult controls make use of adjectival passive SRs as a way to answer the elicitation question that requires information about the kind of child the participant wants to be. An explanation along this line shows that adults, in fact, do not shun from producing DORs. This behavior in production also correlates with the fact that adults comprehend DORs at ceiling; no asymmetry in the comprehension of SRs and DORs by Romanian adults has been reported.

5. Conclusions

The present study has shown that there is a SR vs. DOR asymmetry in relative clause production in child Romanian. At first sight, the asymmetry seems to last into adulthood, since the adult control group also avoided producing DORs.

In three elicited production tasks, the rate of SRs produced by children was almost at ceiling whereas the rate of DORs significantly lagged behind. The analysis of the avoidance strategies and of the errors with children and adults revealed important differences which indicate that the underlying causes of the SR/DOR asymmetry cannot
be the same in child and in adult speech. Children prefer non-movement DORs. Nevertheless, it is not the presence/absence of movement in the derivation which can explain the SR/DOR asymmetry in child Romanian. We argued that the long-distance dependency – over an intervening (null or overt) subject – between the obligatory accusative clitic inside the DOR and its antecedent is a vulnerable domain, which introduces derivational complexity, and can account for the SR/DOR asymmetry in the early grammar. Another interesting finding was that the nature of the feature make up of the relative head, of the intervening subject and of the clitic may have different effects on derivational cost. These findings, however, require further investigation.

The SR/DOR asymmetry found in the responses of the adult control groups has been argued to be a side effect of the task.

We therefore argue that the SR/DOR asymmetry is a property of a developmental stage, which is present only in the early grammar which cannot cope with (certain types of) computationally costly derivations.

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