Null objects and early pragmatics in the acquisition of European Portuguese

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Abstract

In this paper, we argue that clitic omission in European Portuguese speaking children cannot be due to a late acquisition of pragmatics. Based on experimental data from an elicited production task and a truth-value judgement task, we show that children acquiring European Portuguese as a first language know the appropriate pragmatic conditions for producing clitics and null objects and interpret clitics and null objects in the appropriate pragmatic context. However, their knowledge of some syntactic constraints on null objects, which are grammatical only in certain contexts in the adult grammar, is not fully mastered yet. The results obtained provide additional evidence in support of the idea that some aspects of pragmatics are acquired early and that some aspects of syntactic knowledge are acquired late.

1. Introduction

Current research on syntactic development reveals that children have a very premature knowledge of many syntactic constructions. For instance, children appear to know from very early on the right setting for the directionality parameter (Nespor, Guasti and Christophe 1996), for the Null Subject Parameter (Hyams and Wexler 1993), for V-to-I movement (Pierce 1989) or for clitic placement (Guasti 1993/1994). Interestingly, most of these parameters seem to be set by the time children start combining words, since the rates of target-deviant productions are quite low. This means, as summarized in Guasti (2002), that syntactic parameter setting takes place very early, arguably during the first year of life.

Yet, children do not talk like adults. Some of their constructions are target-deviant, which must be accounted for, since they appear to master many de-
tailed aspects of linguistic knowledge. Some researchers have proposed that the different productions of children can be explained if one assumes that children’s pragmatics is qualitatively different from the pragmatic knowledge of adults. For instance, Rizzi (1994) proposed that the null subjects found in 3 and 4 year old English speaking children records are not instances of an imperfect acquisition of the syntax of null subjects in this language, but rather the surface manifestation of a lack of knowledge on where to use truncated structures. In fact, according to Rizzi, the structures at stake exist in adult English, in diary registers, but children do not know in which contexts these constructions are legitimate.

A similar explanation, based on the late acquisition of pragmatics, is advanced in Schaeffer (1997), for the fact that, at the age of 2 and 3, Italian children omit clitics and Dutch children fail to do scrambling. According to Schaeffer, at these ages children lack the relevant pragmatic information that allows them to produce clitics in a categorical way.

Another explanation for target-deviant behaviours by children based on a late mastery of pragmatic principles can be found in the literature on the acquisition of binding. Chien and Wexler (1990) and Grodzinsky and Reinhart (1993) have proposed that English 5 year old children’s problems in interpreting pronouns are not due to a late acquisition of Principle B, but rather to a late command of the discourse and pragmatic principles ruling the establishment of co-reference.

Recent studies on the acquisition of the syntax-discourse interface have argued that one cannot maintain that pragmatics is acquired late. In fact, children exhibit very good performances in certain constructions involving the mastery of pragmatic principles. One of such studies is De Cat (2002). This author studied the production of left-dislocation by children acquiring French, and showed that, since their earliest productions, children know that only topics can be left-dislocated. This implies that children have the relevant knowledge of information structure principles, and know how to map syntactic structure onto the relevant information structures. Another important study is the one by Santos (2006, 2009), who shows that children acquiring European Portuguese master the set of contexts in which VP-ellipsis is legitimate, being able to produce it adequately. If pragmatics in general was acquired late, one would expect children to hesitate or to produce target-deviant constructions in domains highly dependent on context.

The purpose of this paper is to contribute to the discussion regarding the status of the acquisition of pragmatic principles by looking at the knowledge of the null object construction by European Portuguese children. In a nutshell, we show that children acquiring European Portuguese know the null object construction, and the context in which null objects are legitimate. Since, in European Portuguese, null objects are only allowed in specific discourse en-
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Environments, this provides additional evidence for the idea that children know some pragmatic principles from early on.

The paper is structured as follows: In Section 2, a summary of the properties of null objects in European Portuguese is presented. Section 3 presents our research questions and hypotheses. In Section 4, the results of two experiments on the production and comprehension of structures with clitic pronouns and null objects are presented. Finally, Sections 5 and 6 discuss the results and conclude.

2. Null objects and pronouns in European Portuguese

As shown in Raposo (1986), in European Portuguese, null objects freely vary with pronouns in main clauses. This is illustrated in (1):

(1) a. Comprei aquele livro e dei-o à Maria.
   I bought that book and gave it to Maria
   ‘I bought that book and gave it to Maria’

b. Comprei aquele livro e dei à Maria.
   I bought that book and gave to Maria
   ‘I bought that book and gave it to Maria.’

Typically, null objects are restricted to 3rd person accusative pronouns. In 1st and 2nd person contexts, they are not legitimate:

(2) a. A: Sabes quem é aquele rapaz?
   ‘Do you know who that boy is?’
   you.know who is that boy

   B: Sei. Conheço(-o) da faculdade.
   ‘Yes. I know him from college.’
   I.know. I.remember-(him) from college

b. A: Sabes quem eu sou?
   ‘Do you know who I am?’
   you.know who I am

   B: Sei. Conheço*(-te) da faculdade.
   ‘Yes. I know you from college.’
   I.know. I.remember-(you) from college

As the contrast between (2a) and (2b) illustrates, the 3rd person pronoun freely varies with a null form, whereas the 2nd person pronoun is obligatorily present – there is no null variant for it. The same is true for 1st person pronouns.

Raposo (1986) shows that null objects have a restricted distribution: they are ruled out in strong island contexts, as in (3):
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(3)  
A:  Sabes quem é aquele rapaz?  
you.know who is that boy  
‘Do you know who that boy is?’

B:  AM a r i a ficou a chorar porque *(o) reconheceu.  
the-Maria became to cry because him recognized  
‘Maria is crying because she recognized him.’

Because of this behaviour, Raposo argues that null objects are variables bound by topic antecedents. The topic nature of the antecedent is crucial for the point to be made in this paper. In fact, for a null object to be legitimate, it must have a discourse salient antecedent.1 Otherwise, it is illegitimate. This is illustrated in the following pair of examples:

(4)  
A.  E o teu carro?  
and the your car  
‘What about your car?’

B.  Tive de levar para a oficina.  
I.had to take to the garage  
‘I had to take it to the garage.’

(5)  
A.  Estás com ar chateado.  
you.are with look annoyed  
‘You look annoyed.’

B.  #Tive de levar para a oficina.  
I.had to take to the garage  
‘I had to take it to the garage.’

The fragment of discourse in (5) is not felicitous, because there is no discourse topic that can function as a legitimate antecedent for the null object contained in (5B).

Taking into account this short description, we can conclude that using a null object involves dealing with at least the following information:

a. Knowing that null objects are available in the language – a parametric option not available for all languages;
b. Knowing what type of empty category a null object is – according to Raposo (1986), a variable;
c. Knowing the distribution of null objects – restricted to 3rd person environments and ungrammatical in null island contexts;
d. Knowing the information structure environments in which null objects are allowed – they can only be used in the presence of a discourse topic serving as an antecedent.

1. In European Portuguese, unlike Brazilian Portuguese, there are no animacy restrictions on null objects (Bianchi and Figueiredo Silva 1994, Costa and Duarte 2003).
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3. Research questions

Given the properties of null objects discussed above, children’s production and comprehension of this construction may provide a good testing ground, in order to assess their mastery of pragmatic information. Costa and Lobo (2006, 2007) found that children aged between 3 and 6 acquiring European Portuguese produce a very high rate of null objects, which is different from what was found in other languages (see, e.g., the report for Spanish in Wexler, Gavarró and Torrens 2004). Even in languages in which children are known to omit clitic pronouns, the reported omission rates are lower than those found for European Portuguese. For instance, Wexler, Gavarró and Torrens (2004) report an omission rate of around 40% for 3 year olds in Catalan, while Costa and Lobo found omission rates of around 75% for the same age, using the same experimental protocol. This asymmetry in results can be explained if European Portuguese children use null objects – a parametric option available in their grammars.

We discussed above that producing a construction with a null object involves mastering the pragmatics involved in this construction; in particular, knowing that a null object is only legitimate when there is a salient discourse topic serving as a proper antecedent. For this reason, children’s use of null objects provides a good testing ground for assessing whether their pragmatics is delayed or not.

Our research questions and hypotheses are, therefore, the following:

(a) Are null objects used in legitimate contexts from a pragmatic point of view?

*Hypothesis 1*: If children master the pragmatics of null objects, they use them as an alternative to pronouns, like adults do.

As shown above, clitics and null objects are in free variation in many contexts (in particular, in 3rd person environment in root clauses). From a strictly pragmatic point of view, they are free variants. If children know when to use null objects, constructions with null objects will emerge in the same context in which clitics are expected to appear.

*Hypothesis 2*: If children master the pragmatics of null objects, their difficulties with this construction will not be related to their information structure status.

As shown above, there are several aspects involved in the mastery of the null object construction – setting a parametric option, knowing the type of empty category involved, selecting the syntactic domain in which it is ruled in, etc. If the pragmatics involved in null object constructions is properly acquired, we expect children’s difficulties with this construction to stem from purely syntac-
tic effects. In other words, we do not expect to find children who do not know in which discourse setting to use a null object. That is, we do not expect to find children that use null objects in variation with categories other than pronouns. On the contrary, if children’s difficulties are pragmatic, we expect them to use null objects, pronouns or DPs arbitrarily.

(b) Are the structures containing null objects comprehended properly?

\textit{Hypothesis 3:} If children master the pragmatic knowledge required to comprehend structures involving null objects, they are able to assign a transitive interpretation to verbs without a complement, as long as there is a discourse topic serving as a legitimate antecedent for the empty category.

According to this hypothesis, having the pragmatics to know null objects implies recognizing their acceptability in the contexts in which null objects are legitimate, and being unable to interpret them in the absence of a legitimate discourse antecedent. If the pragmatic knowledge is acquired late, random behaviours are expected in the comprehension of structures with null objects. That is, if a child’s grammar has null objects, but their pragmatics is not mature, one expects that they fail to accommodate their presuppositions in order to look for legitimate antecedents, and that they display an arbitrary behaviour interpreting null objects as absent, that is, assigning intransitive interpretations to transitive verbs.

In the next section, we present two experiments in which we test these three hypotheses.

4. Experiments on the production and comprehension of structures with null objects

The following experiments were originally designed to assess the production and comprehension of clitic pronouns, and were partly used in Costa and Lobo (2006, 2007), and Silva (2008). They all have in common the fact that a context is provided in which a discourse topic becomes salient enough for the production of a clitic or of a null object to be pragmatically felicitous.

4.1. Experiment 1: Elicitation of clitics and null objects

\textit{Methodology and participants: } Experiment 1 used an elicitation methodology modelled after Schaeffer (1997). In this task, children heard a small story involving two characters, in which one of them was made highly accessible. The story was simultaneously acted out with props. A puppet uttered a sentence
about one of the characters, and the child’s task was to correct the puppet. The puppet’s mistake was on the verb, which made the child change the verb in the response, maintaining the subject and the object, which, normally, given their accessibility would be replaced by pronouns or null forms.

An example of the elicitation procedure is given in (6):

(6) Experimenter:
   O Pooh hoje vai a uma festa. Olha! O cabelo do Pooh está um desastre.
   O Tigre tem um pente. Olha o que o Tigre fez ao Pooh.
   ‘Pooh goes to a party today. Look! Pooh’s hair is a disaster. Tiger has a comb. Look what Tiger did to Pooh.’

Puppet:
   Eu sei! O Tigre lavou o Pooh!
   ‘I know! Tiger washed Pooh!’

Experimenter:
   Não foi nada! Diz ao fantoche o que o Tigre fez ao Pooh!
   ‘No, it wasn’t! Tell the puppet what Tiger did to Pooh’

Expected answer:
   penteou-(o)
   combed-(him)
   ‘He combed him.’

Given this procedure, several outcomes are possible. If children do not know that European Portuguese allows null objects, they do produce the clitic all the time. If they do know it, they may produce the verb without a complement. If they do not know the pragmatics involved in the null object construction, they may fail to use it in the appropriate context, and we may see a high percentage of DP responses.

In Table 1, we present the data from the participants. As can be seen, 63 children aged between 3 and 6, from the area of Lisbon, with no diagnosed language or cognitive problems, participated in the experiment.

All children were tested individually in a quiet room in their kindergarten. Children’s data were recorded and transcribed during the testing, and after the test. No time limit was imposed during testing, and no response-contingent feedback was given by the experimenter, only general encouragement. The children were rewarded after the completion of the task.

Results. In what follows, we report the production of accusative clitics in proclitic and enclitic environments. The presentation of the results is separated
Table 1. Participants information

<table>
<thead>
<tr>
<th>Age</th>
<th>Mean</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>[3,0; 3,5]</td>
<td>3,25</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>[3,5; 4,0]</td>
<td>3,75</td>
<td>8</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>[4,0; 4,5]</td>
<td>4,25</td>
<td>12</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>[4,5; 5,0]</td>
<td>4,75</td>
<td>4</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>[5,0; 5,5]</td>
<td>5,25</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>[5,5; 6,0]</td>
<td>5,75</td>
<td>4</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>27</td>
<td>63</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Global results for the production of accusative clitics

<table>
<thead>
<tr>
<th>Age</th>
<th>Clitic</th>
<th>Null</th>
<th>DP</th>
<th>Strong pronoun</th>
</tr>
</thead>
<tbody>
<tr>
<td>n%</td>
<td>n%</td>
<td>n%</td>
<td>n%</td>
<td>n%</td>
</tr>
<tr>
<td>3;0–3;6</td>
<td>26/192</td>
<td>13,6</td>
<td>122/192</td>
<td>63,5</td>
</tr>
<tr>
<td>3;6–4;0</td>
<td>141/528</td>
<td>26,7</td>
<td>290/528</td>
<td>54,9</td>
</tr>
<tr>
<td>4;0–4;6</td>
<td>362/816</td>
<td>44,4</td>
<td>316/816</td>
<td>38,7</td>
</tr>
<tr>
<td>4;6–5;0</td>
<td>262/528</td>
<td>49,6</td>
<td>186/528</td>
<td>35,2</td>
</tr>
<tr>
<td>5;0–5;6</td>
<td>263/432</td>
<td>60,9</td>
<td>97/432</td>
<td>22,4</td>
</tr>
<tr>
<td>5;6–6;0</td>
<td>350/528</td>
<td>66,3</td>
<td>85/528</td>
<td>16,1</td>
</tr>
</tbody>
</table>

by age groups, so that the evolution (or the lack thereof) becomes evident. Table 2 present the overall numbers for the production of clitics, null objects, DPs and strong pronouns. In this table, all conditions (enclisis, proclisis and island environments – in which null objects are ruled out) are collapsed.

These results show a progressive increase in the production of clitics, but, crucially for the purposes of this paper, they show that null objects are available from very early on. As argued in Costa and Lobo (2006), the fact that these null forms are available after the age of 4;6, and the sensitivity to the syntactic contexts in which they can be produced (reflected in the lower rates for 1st, 2nd person and in islands, as we will show below) is an argument in favour of the idea that it is a target-like null object and not clitic omission in the sense of Wexler et al. (2004). Since these data collapse all conditions, it is important to observe that, when we isolate the conditions in which null objects are legitimate

3. Strong pronouns are ungrammatical in 3rd person environments in the adult grammar. As shown in the tables, in 3rd person contexts, strong pronouns are almost absent from children’s productions. Still, they appeared in 1st and 2nd person contexts, and in some 3rd person productions. For this reason, they are reported in the tables.
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Table 3. Global results for the elicitation task in 3rd person contexts for all age groups

<table>
<thead>
<tr>
<th></th>
<th>3rd person singular</th>
<th>3rd person plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3rd person singular</td>
<td>3rd person plural</td>
</tr>
<tr>
<td></td>
<td>feminine</td>
<td>masculine</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Clitic</td>
<td>68/254</td>
<td>26.7</td>
</tr>
<tr>
<td>Null</td>
<td>161/254</td>
<td>63.3</td>
</tr>
<tr>
<td>DP</td>
<td>19/254</td>
<td>7.4</td>
</tr>
<tr>
<td>Strong pronoun</td>
<td>1/254</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Table 4. Total results for the elicitation task in 3rd person contexts for all age groups

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clitic</td>
<td>266/1016</td>
<td>26.1</td>
</tr>
<tr>
<td>Null</td>
<td>657/1016</td>
<td>64.6</td>
</tr>
<tr>
<td>DP</td>
<td>81/1016</td>
<td>7.9</td>
</tr>
<tr>
<td>Strong pronoun</td>
<td>3/1016</td>
<td>0.2</td>
</tr>
</tbody>
</table>

and more frequent – 3rd person singular environments in declarative contexts, the numbers for null objects increase, and the number of clitics decreases. This has been shown in Costa et al. (2008), and is summarized in the following tables, in which all age groups are collapsed.

Let us first consider the results for 3rd person contexts (Table 3). As shown above, children’s performance reveals that children use clitics and null objects adequately given the pragmatic setting. From an information structure point of view, the most inadequate responses would be DPs or strong pronouns. DPs are not felicitous responses, since the DP would be used to introduce a new referent, and not a salient given antecedent. Strong pronouns are used in focal contexts or to shift reference, and not in topic contexts, as in the one created in the experimental design. The data show that children do not hesitate in the choice of the form that is pragmatically adequate.

This point is reinforced when we consider the results for 1st and 2nd person contexts summarized in Tables 5 and 6. Recall that this is a context in which the adult grammar rules out null objects:

Here, we see that the rate of clitics increases when compared to 3rd person, and the rate of null object decreases. Again, children are choosing the right form both in syntactic and in pragmatic terms. By itself, 1st and 2nd person environments do not distinguish a pragmatic from a syntactic approach to clitic drop. However, even in this context DP responses – the most infelicitous answer from a pragmatic point of view – are not found. Note that DP responses
Table 5. Global results for the elicitation task in 1st and 2nd person contexts for all age groups

<table>
<thead>
<tr>
<th></th>
<th>1st person singular</th>
<th>2nd person singular</th>
<th>1st person plural</th>
<th>2nd person plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Clitic</td>
<td>212/252</td>
<td>84,1</td>
<td>198/252</td>
<td>78,5</td>
</tr>
<tr>
<td>Null</td>
<td>18/252</td>
<td>7,1</td>
<td>29/252</td>
<td>11,5</td>
</tr>
<tr>
<td>DP</td>
<td>0/252</td>
<td>0</td>
<td>0/252</td>
<td>0</td>
</tr>
<tr>
<td>Strong pronoun</td>
<td>11/252</td>
<td>4,3</td>
<td>24/252</td>
<td>9,5</td>
</tr>
</tbody>
</table>

Table 6. Total results for the elicitation task in 1st and 2nd person contexts for all age groups

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clitic</td>
<td>698/1008</td>
<td>69,2</td>
</tr>
<tr>
<td>Null</td>
<td>189/1008</td>
<td>18,7</td>
</tr>
<tr>
<td>DP</td>
<td>0/1008</td>
<td>0</td>
</tr>
<tr>
<td>Strong pronoun</td>
<td>111/1008</td>
<td>11</td>
</tr>
</tbody>
</table>

were absent even in self-reference, which indicates that the children tested indeed mastered the use of DPs vs. clitics in the task.4

4.2. Experiment 2: Comprehension of null object

Methodology and participants. Experiment 2 aimed at assessing whether children acquiring European Portuguese comprehend structures involving null objects. The rationale for this experiment is the following: if children master the pragmatics for null objects, they will be able to retrieve the antecedent for a null object from the discourse. We used a truth-value judgment task (Costa and Lobo 2009), modelled after Grüter (2006). The test adapted to Portuguese the design and experiment carried out by Grüter (2006) for French and English. As in Grüter (2006), the experiment consisted of a truth value judgement task of a sentence uttered by a puppet about a sequence of images presented to the child.

The truth value judgement task (cf. Crain and Thornton 1998) allows us to determine which interpretations the child can – or cannot – assign to a given sentence and to inquire whether the child differs from the adult in allowing a larger or a smaller number of interpretations or different interpretations. A

4. When we look at the total results, strong pronouns have a high rate of production. However, as noted in Silva (2008) this is mainly due to the plural conditions, which must be explained independently.
potentially ambiguous sentence is presented to the child in a context making one of the interpretations true or false. After the presentation of an image, the child is asked to judge whether a sentence uttered by a puppet is true or false.

In the test items, the following transitive/intransitive alternation verbs were used in the past tense: mergulhar ‘dive’ (x mergulha or x mergulha y), adormecer ‘fall asleep’/’put to sleep’ (x adormece or x adormece y), acordar ‘wake up’ (x acorda or x acorda y), baloiçar ‘swing’ (x baloiça ou x baloiça y). As shown in the following examples, both uses are possible for all these verbs:

(7)  a. O Rui mergulhou.
    the Rui dove
    ‘Rui dove.’

   b. O Rui mergulhou o cão na piscina.
    the Rui dove the dog in-the pool
    ‘Rui put his dog in the pool’

(8)  a. O Rui adormeceu.
    the Rui fell-asleep
    ‘Rui fell asleep.’

   b. O Rui adormeceu o bebé.
    the Rui fell-asleep the baby
    ‘Rui put the baby to sleep.’

(9)  a. O Rui acordou.
    the Rui woke-up
    ‘Rui woke up’

   b. O Rui acordou o bebé.
    the Rui woke-up the baby
    ‘Rui woke up the baby.’

(10) a. O Rui baloiçou na cadeira.
    the Rui swang in-the chair
    ‘Rui swang in the chair.’

   b. O Rui baloiçou o bebé na cadeira.
    the Rui rocked the baby in-the chair
    ‘Rui rocked the baby in the chair.’

The test was preceded by a familiarization period with the task, with the puppet, with the images and with the verbs used in both variants (transitive and intransitive). In the period of adaptation to the experimental setup, the images were presented to the child and the four verbs were used in the transitive and in the intransitive constructions in order to ensure that the verbs, in their different constructions, were known to the child, and in order to make the interpretation of the drawings easier.

The following conditions were tested:
(a) intransitive structures in simple clauses (True), 4 items [CI]
Example:

    O Rui acordou.
    ‘Rui woke up.’

(b) intransitive structures in islands (True), 2 items [CII]
Example:

    O cão ladrou quando o Rui acordou.
    ‘The dog barked when Rui woke up.’

(c) object clitics in simple clauses and in islands (True), 4 items [CT]
Example:

    O Rui acordou-o.
    ‘Rui woke him up.’

(d) null object in simple clauses (True), 4 items [CON]
Example:

    O Rui acordou Ø
    ‘Rui woke Ø up’

(e) null object in islands (False), 4 items [CION]
Example:

    (11) *O cão ladrou quando o Rui acordou Ø
    ‘The dog barked when Rui woke Ø up’

(f) superfluous DPs in simple clauses (False), 4 items [COS]
Example:

    O Rui acordou a Marta.
    ‘Rui woke up Marta.’

(g) superfluous DPs in islands (False), 2 items [CIOS]
Example:

    O cão ladrou quando o Rui acordou a Marta
    ‘The dog barked when Rui woke up Marta’

(h) superfluous clitics in simple clauses (False), 4 items [CLS]
Example:

    O Rui acordou-o
    ‘Rui woke him up’
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(i) superfluous clitics in islands (False), 2 items [CILS]

Example:

O cão ladrou quando o Rui o acordou
'The dog barked when Rui woke him up'

The test had a total of 30 items and two fillers. The order of presentation of the items was randomized, in order to avoid the same image to appear twice in a sequence. The task took 20–30 minutes for each child.

The null object in simple clauses condition [CON] aims at inquiring whether the child’s grammar contains the null object structure. If so, the child will be able to assign a transitive interpretation to a verb without an overt complement. If not, the child will interpret the verb as intransitive.

A few comments are necessary in order to understand how the test was presented. A first image was presented in which two characters were involved, e.g., a boy and a sleeping girl. The experimenter said “Let’s see what the boy did to the girl”. In the next image, flipping the drawing, one could see an image of the boy waking up the girl, and the puppet would say: “Look! He woke her up”. Literally, he would say: “Look! Woke up”, with a null subject and a null object. While piloting the test, we realized that the eliciting sentence was crucial for obtaining answers compatible with the adult grammar, namely for obtaining a transitive reading for null objects. Therefore, a neutral lead-in sentence, like “let’s see what happened”, even with previously mentioned referents, did not provide an adequate context for eliciting a null object. On the contrary, a sentence with the structure “let’s see what x did to y” is more adequate. However, since this type of sentence might condition a transitive interpretation, we introduced the expression “Look!” (functioning as a surprise interjection) at the beginning of each sentence, which neutralized the preference for an interpretation, and made the transitive and the intransitive (in which nobody did anything to anyone) readings equally accessible. The introduction of this expression made sure that something different from what was expected from the lead-in sentence might have happened. This was relevant both for adults and children, which shows that the pragmatic context was the same for both groups. The relevance and adequacy of the introduction of this expression becomes relevant, for example, in the intransitive condition. In order to make sure that a potential transitive reading might emerge, it was necessary to create a scenario in which there was an expectation that X did something to Y. However, in the picture shown, nothing happened to Y. At first sight, the lead-in would be infelicitous. But the insertion of this expression ensures that other alternatives are also felicitous. With this methodology, we made sure that

5. For examples of the images used in the test, we refer the reader to Costa and Lobo (2009).
both interpretations had the same status in terms of felicity and that there was
the same lead-in for all conditions. Controlling for these aspects is crucial for
the goals of this paper, since we want to check whether children and adults
are sensitive to the same pragmatic effects. If their pragmatics is the same, the
felicity conditions for accepting a certain reading for a sentence should be the
same. If, on the contrary, children’s pragmatics is still immature, we expect
them to diverge from adults in the comprehension of these structures because
of pragmatic factors.

The condition [CION], null object in islands, allows us to assess whether
the child’s grammar rejects null objects in islands, as the adult grammar does.
If the knowledge of children is the same as the knowledge of adults, children
will reckon that null objects are ruled out in islands, assigning an intransitive
interpretation to the verbs in this context. If their grammar differs, children may
interpret verbs as transitive in this context.

The conditions [CI] and [CII], intransitive structures in simple clauses and in
islands, and the conditions [COS] and [CIOS], superfluous arguments in simple
clauses in islands, allows us to control whether the child masters transitivity
and whether s/he masters both the transitive and the intransitive reading for
each verb used in the task. This was needed not to check the acquisition of
transitivity, but rather as a control condition for the proper mastery of the two
variants of the verbs used in the experiment.

The condition [CT], object clitics in simple sentences and in islands, and
the conditions [CLS] and [CILS], superfluous clitics in simple sentences and
in islands, allow us to assess whether the child’s grammar includes knowledge
about clitics. If so, the child will assign a transitive interpretation to test sen-
tences with clitics, accepting transitive contexts and rejecting sentences con-
taining clitics in intransitive contexts.

20 children aged between 3;2 and 5;10 (average age 4;4) participated in
the test. All children are monolingual speakers of European Portuguese, from
the kindergarten Centro Social da Quinta do Anjo, in the metropolitan area of
Lisbon. 6 adults with university degrees were used as a control group (the test
was run in exactly the same conditions). All children were tested individually in
a quiet room. Children’s responses were registered by a second experimenter.
Whenever the child wanted, the puppet repeated the sentence. Children were
rewarded with a candy at the end of the test.

Results. The following results were obtained for the control group. The per-
centages indicate the correct answers, as predicted by the characteristics of the
adult grammar:
(a) [CI] intransitives: 100%
(b) [CII] intransitives in islands: 100%
Null objects and early pragmatics

Figure 1. Results for the control group

(c) [CT] transitives: 100 %
(d) [CON] null objects: 92 %
(e) [CION] null objects in islands: 92 %
(f) [COS] superfluous DPs: 100 %
(g) [CIOS] superfluous DPs in islands: 100 %
(h) [CLS] superfluous clitics: 100 %
(i) [CILS] superfluous clitics in islands: 100 %

The control group displayed the expected results (approximately 100 % rates in almost all conditions). Only in the null object conditions (both in islands and in simple clauses) were the results slightly lower, but still at a rate of 90 %.6

As for the children, the following performances emerged:
(a) [CI] intransitives: 93,4 %
(b) [CII] intransitives in islands: 89,7 %
(c) [CT] transitives: 97,4 %
(d) [CON] null objects: 80 %
(e) [CION] null objects in islands: 30 %
(f) [COS] superfluous DPs: 96,2 %
(g) [CIOS] superfluous DPs in islands: 90 %
(h) [CLS] superfluous clitics: 92,5 %
(i) [CILS] superfluous clitics in islands: 84,6 %

6. This variation is not surprising, since it is known that there are differences between Portuguese speakers in the acceptance of null objects. An anonymous reviewer suggests, on the basis of this result, that ruling out null objects in islands might be an effect of literacy. However, the production data reported in Silva (2008) show that children in pre-school exhibit an increase in the production of clitics in islands, and there is no evidence that there is an explicit teaching regarding the production of pronouns instead of null complements. In this sense, the choice between a clitic and null object is not just stylistic, contrary to what is proposed in Kato and Raposo (2001). If the matter was purely stylistic, one would expect equal acceptance of the null and the overt counterpart of the pronoun.
Children had results very similar to the adults’ performance (above 80%) in all conditions, except for the condition testing null objects in islands (condition e) [CION], in which children assigned a transitive interpretation to the verb without a complement, unlike adults.

In general, there were no significant individual differences between children and no developmental effect was found, which is reflected in very significant group tendencies and in similar responses for all children independently of age. For this reason, we are not presenting the individual data. Crucially, there was no child who would accept null objects in islands, ruling them out in the other conditions.

These results are important, since they show that, in comprehension, pretty much like in production, children display a very good performance on transitivity, on pronouns, and – crucially for the purposes of this paper – on null objects. Note that children performed very well on the intransitive condition, which proves that they were sensitive to the introduction of the interjection “Look!”, which created the right pragmatics for the experiment. If they had troubles in retrieving discourse antecedents, we would expect them to fail in interpreting a verb without a complement as transitive. Importantly, the only condition in which their behaviour differs from that of adults is in the island condition, in which they accept null objects in a target-deviant manner. Interestingly, this cannot be attributed to a failure in pragmatics, since they are retrieving a discourse antecedent. The only problem is not knowing which is the syntactic domain in which the null object is not allowed. In other words, their only failure may be attributed to a syntactic problem and not to a problem in pragmatics.
5. Discussion

The results of the two experiments presented in the previous section reveal that children produce null objects and comprehend them almost in a target-like manner. The deviances with respect to adults are not very significant, but are quite easy to understand. On the production side, children overuse null objects in 1st and 2nd person contexts, unlike adults. On the comprehension side, children accept null objects in islands, contrary to adults.

In Section 2, we listed the major aspects to be known in order to master the use of null objects in European Portuguese. Recall those aspects repeated below:

(a) Knowing that null objects are available in the language – a parametric option not available for all languages;
(b) Knowing what type of empty category a null object is – according to Raposo (1986), a variable;
(c) Knowing the distribution of null objects – restricted to 3rd person environments and illegal in null island contexts;
(d) Knowing the information structure environments in which null objects are allowed – they can only be used in the presence of a discourse topic serving as an antecedent.

Clearly, Portuguese children do know that null objects are an option available in the language, since they use it at very high rates. It is not clear, though, that at the ages we tested, properties (b) and (c) are stable. Although we find a clear preference for using null objects in 3rd person environments, there are still some uses of null objects in 1st and 2nd person contexts. Likewise, the comprehension data reveal that the children under test do not yet know that null objects are illegitimate in strong island contexts. Therefore, we may conclude that, although the parameter is set and children have learned that null objects are a legitimate option in their grammar, they do not yet know the domains in which this construction is to be applied or restricted. This is a syntactic problem, which may be explained if there is oscillation in selecting the right type of empty category that is involved in the null object construction – that is, if property (b) is not steady yet. Children who fail to treat null objects as variables, and treat them as pro, may analyze them as regular null pronouns, akin to null subjects. As such, they are not restricted to 3rd person and not ruled out in island contexts.7 If this analysis is on the right track, what children have to

7. The alternation between pro and variable has been used in the literature to explain the different properties of null objects in Brazilian and European Portuguese. The lack of sensitivity to null islands in the former, but not in the latter, has been attributed to the pronominal status of the null object in the Brazilian variant.
do is to figure out what type of empty category is involved in this particular construction.

Let us now consider the aspect listed under d), which is the crucial one for the purposes of this paper. It is evident by now that the children under test know the information structure properties associated with the null object construction. Firstly, they use null objects in the adequate context, that is, in the presence of a discourse topic. Moreover, they do not randomly substitute null objects (or their legitimate alternative clitic pronouns) for pragmatically infelicitous DPs or strong pronouns. They only use null objects in the right context, and in a target-like manner.

On the comprehension side, the experimental results revealed that children behaved exactly like adults. First, they comprehended all sentences correctly, which shows that there was no need to adapt the information structure setting in order to ensure that children would comprehend the sentences any better. Second, like adults, they were sensitive to the introduction of expressions ensuring the felicity of the lead-in sentences, which shows that their pragmatics is not qualitatively different from the adult one. Finally, there was no oscillation in children’s performance between transitive and intransitive interpretations for the verbs without a complement when a null object reading was intended. This is a very important fact, since it shows that children had no problem in retrieving a discourse topic serving as an antecedent for the null object.

Altogether, these facts provide confirmation for the three hypotheses raised in Section 3. Let us recall them:

**Hypothesis 1:** If children master the pragmatics of null objects, they use them as an alternative to pronouns, like adults do.

The data from production provided full confirmation to this hypothesis. Children use null objects in free variation with pronouns, just like adults do. This is extremely clear in 3rd person environments, in which there is a very fair distribution between clitics and null objects.

**Hypothesis 2:** If children master the pragmatics of null objects, their difficulties with this construction will not have to do with their information structure status.

As discussed above, the difficulties with null objects – or, more specifically, the cases in which null object constructions are not produced in accordance to the target – can be explained syntactically, and not in terms of discourse or pragmatic problems. Children appear not to know the syntactic domains constraining the use of this construction, arguably because they have not yet figured out which empty category is involved (pro or a variable).
Hypothesis 3: If children master the pragmatic knowledge required to comprehend structures involving null objects, they are able to assign a transitive interpretation to verbs without a complement, as long as there is a discourse topic serving as a legitimate antecedent for the empty category.

The comprehension data confirmed this hypothesis in full. Children were target-like in comprehending null objects in simple transitive sentences, which reveals that they have all discourse pre-requisites for understanding them.

6. Conclusion

The results presented in this paper provide further evidence against the idea that children’s pragmatic knowledge is acquired late. Actually, in the specific construction under consideration, it was shown that children who are three years old already have the necessary pragmatic knowledge in order to use and comprehend null objects. Apparently, the only piece of information that they seem to lack in order to perform in accordance to the target grammar is syntactic in nature, which also contradicts the idea that the whole of syntactic knowledge is acquired before a steady state of pragmatic knowledge is reached.

References


