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VP-ELLIPSIS COMPREHENSION IN EUROPEAN AND BRAZILIAN PORTUGUESE

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Introduction

Ellipses are quite common amongst languages. As Barss (2003) points out, ellipsis (as a type of anaphora) involves linguistic expressions which receive their semantic interpretation “via a dependency upon an antecedent, rather than from its internal lexical content.” (p. ix) This makes ellipsis in and of itself an interesting topic for language acquisition research since it is a syntax-discourse phenomenon which implies the development of both formal licensing conditions and identification conditions for convergence.

Our aim in this paper is to examine the acquisition of one case of ellipsis, namely, VP ellipsis (VPE), in European Portuguese (EP) and Brazilian Portuguese (BP). As is well known, BP and EP allow VPE licensed by auxiliaries or modal verbs (1) or main verbs (2), differently from other Romance languages (3) (see Matos, 1992; Cyrino & Matos, 2002, 2005; Santos, 2006, 2009a; a.o.):

- (1) [TP A Dora [T (es)tá [vP ~~(es)tá~~ limpando/a limpar o carro com a esponja], e
the Dora is cleaning the car with a sponge and
[o Diego [também [(es)tá [--]]]]]³
the Diego too is
'Dora is cleaning the car with a sponge and Diego is too.'
- (2) [TP A Dora [T limpou [vP ~~limpou~~ o carro com a esponja], e [o Diego
the Dora cleaned the car with a sponge and the Diego
[também [limpou [--]]]]]
too cleaned
'Dora cleaned the car with a sponge and Diego did too.'

- (3) a. João tinha visto a Lola, mas a Maria não tinha [--]. EP and BP
 João had seen the Lola but the Maria NEG had
 'João had seen Lola but Maria hadn't.'
- b. *Jean a vu Lola, mais Marie n' a pas [--]. French
 Jean AUX seen Lola but Marie NEG AUX NEG
- c. *Juan ha visto Lola, pero Maria no ha [--]. Spanish
 Juan AUX seen Lola but Maria NEG AUX
- d. *Gianni ha visto a Lola, ma Maria non ha [--]. Italian
 Gianni AUX seen Lola but Maria NEG AUX

Given that property in both varieties of Portuguese, our aim is to determine whether pre-school children are able to interpret elided material, particularly VPE, as just mentioned, in an adult-like manner: (i) providing a target syntactic analysis to VPE structures and confirming early acquisition of the licensing conditions of VP ellipsis; and (ii) constraining in an adult-like manner the interpretation of a syntactic projection of a PF deleted VP. We will compare the performance of EP and BP child speakers, considering that, although both varieties behave quite similarly in terms of VPE, they differ in the syntactic status of other null categories, a characteristic which might bear on the language acquisition process.

In section 1, we summarize our assumptions concerning licensing and recoverability (identification) conditions on VP ellipsis and in section 2 we present some previous results on the acquisition of VP ellipsis. Our study, which replicates Santos (2009b), is presented in section 3. Finally, in section 4 we discuss our main results and suggest a possible source for the differences between EP and BP.

1. Recoverability and licensing conditions on VP ellipsis

Ellipses are subject to both recoverability and licensing conditions, therefore their comprehension involves the ability to recover elided material from a discourse antecedent as well as knowledge of the language-specific syntactic licensing conditions, which are conceived here, as we will discuss below, as the instantiation of an E(llipsis)-feature in a functional category dominating the VP (Merchant 2001). This may also be formulated in terms of parameter setting, a matter we will not explore in this paper.⁴ Independently from that particular analysis, it is quite agreed upon that ellipses are subject to both syntactic licensing and recoverability conditions on the antecedent.

We can see that (4a) is an example of a syntactically licensed structure (English licenses VP ellipsis with a stranded *do*), but the antecedent is not recoverable from discourse, yielding a poor acceptability rating. (4a) contrasts with (4b), which is uttered in a context providing an antecedent and is thus acceptable.

- (4) a. # I do [_{VP} -] too. [out-of-the-blue-context]
 b. Speaker A: I read every day.
 Speaker B: I do [_{VP} -] too.

In (5), however, the antecedent (book) is transparently recoverable from the previous discourse but the sentence is bad since English does not allow for such a nominal ellipsis:

- (5) *John bought a red book, and Mary bought a red [_{NP} -] too.

In terms of the ellipsis site, and taking ellipsis as deletion at PF, the standard view is that deletion occurs under identity. Identity has been seen as a requirement of strict morphosyntactic parallelism or a condition of structural isomorphism (see Hankamer & Sag, 1976 and many others). In these terms, (6) cannot be a case of deletion since there is no strict identity between the antecedent and the possible ellipsis site ($VP_A \neq VP_E$).

- (6) Abby was reading the book while BEN *was reading*. (Merchant, 2001:15)

Note that by the same requirement only (7a) is available as a reading of (7).

- (7) Abby [_{VP} met [_{DP} [_{DP} someone] from Kentucky]], and then Ben did.
 a. = <meet someone from Kentucky>
 b. ≠ <meet someone> (Merchant, 2001: 19)

Merchant (2001), however, reformulates the identity requirement on ellipsis in terms of semantic identity (see also discussion in Hardt, 1993) and offers a proposal which takes both the licensing and the recoverability conditions into account. According to him, contexts of deletion (ellipsis) are a subset of deaccenting contexts, therefore the elided material must be *given* (as deaccented material). Deletion is thus subject to a Focus condition on ellipsis (8) involving the notion of e-GIVENness, whose definition is presented in (9).⁵

(8) Focus condition on ellipsis

A constituent α can be deleted only if α is e-GIVEN (Merchant, 2001: 26)

(9) e-GIVENness

An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo \exists -type shifting,

(i) A entails F-clo(E), and

(ii) E entails F-clo(A)”

(Merchant 2001: 26)

A relevant point in Merchant’s proposal is the fact that he suggests an E-feature which links licensing and identification conditions on ellipsis since it is straightforwardly translatable into its phonological, syntactic and semantic behavior:

(10) E-feature:

(i) the syntax of E (some u – uninterpretable feature – in a given head which will target its complement domain);⁶

(ii) the phonology of E ($\emptyset_{XP} \rightarrow \emptyset / E _$);

(iii) the semantics of E: $[[E]] = \lambda p: e\text{-GIVEN}(p)$ [p] (Merchant, 2004: 670-2)

Such a proposal makes clear predictions for language acquisition. If acquiring ellipsis means acquiring a feature E in some functional head and if this feature determines both licensing and identification conditions on ellipsis, the prediction is that target-like identification and target-like licensing should come together. In order to achieve target-like identification, children will have to operate with the syntax-discourse (information structure) interface, determining if the deleted material is given (condition 9i) and e-given (restriction in 9ii). Finally, children also have to pick the functional head(s) (if any) that license(s) ellipsis in the target grammar – a possible parametric distinction, which, however, we will not explore here.

2. Some previous studies on the acquisition of VPE

Santos (2006, 2009a) shows that EP speaking children produce VPE in short answers to yes-no questions when their MLUw is around 2 or below.

(11) A: o cavalo vai papar?

the horse goes eat

‘Is the horse going to eat?’

C: vai.

goes

‘Yes.’

(1;9)

Lopes (2009) also found VPE structures in the same syntactic environment in BP speaking children, albeit with a slight age difference:

- (12) A: Tomou remédio também?
 took medicine too?
 “Did it (the doll) take its medicine too?”
 C: Tomou. (2;3)
 took
 “Yes, it did.”

These production data allows the following prediction for comprehension, once we assume an analysis of ellipsis as deletion along the lines of Merchant (2001): if ellipsis is deletion and deletion depends on the possibility of recovering the interpretation of the elided material from an antecedent, we expect comprehension to be constrained in an adult-like manner.

As a matter of fact, the question whether children are able to recover and identify the antecedent in VPEs in an adult-like manner has been positively answered in some previous studies, including studies on EP.

Postman et al. (1997) applied an imitation task to 2;7 – 3;11 year-olds in which the experimenter (E) would say a coordinate sentence without deleting given material, as in (13E). We can see in (13C), one of the answers provided by the subjects, that children as young as 2;10 produce ellipsis obeying the necessary syntactic licensing conditions for English:

- (13) E: Bert wipes his nose and Mickey wipes his nose too.
 C: Bert wipes his nose and Mickey does too. (2;10)

Foley et al. (1997, 2003) claim that children between 3;0 and 7;11 are able to comprehend VP ellipsis, based on an act-out and a Truth Value Judgment Task (TVJT). Guo et al. (1996) make the same claim, based on data from an act-out task applied to Chinese children between 3;5 and 6;11.

Thorton & Wexler (1999) also tested the phenomenon, under the hypothesis that children are sensitive to a “structural parallelism restriction” on VPE which they took to be innate - therefore, their natural prediction is that “children will not violate [it]” (p. 118). They applied a TVJT in which a test-sentence such as (14) would be false since the story showed that Fozzie Bear kissed his own hand.

- (14) The caveman kissed the dinosaur and Fozzie Bear did too.

Therefore, if children recover the elided VP <kissed the dinosaur>, then they should respond 'NO' to (14), since Fozzie Bear kissed his own hand. Their results showed that children between the ages of 4;0 and 5;1 correctly rejected the sentence 100% of the time.

Child awareness of a parallelism constraint on VP ellipsis was also confirmed by Matsuo & Duffield (2001). These authors used a Grammaticality Judgment Task to test 12 English-speaking children's (3;11-6;7) acceptance of English VPE and *do it / do that* anaphora in contexts respecting parallelism and contexts not respecting it. Both children and adults distinguish VP ellipsis and VP anaphora by rejecting VPE in nonparallel contexts.

Grodzinsky (2005), however, discusses the good results obtained by children in the preceding literature. Discussing specifically the results obtained by Thornton & Wexler (1999), he suggests that good results in interpreting (14) have to do with the fact that children have to accept a transitive action in the antecedent and a reflexive action in the ellipsis site in order to accept (14). He wonders whether a different design, involving situations with two transitive actions, would prime children to accept matching and mismatching conditions, yielding a clearer picture of how their grammars work. He tested sentences like (15) using a picture evaluation task with one matching condition and three mismatching ones (see (16)).

(15) The girl kicked a tiger and the boy did too.
 A B C

- (16) a. Match = A → B and C → B
 b. Mismatch 1 = A → B and B → C
 c. Mismatch 2 = A → B and C → A
 d. Mismatch 3 = A → B and A → C

His preliminary results show that 2 out of 5 children aged 4;9 to 5;9 accept (15) with a non-target interpretation (e.g. describing an image where a girl kicks a tiger and *the girl kicks the boy*).

Grodzinsky's results, although preliminary, motivated Santos (2009b) to design a similar experiment for EP. The natural question that guided her research is whether children recognize VP ellipsis and have knowledge of its identification requirements when the context allowed a non-adult-like interpretation. Santos (2009b) created a Truth Value Judgment Task including the conditions defined by Grodzinsky and also two additional conditions (more details will be presented in the following section). In this task, both VP ellipsis with a stranded auxiliary and VP ellipsis with a

In the present study, we intend to pursue the discussion concerning child's ability to constrain the interpretation of VP ellipsis in an adult-like manner. In order to do so, we have adapted the experiment designed by Santos (2009b) to Brazilian Portuguese, a language which also displays VP ellipsis of the EP type (i.e. with a stranded auxiliary as well as a stranded main verb) but which has been argued to display null objects which are derived as ellipsis (see Cyrino, 1994; a.o.).

3. Our study

3.1. Methodology

In this study, we replicated Santos (2009b). Thus, test conditions were defined according to Grodzinsky's (2005) model, even though the methodology used was not exactly the same. First, Grodzinsky's task was a TVJT in which children evaluated the correspondence between sentences and images; the task reported here is a TVJT in which children evaluate the correspondence between stories acted out with props and sentences (see Crain and Thornton 1998). We also followed Crain et al. (1996) and the plausible assent / dissent condition was respected.

Each child was tested during two separate sessions of about 30 minutes each. In the BP test, children were divided into two groups, A and B, which were exposed to the same conditions but in different orders. Nine stories were presented per group together with filler trials which were presented between the test items and allowed to detect any "yes" or "no" bias. In the first session, a warm-up trial ensured that children understood the task. Both groups were exposed to one story for the matching condition; one for conditions 1, 2 and 3 once as a main verb and once as an auxiliary, as discussed below; one for condition 4 and one for condition 5. All of them are described in (20). When children evaluated a test sentence as false, there was a follow-up providing them an opportunity to justify their answer.

As mentioned before, VPE in Portuguese may be licensed by main verbs as well as by auxiliaries. Therefore, both test items with main verbs and test items with auxiliaries were included in most conditions – there were two exceptions justified by limitations to the possible extension of the test: condition 4, which included only main verb items and condition 5, which included only auxiliary items. Finally, since we also evaluated comprehension of sentences in which VP ellipsis is licensed by main verbs, it was necessary to restrict test items to sentences that are not ambiguous, i.e. sentences that could only be derived through VP ellipsis.

In Portuguese there is VPE, but there are also other types of null anaphora, such as null objects, a fact which will be particularly relevant in the discussion carried out in this paper. For instance, the omitted material in (19) may be derived as VPE, but it could also be derived as a null object, since only a direct object is missing.

- (19) O tigre magoou o leão e o porco também magoou [-].
 the tiger hurt the lion and the pig also hurt
 ‘The tiger hurt the lion and the pig did too.’
 [-] = o leão
 the lion

In order to avoid this type of ambiguity, test sentences in conditions including test items with a stranded main verb were sentences with ditransitive verbs, which cannot be interpreted as null object cases. The six conditions considered are presented in (20).

- (20)
 a. Test sentences
- | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| A | B | C |
| O tigre deu comida ao leão e o porco
the tiger gave food to+the lion and the pig
também deu.
also gave
‘The tiger gave food to the lion and the pig did too.’ | O tigre está a dar comida ao leão e o porco
the tiger is PREP give-inf food to+the lion and the pig
também está.
also is
‘The tiger is giving food to the lion and the pig is too.’ | |

b. Conditions

Condition 0 A => B C => B

The situation matches the adult interpretation of the sentence.

Condition 1 A => B B => C

Sit: The tiger helped the lion by giving him food and then the lion helped the pig by giving him food. Given this situation, to accept the test sentence as true, one would have to invert the subject and the indirect object in the elided clause, quite an improbable outcome.

Condition 2 A => B C => A

Sit: The tiger helped the lion by giving him food and then the pig helped the tiger by giving him food. Here, accepting the test sentence as true could either

mean that a null object interpretation was provided or a VPE one with a mismatched indirect object.

Condition 3 $A \Rightarrow B$ $A \Rightarrow C$

Sit.: The tiger helped the lion by giving him food and then the tiger also helped the pig by giving him food. This condition is similar to condition 1 in the sense that it is quite improbable as well: neither the overt subject in the second clause nor the elided indirect object are matched.

Condition 4 $A \Rightarrow x \Rightarrow B$ $C \Rightarrow y \Rightarrow B$

Sit.: The tiger helped the lion by giving him food and the pig also helped the lion, but by giving him something else. Condition 4 is similar to the matching condition except that accepting it means that a mismatched direct object was allowed.

Condition 5 $A \Rightarrow B$

Sit.: The tiger helped the lion by giving him food but the pig didn't. This case corresponds to a complete mismatch.

Condition 0 will be referred to as the matching condition, while conditions 1 to 5 will be referred to as the mismatching conditions. Conditions 0 to 3 replicate Grodzinsky's conditions, although the animate entities are for the purpose of the present test the subject and the indirect object. Conditions 4 and 5 were added to test the possibility of mismatch affecting the direct object (Condition 4) or to test general mismatch (Condition 5).

Conditions 2 and 4 are of particular interest to this study. In Condition 2, mismatch affects only the indirect object, thus the test sentences should be rejected if the speaker gives it a VP ellipsis reading, but could be accepted if the speaker took it as a case of a null object with a discourse antecedent. This possibility is in principle only available when the omitted material is preceded by a stranded main verb (see 21). However, Santos (2009b) already signaled that some speakers agreed that a similar interpretation is marginally available with a stranded auxiliary, as in (22b). (22b) should nevertheless be taken as still a case of ellipsis probably affecting less than a full *vP* projection. As Santos (2009b) points out, this case should be taken as similar to certain VP ellipsis cases in English (see 23), which were presented by Johnson (2004), and should be a possibility either with a stranded auxiliary or a stranded main verb.⁸

(21) O tigre deu comida ao leão e o porco também deu [-].
 the tiger gave food to+the lion and the pig also gave

[-] = comida

(22)

Sit.: The tiger is giving food to the lion and the pig is giving food to the tiger.

O tigre está a dar comida ao leão e o porco

the tiger is PREP give food to+the lion and the pig

também está.

also is

‘The tiger is giving food to the lion and the pig is too.’

a. [-] = a dar comida ao leão
PREP give food to+the lion
‘giving food to the lion’

b. [-] = a dar comida
PREP give food
‘giving food’

(23) Because someone had given money to politicians, we did __ to charities.

(Johnson 2004: 10)

Condition 4 is a counterpart of condition 2, since mismatch affects only the direct object and therefore a null object reading could not save the structure in this case.

3.2. Subjects

Merging the data collected for Santos (2009b) and for the present study, forty-four Portuguese children between 4;5 and 6;7 were tested and thirty Brazilian ones between 4;3 and 6;9, as seen in Table 1. Five adults were tested in both languages as a control group.

Table 1: Subjects: number and mean age

	4 year-olds	5 year-olds	6 year-olds
EP	8 (4;8)	25 (5;6)	11 (6;4)
BP	10 (4;5)	10 (5;4)	10 (6;5)

3.3. Results

Overall, adults presented 93.3% expected answers in EP and 95% in BP. Child results were above chance in general both in EP and BP. However, certain differences were found in EP between conditions, which were to a certain extent confirmed by the BP data. Moreover results attained by BP children were globally lower than the results attained by EP children.

We will thus first present child general results broken down by condition.⁹

Table 2: % of expected answers by condition in EP and BP

Condition	0	1	2	3	4	5	Total
EP	44 100%	61 77.2%	59 74.7%	56 72.7%	35 94.6%	33 97.1%	288 82.3%
BP	19 95%	31 62%	31 62%	43 78.2%	19 76%	27 90%	170 74%

The first obvious result is that children do well in the matching condition (condition 0), confirming previous results found in the literature and discussed above. However, when we take into account the total of answers, it can be shown that they also provide non-adult answers, ranging from 26% for BP to 17.7% for EP.

There are also clear differences between the Portuguese and Brazilian children with respect to the mismatching conditions. The Portuguese children show non-adult answers mainly for conditions 1 to 3. While the first three mismatching conditions are the worst for Brazilian children as well, they also behave poorly (although not equally poorly) in condition 4, an unexpected finding. This fact becomes more obvious if we look at the proportion of non-adult answers in condition 4: whereas Portuguese children give 5.4% non-adult answers in the condition, Brazilian children give 24%. We will come back to that point in the discussion section below.

Let's see now the results according to age groups, considering only the non-adult answers in the 5 mismatching conditions.

Table 3: % of non-expected answers by age groups in EP and BP in the mismatching conditions

Language/Age	4	5	6
EP	22.6% (14/62)	18% (35/194)	13.8% (13/94)
BP	45% (36/80)	23.7% (19/80)	8% (4/50)

Again, there is a clear distinction here. The Portuguese children seem to be converging into the adult grammar sooner than the Brazilian ones. Let's examine, then, the results for the Brazilian children, breaking them according to age and mismatching condition and considering again only the non-adult answers.

Table 4: % of non-expected answers by condition and age in BP

Condition / age	4	5	6	Total
1	60% (12/20)	25% (5/20)	20% (2/10)	38% (19/50)
2	60% (12/20)	25% (5/20)	20% (2/10)	38% (19/50)
3	30% (6/20)	30% (6/20)	0 (0/15)	21.8% (12/55)
4	50% (5/10)	10% (1/10)	0 (0/5)	24% (6/25)
5	10% (1/10)	20% (2/10)	0 (0/10)	10% (3/30)
Total	45% (36/80)	23.7% (19/80)	8% (4/50)	28% (59/210)

It is now clear that conditions 1 to 3 are the difficult ones, as in EP, except for the 4-year-olds. 4-year-olds actually have a very difficult time with all the mismatching conditions, except for the general mismatch (condition 5) – this includes condition 4, in which they provide 50% of non-adult replies. We will come back to that in the discussion, since this seems to be a central difference between EP and BP results.

Let's look at one last result: the conditions testing VPE with main and auxiliary verbs. We will now consider only the expected answers for the 6 conditions tested.

Table 5: % of expected answers for main verbs vs. auxiliaries in EP by age group

Age	Main verb	Auxiliary
4	80.6% (25/31)	74.2% (23/31)
5	79.2% (80/101)	84.9% (79/93)
6	86.3% (44/51)	86% (37/43)
Total	81.4% (149/183)	83.2% (139/167)

Table 6: % of expected answers for main verbs vs. auxiliaries in BP by age group

Age	Main verb	Auxiliary
4	51.1% (23/45)	66.7% (30/45)
5	82.2% (37/45)	75.6% (34/45)
6	90% (18/20)	93.3% (28/30)
Total	70.9% 78/110	76.7% 92/120

There are no relevant differences in either language when we look at the overall results. There is a slight preference for the auxiliary verb both in EP and BP. It is interesting to note that the Portuguese 4-year-olds did better with the main verb, while the Brazilian 4-year-olds did better in the auxiliary condition than in the main verb one.

4. Discussion

As pointed out before, the children who were tested did not present any difficulties with the matching condition. This should be enough to allow us to conclude that they know they have to recover material from an antecedent to interpret the ellipsis site. However, this is not enough to know whether children and adults equally constrain their interpretation of an elided VP.

Taking into account global results, the lowest percentage of adult answers for EP is 77.4%, for the 4 year-old group. It seems fair to say that the youngest Portuguese children display adult knowledge. However, that picture does not seem to be true for the same age group in the case of Brazilian children: the four year olds are still struggling (55% of expected answers), while the five year-olds display a behavior similar to the Portuguese four year-old ones (see table 3). There are clear differences between the Portuguese and the Brazilian children with respect to the mismatching conditions. The Portuguese children show non-adult answers mainly for conditions 1 to 3. The first three mismatching conditions are troublesome for Brazilian children as well, but they also behave poorly in condition 4, an unexpected outcome.

These results thus suggest a protracted development in BP, which needs to be confirmed in future work. In what follows, we suggest a possible reason for this protracted development.

First, let us comment on the first three conditions, those that were problematic for both the EP and the BP groups. Acceptance of sentences in condition 1 and 3 is not expected as it is not in agreement with the target grammar. To accept these sentences, the only possibility is to take the subject of the second conjoined clause in (24a) as a topicalized indirect object (without the case marking preposition) and to assume the second conjoined clause takes a null subject (see 24b). This is not at all a possibility in the adult grammar and the particular difficulty with these conditions may either point to a still unstable grammar concerning VP ellipsis recovery or to some perception failure. As pointed out by one reviewer, conditions 1 and 3 could be experimental artifacts in the sense that children's reaction could be due to processing limitations and not necessarily a target-deviant grammar.

(24) a. O tigre deu comida ao leão e o porco
 the tiger gave food to+the lion and the pig
 também deu.
 also gave
 'The tiger gave food to the lion and the pig did too.'

b. O tigre deu comida ao leão e (a)o porco
 the tiger gave food to+the lion and (to)-the pig
pro também deu.
pro also gave

In contrast, and as we have suggested in section 3.1, non-target readings in Condition 2 are not totally unexpected and some adults in the EP control group have even made explicit the fact that this type of reading was a possibility in their grammar. This is due to the fact that the sentence may be accepted in the context (i) if it is given a null object reading (in the case of a stranded main verb) or (ii) if it is given a VP ellipsis reading with less than the higher *v*P having been deleted (a marginal possibility for these adult speakers, in the case of a stranded auxiliary). To this extent, high rates of expected answers among EP speakers and among 5 and 6 year-old BP speakers suggest a clear *preference* for a VP ellipsis reading, namely a reading corresponding to a maximally elided VP.

What EP (child as well as adult) speakers seem to reject are cases in which the indirect object is recoverable in the antecedent discourse but the direct object is not (condition 4). Even though the BP control group also

rejected this possibility, a close look at table 4 shows that young BP speakers do not converge equally early with the adult grammar. In particular, 4-year-olds seem to struggle to constrain their interpretation of a VP ellipsis site showing maximally different performance in condition 4 – actually, only in condition 5, the condition of general mismatch, they show good performance.

We interpret these results as a delayed stabilization of VP ellipsis interpretation in BP. How can we explain it? Especially in light of the good results attained by EP young speakers, as well as of spontaneous production data suggesting the existence of early VP ellipsis production in EP and BP (section 2), we do not think this necessarily means that these children have not acquired VP ellipsis. Instead, we suggest that we should look at the input the child must analyze and should understand the lower performance of young BP speakers as the result of higher ambiguity in the BP input.

Actually, what justified the difference in results between condition 2 and condition 4 among EP speakers is the fact that, independently of a general preference for a VP ellipsis reading, sentences in condition 2 could be saved by a reading corresponding to a null object (or a non-maximally elided VP) but sentences in condition 4 could not be saved by such reading. Good results in these conditions thus come from knowledge of VP ellipsis but this knowledge implies the ability to clearly distinguish VP ellipsis and null object in languages in which both are possible (as it is the case of EP and BP).

In EP, it is generally assumed that VP ellipsis and null objects have different status and different distribution: null object in EP, which is interpreted as corresponding to a salient antecedent in the discourse or the pragmatic context, is taken to be a variable bound by an operator in Topic position (Huang, 1984; Raposo, 1986; Duarte, 1987) and is thus not available in islands; VP ellipsis is, of course, available in islands.

In BP, the differences in nature and distribution of ellipsis and null object are not that obvious. Lopes & Cyrino (2006) and Lopes (2009) argue that there are two types of null object in BP: anaphoric null objects, which must be [-animate], and deictic null objects, which have no animacy restrictions. More importantly, anaphoric null objects are possible in islands and have therefore been analyzed as cases of ellipsis (Cyrino, 1994) – an analysis as a variable would be excluded in islands. In (25) and (26), we show that in BP both VP ellipsis (25) and anaphoric null objects (26) are possible in islands.¹⁰ This contrasts with EP, a language in which null objects are banned from islands (see Raposo, 1986). A null object in (26) cannot be a variable; instead, it may result from PF deletion.

- (25) O João soube que você ia convidar ele pra festa?
 the João knew that you were inviting him to.the party?
 ‘Did John knew you were inviting him to the party?’
Não, ele morreu antes de eu convidar [-]. **VP ellipsis**
 no, he died before I invited [-].
 ‘No, he died before I did it.’

- (26) **Ela comprou o casaco quando experimentou [-] Null object**
 she bought the coat when tried [-] **(BP:ok; EP:*)**
 ‘She bought the coat when she tried it on.’

This means that a child facing BP input will have positive evidence both for VP ellipsis and for elided arguments. Positive evidence from elided null arguments may come exactly from sentences such as (26), null objects within islands. We thus suggest that this fact creates greater structural ambiguity in BP than in EP and may justify a delayed stabilization of sentences such as the ones we presented to children. Actually, these children may assume that different arguments (including the indirect object) may be independently elided and may use this possibility to make the sentence true in the context. In fact, this effect should be more visible in sentences with stranded main verbs than with stranded auxiliaries, since what is at stake here is to delete an entire *vP* or to delete different arguments. Since in condition 4 we only tested VP ellipsis licensed by a main verb, it is possible that the effect of ambiguity was maximized in this case. Greater ambiguity in items with a stranded main verb might also be the reason why Brazilian 4 year-olds did better in the auxiliary conditions than in the main verb ones (see Table 6 in the preceding section).

5. Conclusion

As a general conclusion, the comprehension data obtained by testing 4 to 6 year-old children acquiring BP shows that children do converge with the adult grammar, as they can recover the antecedent of an ellipsis site, in agreement with the predictions we made based on Merchant’s (2001) analysis of ellipsis. However, it also shows that younger children (the 4 year-old group) may not always constrain their interpretation of VP ellipsis in an adult-like manner. We suggested that this is due to the fact that these children may take the sentence as structurally ambiguous, based on structurally ambiguous input they are exposed to.

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Notes

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³ Ellipsis cases will be represented by [--].

⁴ There are other proposals that assume the ellipsis site has to be licensed in a particular language by a particular functional head, such as Lobeck (1995), among others. These proposals have been formulated in terms of parameter setting.

⁵ In the interest of space and scope of this paper, we ignore here problems raised by Hardt (1993), Merchant (2001), a.o.

⁶ We are adapting Merchant's (2004:670) specification for the syntax of E features on sluicing to VPE: ES [*uwh**, *uQ**].

⁷ More recently, Kim (2012) discussed a similar problem in Korean. In fact, Kim extends this discussion by taking into account different semantic types of modifiers: based on the judgment of adult Korean speakers, Kim shows a clear difference between VP ellipsis and null object that goes in the sense of the results presented by Cheung for Cantonese (although the results also show that certain types of modifiers may be recovered in the so-called null object construction).

⁸ These facts may have consequences on the analysis of a ditransitive vP; alternatively, they might be accounted for assuming that the relevant argument has moved from the VP before deletion. This discussion is beyond the scope of this paper, and we refer the reader to Johnson (2004).

⁹ The number of answers does not round up to 270 because the 6-year-old group, who performed adult-like in one of the sessions, did not answer to the other session.

¹⁰ The null object in BP has also been analyzed as a *pro*. See Farrell (1990), Bianchi & Figueiredo Silva (1994), Ferreira (2000), a.o.. This would also account for the possibility of having a null object within an island. However, as far as it is

relevant for the discussion carried out in the present paper, this does not change the fact that children face ambiguous input: they would find both elided VPs and null arguments in islands.