

Acquiring a Null Object Language When children sound target-like, but really aren't

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1. Introduction

The aim of this paper is to examine the acquisition of null direct objects in two Brazilian monolingual children.

As is well known, Brazilian Portuguese (BP, henceforth) exhibits null objects in any syntactic context, as opposed to other languages that allow the phenomenon (1), but one striking aspect of BP null object is that it occurs more freely when the antecedent has a [-animate] feature (2):²

(1) Comprei o casaco depois que experimentei Ø.
Buy_1ps_past the coat after that try+on_1ps_past Ø.
“I bought the coat, after I tried (it) on”

(2) O Emilio perdeu [a carteira] e não consegue achar Ø/?ela
The Emilio lost_3sg the wallet and not can_3sg find_inf Ø/?pron_fem
“Emilio has lost his wallet and can't find (it)”

On the other hand, BP allows for strong and/or weak 3rd person pronouns – which we will refer to as ‘lexical pronouns’ from now on – in object position; nevertheless, the distribution between a null object and a lexical pronoun is not free in the language, but is restricted to the semantic features of the antecedent, namely, animacy and specificity. Default null objects refer to [-animate] antecedents as in (2) above, whereas a [+animate] antecedent requires a null object only if [-specific] (3a), and a lexical pronoun if [+specific] (3b):

(3) a. Policial insulta [presos] antes de torturar Ø/?eles
Policeman insults prisoners before of torture_inf Ø/?them
“Policemen insult prisoners before torturing (them)”
b. O policial insultou [o preso] antes de torturar *Ø/ele
The policeman insulted_3sg the prisoner before of torture_inf *Ø/him
“The policeman insulted the prisoner before torturing him”

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² For a comprehensive review on the null object in BP, see Cyrino and Reich (2002) and references therein.

European (EP) and Brazilian Portuguese also license VP ellipses, differently from other Romance languages. In both varieties it may occur either with an auxiliary or a main verb, as long as the verb which licenses the elliptical constituent also appears in the antecedent VP:

- (4) Ela tem lido livros às crianças e ele também tem lido [-]³
 She has read books to+the children and he too has read
 “She has read books to the children and he has, too.”

VP-ellipses are also found in short answers to Yes/No questions (see Martins 1994; among others)

- (5) — Você entregou o livro pra Maria?
 You gave the book to Mary?
 “Did you give Mary the book?”
 — Entreguei.
 Give_past_1ps
 “Yes, I did.”

Cyrino and Matos (2002) show that “*in Brazilian Portuguese both null objects and VP ellipses may be licensed by functional heads distinct from T*” (p. 191) – a point to which we will return. Based on that, our hypothesis is that null anaphoric direct objects in BP have to be locally licensed by an ASP(ect) category, in order for the specificity feature of the null object to be checked. The assumption underlying this view takes the null object in BP to be a nominal ellipsis.⁴

Our hypothesis makes the straightforward prediction that convergence into the adult grammar, in what regards the anaphoric null objects, will be dependent upon the acquisition of ‘aspect’, translatable into the grammatical features of (im)perfectivity in ASP.

The remainder of this paper is organized in the following way. Based on our hypothesis, we will further explore some predictions for language acquisition in section two. We will also consider well established results for the acquisition of direct objects in non-null-object languages in comparison to BP. In section three we present our results and discuss them. We close the paper in section four with some final remarks.

³ Example from Cyrino and Matos (2002).

⁴ See Lopes and Cyrino (2005) for such an analysis, based on Cyrino (1997), which assumes that the null object is the result of reconstruction of the antecedent at LF, which could elided in PF. Some researchers have proposed that the null object in BP is an empty pronoun, *pro*, but the recurrent problem with these proposals is that there is no agreement on the requirements of identification and licensing of the empty category (cf. Galves 2001; Kato 1993; Bianchi and Figueiredo 1994; Barra Ferreira 2000; among others). Besides, these proposals are unable to capture the animacy constraints we have discussed, invariably offering a stipulation on this aspect of the null object.

2. Predictions for language acquisition

It is quite well established in the literature that children acquiring languages with object clitics go through a clitic omission stage (Avram 2001; Hamann 2003; Jakubowicz et al. 1998; Tsakali and Wexler 2004; among many others)⁵, which is not attested in children acquiring languages with a strong and/or weak pronoun paradigm for object, such as English (Huang 1999; Hyams and Wexler 1993; Wang et al. 1992; among others). It has also been shown that children acquiring Chinese, a null object language, produce null objects from the onset and are quantitatively close to the production of adults (see Wang et al. 1992; Yip and Matthews 2000).

The natural question is: What happens in a language that has lost 3rd person clitics, developing a null object option plus a strong and/or weak pronominal one, depending on the semantic features of the antecedent, while still preserving 1st and 2nd person clitics?

This picture presented on the first paragraph allows us to make the following prediction: Since children acquiring BP will not have to deal with the complexities involved in deriving clitics, they should exhibit the expected adult-like pattern for objects. In other words, the null option will be produced from the onset, as in Chinese, and the lexical pronouns will also be an option, just as they are in English child grammars.

However, if our hypothesis is on the right track, anaphoric null objects are not to be expected until the relevant features in ASP are acquired. Therefore, if null objects are produced from the start, they should be special instances of this phenomenon and they might be licensed otherwise. In order to check that, we will examine the syntactic contexts in which the null objects appear in Brazilian children's grammar correlating them to lexical and grammatical aspect.

Finally, we will also assume that VP-ellipses are licensed in the language through ASP, in which case we should not find adult-like short answers to Yes/No questions until such category is fully operative in the child's grammar. We will follow Cyrino and Matos (2002) according to whom such ellipses are licensed by the T(ense) head in EP but not in BP, as pointed out before. Thus, different patterns of short answers should be found among Portuguese and Brazilian children.

3. Acquisition Data

3.1 Participants and Procedures

Spontaneous speech production from two children (AC. and R.), aged 1;8 to 3;7 and 1;9 to 2;8, respectively, was examined and quantified. Both children, monolinguals exposed to standard BP, are daughters to monolingual parents with

⁵ We acknowledge that this point is not uncontroversial, since there might be some microparametric variation among clitic object languages. We will ignore the point here since it bears no relevance to our discussion here.

graduate-level education or beyond.⁶ The children were taped at home, always in the presence of one of the parents, in playful naturalistic situations. Sections lasted from 30 to 60 minutes. There are no observable dialectal differences in both varieties of Brazilian Portuguese with regard to the null object.

Only 3rd person object contexts were taken into account. Categorically null objects, such as in propositional ellipses were disregarded in order not to bias our results artificially:

- (6) A(dult): E o que acontece na história do Príncipe do Egito?
 “And [what happens in the story of the Egyptian prince]?”
 C(hild): Já esqueci Ø. (AC, 3;7)
 Already forgot-1stsg Ø
 “I’ve already forgotten it”

Short answers to Yes/No questions were not considered for two reasons: (i) in order to sort out contexts of null objects and cases of VP ellipses and (ii) there were very few instances of such questions addressed to the children during taping. (7) illustrates one of the few examples found. We will return to this point, though.

- (7) (adult and child are pretending to host a tea-party)
 A: A senhora aceita um suco?
 The madam accepts [a juice]?
 “Would you, madam, like a glass of juice?”
 C: Aceito Ø. (AC, 2;1)
 Accept_1ps_present
 “Yes, I do”

We have also analyzed Mood, Tense and Aspect (lexical and grammatical) usage by one of the children.

3.2 Results and Discussion

We will start with the general results for both children in Table 1 below.

| Null | | Lexical pronouns | | DPs | | Total | |
|------|------|------------------|-----|-----|----|-------|-----|
| N | % | N | % | N | % | N | % |
| 275 | 29.2 | 93 | 9.8 | 575 | 61 | 943 | 100 |

Table 1: General results for both children

Although both children use null objects, they are still quantitatively far from the target grammar, where null objects reach around 60% and lexical pronouns, 15%,

⁶ I would like to thank CEAAL/PUCRS (Centro de Aquisição e Aprendizagem da Linguagem) for allowing me access to their database (AC.). Data from R. belong to CEDAE/UNICAMP.

according to Duarte (1986). It is interesting to observe the high percentages of DPs in object position, a point to which we will return briefly.

Table 2 considers only the null and pronominal realizations of the object. When DPs are excluded, and the option, thus, is between a lexical pronoun or a null object, it becomes clear the child's preference for the latter.

| Child | Null | | Lexical pronoun | | Total | |
|-------|------|------|-----------------|------|-------|-----|
| | N | % | N | % | N | % |
| R. | 134 | 75.2 | 44 | 24.8 | 178 | 100 |
| AC | 141 | 74.2 | 49 | 25.8 | 190 | 100 |
| Both | 275 | 74.7 | 93 | 25.3 | 368 | 100 |

Table 2: Mean results for null and pronominal realizations of the object

But as we will discuss below this does not mean that the child's null is always the same one. We will examine the behavior of null and pronominal elements during development in Table 3.

| Age | AC | | R | | Total N |
|---------|--------|-----------|--------|-----------|------------|
| | % null | % pronoun | % null | % pronoun | |
| 1;8-1;9 | 100 | 0 | 100 | 0 | 9 |
| 1;10 | 100 | 0 | 75 | 25 | 17 |
| 2;1 | 100 | 0 | 69.7 | 30.3 | 95 |
| 2;3 | 85 | 15 | 84.7 | 15.3 | 85 |
| 2;8 | 73 | 27 | 64 | 36 | 52 |
| 3;0 | 64 | 36 | | | 78 |
| 3;7 | 81 | 19 | | | 32 |
| Total | 74.2 | 25.8 | 73.5 | 24.7 | 368 |

Table 3: Percentage of null and pronominal objects for each child over time

Table 3 clearly shows an increasing pattern of the use of pronouns over time, while a decrease on the use of nulls is obviously observed. The next natural question is: Are we dealing with one and the same null category or does its status change over time? The results show a very interesting behavior in both children, albeit taking place in different age groups. Both of them start out with a production of 100% of null objects, but obviously such figure decreases when pronouns kick in. For R. that happens when she is 1;10 and for AC, when she is 2;3.

Qualitatively examining the data, what we see is that the initial null objects are instances of deictic-like elements in imperative contexts, especially in the initial files, but when the productive distinction between perfective and imperfective sentences appear, then the null objects become anaphoric. Coincidentally, that is also when pronouns start to be produced in object position. We will return to that when discussing the results for 'aspect' as well. Let's compare (8) – a deictic use of null – to (9), an anaphoric null.

- (8) a. Garda (= guarda) aqui. (R., 1;9)
 Keep \emptyset here
 “Keep it here”
 (The child utters the sentence while holding her pacifier, obviously referring to it)
- b. Messi (= mexe). (AC, 1;8)
 Stir \emptyset
 “Stir it up”
 (The child is holding a glass of juice and asks her mother to stir it for her)
- (9) Não vou guardar. (AC, 3;7)
 not will_{1sg} keep \emptyset
 “I won’t put them away”
 (referring to her toys. The child wants to watch a movie on TV, so she comes to her mother in order for her to turn the TV on. But the mother knows that the child was playing in her room and that there are toys all over the place. Her mother tells her to put the toys away before watching the movie. The child walks away, while muttering the sentence in (9).)

The initial use of deictic null objects occurs with imperative sentences and is restricted to inanimate 3rd person antecedents. It is a root phenomenon which we will assume is derived under MoodP, being neither T nor Asp available in the Lexical Array, since they have a root deictic nature:⁷

(10)[MoodP [vP/VP]]

We have analyzed the use of imperative sentences in AC and found that, in fact, there is a high percentage of such structures in the initial files examined, dropping drastically and tending to a steady pattern from 2;3 on, as can be observed in Figure 1.

⁷ According to Salustri and Hyams (2003), the Mood head checks the ‘irrealis’ feature of the verb. We will assume their analysis for the imperative sentences, but not the proposal that they are an analogue to root infinitive sentences in null subject languages, which is beyond our point here. Nevertheless, BP should be an interesting empirical checking space for such a proposal.

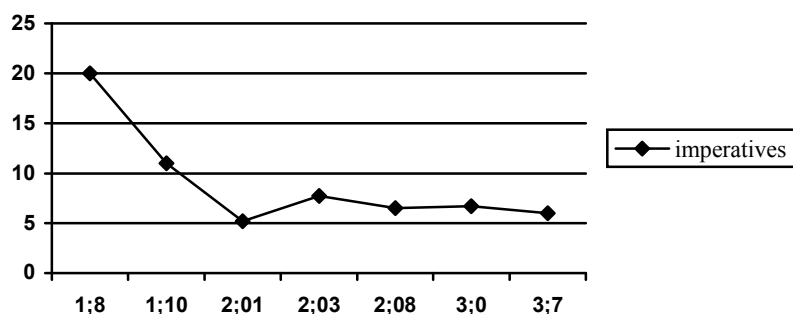


Fig. 1: Percentage of imperative sentences through different ages in AC

It is obviously not the case that the child goes through an ‘imperative-only’ stage. In fact, the first file examined contained a high percentage of verbs in the indicative mood (in the 1;8 file, 68.4% of linking verbs occur in the present tense – in templates such as X is Y – and 11.6% in the past tense, more specifically in the ‘perfect preterite’ – a perfective form).

However, the first past forms found in the data suggest a telic interpretation of the sentence⁸ and children acquiring BP seem to expand the deictic use of null objects to such contexts, as can be seen in (11):

- (11) Telô Ø ! (= tirou) (R. 1;9)
 Took Ø
 “Someone took (it)”

Therefore, we propose that imperative sentences can only license deictic null objects, since the only functional category available is MoodP. Yet, this correlation is not bidirectional; in other words, if the only functional category available is MoodP, then only deictic null objects will be licensed but under TP and AspP both deictic and anaphoric null objects can be found – the case in (11). It is very important to notice that it does not seem to be the case that children have problems in establishing anaphoric relations. We claim that using only deictic null objects up to a certain point in the development is not an extra-linguistic cognitive constraint, since they use full DPs anaphorically, which explains the high percentages of DPs in object position found in Table 1. Rather, it is a grammatical constraint: Their grammars are still incapable of licensing anaphoric null objects.

Let’s examine now AC’s grammar development with respect to the lexical (*Aktionsart*) and grammatical aspect.

⁸ See Antinucci and Miller 1976; Bickerton 1984; Brown 1973; De Lemos 1981; Shirai and Anderson 1995; Slobin 1985; Wagner 2006; Weist et.al. 1991; among many others on what has been doomed as the aspect-first-hypothesis.

Imperfective forms, such as the progressive forms (12) or ‘imperfective preterite’ ones (13) become productive from the age of 2;3 onwards:

- (12) a. *Ãh hã... tá querendo.* (AC 3;7)
 [] is wanting Ø.
 “Yes, (someone) wants it
- b. *[...] mas não tão comendo.* (AC 3;7)
 ... but they are not eating Ø.
 “But they are not having them”
- (13) *Quando eu era bem pequenininha.* (AC 3;7)
 When I be_imp_past very small.
 “When I used to be a baby”

Up to this stage, most sentences are morphologically marked as perfective forms occurring with achievement verbs. At that state, activity and accomplishment verbs are found. The achievement ones drop from 75%, in file 1;8, to 17.3% in file 2;3.

Thus, we are lead to assume that the ASP head is projected since very early on, but initially it contains an unspecified default [+ perfective] feature, inoperative to license null anaphoric objects and to check the antecedent features of the nominal ellipsis, especially the specificity one. We also claim that the T head is operative very early, given the fact that it accommodates present/past morphological distinctions on the verb. Although children do not interpret the temporal distinctions as such these distinctions seem to be part of the syntactic structure anyhow.

In order to unify these phenomena, we will backtrack to Cyrino and Matos’ (2005) proposal for VP ellipses in Portuguese. According to these authors, ellipsis is licensed in EP by T and in BP “*by functional heads distinct from T*” (p. 191), as we have discussed in the Introduction. More recently, Cyrino and Matos (2005) take the licensing head in BP to be the first head to merge with the (to be) elided VP. We assume here that this licensing head is ASP. Cyrino and Matos (2005) test the difference between the two varieties with the focusing adverb *também* (too):⁹

- (14) *Ela tem lido livros às crianças e ele também tem lido [-]*
 She has read books to-the children and he too has read
 “She has read books to the children and he has, too.”
- (15) a. *Ela tem lido livros às crianças e ele tem também lido [-]*
 She has read books to-the children and he has too read
- b. BP: [-] = [VP [V t] the books to the children]
- c. EP: [-] = i. ??[VP [V t] the books to the children]
 ii. ok [V t] [-]

⁹ In Cinque’s (1999) terms.

In BP even with the adverb in a lower position – lower than TP –, the strict elliptical reading is still available (15b), while in EP the only reading is a non-specific one (15c) – ‘he has been reading anything’. Cyrino and Matos (2005) propose the structure in (16) to account for (15):

(16) ... ele [TP tem [AdvP [Adv^o também] [VP aux t [AspP lido [vP -]]

According to our hypothesis, we should not expect to find low focusing adverbs or aspectual adverbs prior to the acquisition of the perfectivity features in ASP. On the contrary, they should count as independent evidence for the acquisition of such a head which, when operative, would license anaphoric null objects.

In AC’s data we found only one instance of the use of *também*, when she is 1;10:

(17) Eu também tenho Ø (AC, 1;10)
 I have too Ø
 “I also have one”
 (The child is ‘serving cups of coffee’ to herself, her mother and a teddy bear)

The adverb in (17) is above TP, considering the verb moves to T in Portuguese, and the object is still a deictic null one. On the other hand, aspectual adverbs start to be produced from 2;3 onwards, the age when the child makes the morphological distinction between perfective and imperfective forms. Examples (18) to (21) show a different range of temporal and aspectual forms, as well as the use of lexical and null objects, the latter as deictic or anaphoric instances. Her grammar seems to be going through a stage of transition:

(18) Aqui já comeu Ø. (AC, 2;3)
 Here already ate Ø.
 “Here, he ate it already”

(19) Já tem out(r)o bicho. (AC, 2;3)
 Already has another bug.
 “There is another bug already”

(20) Não comeu Ø ainda. (AC, 2;3)
 Not ate Ø yet.
 “He has not eaten (his veggies) yet.

(21) Já tomou Ø. (AC, 2;3)
 Already took Ø.
 “She has already taken her shower.”

Finally, we would like to go back to the predictions concerning short answers to Yes/No questions, shown in (5) and repeated below as (22):

- (22)— Você entregou o livro pra Maria?
 You gave the book to Mary?
 “Did you give Mary the book?”
 — Entreguei.
 Give_past_1ps
 “Yes, I did.”

If T licenses VP ellipses in such contexts in EP and ASP licenses them in BP, one should expect to find adult-like short answers in children acquiring EP earlier than in children acquiring BP, given the assumptions made before. Although we did not investigate that in our own data, for reasons pointed out earlier, Oliveira (2000) shows that Brazilian children use different strategies in different stages of development on their short answers:

- (23) A: Qué água?
 “Do you want some *water*?”
 C: awa (= água) (R. 1;8)
Water.
- (24) A: Qué chocolate?
 “Do you want some *chocolate*?”
 C: kiate (= chocolate) (R. 1;8)
“Chocolate”
- (25) A: Tirô tudo?
 Took everything?
 “Did you take *everything* out?”
 C: Tudo (R. 1;8)
Everything
- (26) A: Cê quer pôr o microfone embaixo do gravador?
 “Do you want to place the microphone *under* the tape-recorder?”
 C: bassu (= embaixo) (R. 1;8)
Under.
- (27) A: Quebrou o balde, filha?
 Broke the bucket, daughter?
 “Is the bucket broken, dear?”
 C: É (R. 1;8)
 Be_3ps_pres
 “Yes”

- (28)A: Tá machucadinho?
Is hurt_little?
“Is (the toy) a bit bruised?”
C: É (I. 2;2)
Be_3ps_pres
“Yes”
- (29)A: Você acha Aldaísa bonita?
“Do you find Aldaísa pretty?”
C: Acho (I. 2;4)
Find_1ps_pres
“Yes, I do (find her pretty)”

From (23) to (26), the child is merely repeating one of the words found in the adult’s question. In examples (27) and (28) the child seems to use the verb ‘to be’ as a *placeholder* in T. Answers with the verb ‘to be’ is also a possibility in the adult language, however they carry a clear pragmatic distinction, bearing an assertive reading which lacks in the child’s responses. Finally, the example in (29) conforms to the adult grammar.

In contrast, according to Santos (2006), the picture is quite different in EP:

- (30)M: *Queres* andar no cavalinho?
“Do you want to ride the horsie?”
C: *Qué.*¹⁰ (I. 1;5)
Want_3ps_pres
- (31)M: *Fez* ai ai ao Tomás?
“Did (something/someone) hurt you, Tomás?”
C: *Fez.*¹¹ (T. 2;2)
Hurt_3ps_pres
- (32)M: *Tinham* chocolate lá dentro?
“Did they have chocolate inside?”
C: *Ti(nh)am.* (I. 2;3)
Had_3pp
“Yes, they did”

Examples (30) to (32) clearly attest that the Portuguese children are producing VP ellipses from very early on in an adult-like fashion. Our prediction, therefore, holds true.

¹⁰ There is an agreement mismatch in the verb form which is irrelevant for our purposes here.
¹¹ The question involves a light verb (make) plus a nominal onomatopoeic expression (ai + ai) = hurt. The expected answer should contain the light verb as seen in the child’s response.

In what follows we will summarize the findings so far, pointing out the strong empirical correlation seen in the data in what regards the use of anaphoric null objects once ASP is operative in the grammar.

4. Summary

It is quite intriguing that many superficially unrelated processes go on pretty much at the same age range:

- (i) There is a drastic drop in the production of imperative forms at age 2;1, from there on reaching figures that are stable until the last file examined (see Figure 1);
- (ii) At age 2;3 the presence of anaphoric null objects is attested, together with the initial production of lexical pronouns in object position (see Table 3);
- (iii) Also at age 2;3 the perfective/imperfective distinction seems to become specified in AspP, considering the production of imperfective forms and the presence of varied verb types when lexical aspect is taken into account. Especially, there is a significant drop in the use of achievement verbs with perfective forms;
- (iv) That is also the age when aspectual adverbs are first attested. Prior to that file, however, temporal adverbs are largely produced;
- (v) non adult-like patterns for short answers to Yes/No questions give way to the convergent forms.

These facts cannot be taken as a mere coincidence, but as a result of the proper selection of features in a functional head that becomes active in the children's grammar. According to our hypothesis that job is done by the ASP head which will license anaphoric null objects in the language.

Finally, a word on the use of lexical pronouns. Both children initially tend to associate them with a [+human] feature of the antecedent and expand the use of the nominal ellipsis for other non-human [+animate, +specific] antecedents (ca. 50% of all cases, lasting until the 2;8 files) – the only cases that truly don't sound adult-like. Is the delay in the production of lexical pronouns also linked to the same phenomenon, i.e., are they also licensed by ASP? Or is it a matter of lexical learning? The former should not be the case, since the non-target-like null objects with animate antecedents last longer, when anaphoric null ones are already in place. It seems plausible to consider that children initially treat lexical pronouns as strong ones, which according to Cardinaletti and Starke's (1999) taxonomy would be associated to [+human] antecedents. It may be the case that children are avoiding the movement a weak pronoun should undergo, leaving its thematic position. If that were true, then the delay in convergence in the use of lexical pronouns in object position could be a matter of lexical learning.

One has to bear in mind that deictic null objects are certainly an option in BP adult grammar, that is why children, even though not convergent into the expected grammar, sound target-like, but really aren't.

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