CHAPTER 2

Null subjects and finite control in Brazilian Portuguese

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The paper discusses the restricted distribution and interpretation of "referential" null subjects in Brazilian Portuguese (BP). It shows that referential null subjects in BP behave like obligatorily controlled PRO and argues, following Hornstein (1999, 2001), that they should be analyzed as traces (deleted copies) of A-movement. The proposal is that with the weakening of the verbal inflection in BP, finite Ts became ambiguous in bearing a complete or an incomplete set of φ-features. When the incomplete version is selected in an embedded clause, T is not able to value the Case of the DP in its Spec, which then remains active and may undergo further A-movement. If the movement lands in a θ-position, we obtain a finite control construction; if the landing site is not a θ-position, we obtain a hyper-raising construction, instead.

1. **Introduction***

This paper discusses structures containing null arguments in the subject position of finite clauses in Brazilian Portuguese (BP). As I show below, BP has undergone significant diachronic changes that strongly restricted the possibility of null subjects in finite clauses, thereby becoming different from both classical *pro*-drop languages, like Italian and Spanish, and categorically non *pro*-drop ones, like English and French. My goal is to account for several peculiarities concerning the distribution and interpretation of null subjects in BP. My analysis is couched within the parsimonious guidelines of the Minimalist Program (Chomsky 1995, 2000).

As a first approximation, we can say that BP allows expletive and indefinite null subjects, but not referential null subjects, as shown in (1).[1]

(1) a. Está chovendo.
         is   raining
         'It is raining.'

    b. Mataram o   presidente.
        killed-3PL the president
        'Someone killed the president.'

    c. *Comprou um carro novo.
         bought   a   new car
         'S/he bought a new car.'

However, (1c) becomes acceptable if it is embedded in a clause containing an antecedent for its subject:

(2) João$_i$ disse [que *ec$_i$* comprou um carro novo]
     John$_i$ said that   bought   a   new car
     'John said that he bought a new car.'

I argue that instances of referential null subjects found in BP are neither empty pronouns nor empty variables bound by null operators, but rather traces, resulting from raising from the specifier position of a finite T to a higher clause (hyperraising, in Ura's 1994 terminology). I will try to make this idea explicit and show that, once we adopt it, we can derive the peculiarities of BP null subjects.[2]

The paper is organized as follows: in Section 2, I present the constraints related to the licensing of null subjects in BP. In Section 3, I present my analysis, pointing to the specific aspect of BP grammar that I consider the source of the behavior of null subjects in this language. In Section 4, I show in detail how the properties listed in Section 2 can be derived. Section 5 is a brief conclusion.

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1.   This paper will deal only with cases of referential null subjects. I will have nothing to say about structures like (1a) and (1b), which contain instances of expletive and indefinite null subjects. See Rodrigues (2004) for relevant discussion.

2.   Rodrigues (2004) has also independently developed a minimalist analysis based on the idea that BP null subjects are residues of A-movement and discusses many of the facts I will discuss here. Although our works share several common features, technical details differ considerably. See footnote 18 below for more on this point.

2.   The data

The following subsections are devoted to describing the constraints on the distribution of null subjects in BP. I start by discussing some relevant facts about BP verbal morphology.

2.1   The Impoverishment of subject-verb agreement

The verbal paradigm of modern BP has undergone a considerable simplification in relation to the verbal paradigm of earlier stages of the language, as shown in (3):[3]

(3) a. falo   falas   fala   falamos falais falam   (*Old BP)*
     b. falo   fala   fala   fala   falam   falam   *(BP)*
         talk-1SG talk-2SG talk-3SG talk-1PL talk-2PL talk-3PL

(3a) shows that a paradigm displaying six different forms changed into a new one containing only three.[4] Interestingly, BP grammar has also drastically reduced the positions where a null subject can be used. Putting aside expletives and indefinite subjects (see Footnote 1), the instances of null subjects currently found in BP sentences are restricted to embedded clauses, as in (4b-c). Null subjects in matrix clauses seem to have disappeared along with the richness of verbal agreement, as attested by the ungrammaticality of (4a):[5]

(4) a. *Comprou um carro.
         bought   a   car
         'He bought a car'.

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3.   See Duarte (1995) for a detailed statistical study of this process. See Galves (1991, 1993) and Kato (1999) for suggestions of how this impoverishment may have affected the clause structure of BP sentences.

4.   This is true for most dialects.

5.   I am disregarding here the fact that "null topic constructions" in the sense of Huang (1984) are possible in BP, as in the following dialog:

(i) A: E   o   João?
         and the John
         'What about John?'

     B: Saiu com a   Maria.
         left   with the Mary
         'He went out with Mary'.

As for deictic and anaphoric null subjects, they are not possible, even in contexts where languages like Italian or Spanish would allow them. See Rodrigues (2004) for relevant discussion.

b.   Ele$_i$ disse [que ec$_i$ comprou um carro]
     he   said   that   bought   a   car
     'He said he bought a car'.

c.   Você$_i$ disse [que *ec$_i$* comprou um carro]
     you   said   that   bought   a   car
     'You said you bought a car'.

2.2   The position of the antecedent

To be inside an embedded clause is a necessary condition to legitimate a null subject in BP. However, as shown in (5), it is not a sufficient condition.

(5)   a.   *João disse [que   a   Maria acha   [que *ec* é esperto]]
           John said   that the Mary thinks that   is smart-masc
           'John said that Mary thinks he is smart'.

      b.   *A   mãe   do João acha   [que *ec* é esperto]
           the mother of John thinks that   is smart-masc
           'John's mother thinks he is smart'.

      c.   *João disse [que a Maria acha   [que *ec* são espertos]]
           John said   that the Mary thinks   that   are smart-PL
           'John said that Mary thinks that they are smart'.

The following example contrasts with (5a-c):[6]

(6)   João$_i$ acha   [que ec$_i$ é esperto]
      John thinks that   is smart-masc
      'John thinks that he is smart'.

The contrast between (6) and (5a) shows that the null subject must have an antecedent in an immediately higher clause. (5b) shows that the null subject must be c-commanded by this antecedent and (5c) shows the impossibility of a split antecedent. Based on these examples, we may state the following generalization:

(7)   Referential null subjects in BP must be c-commanded by an antecedent located in the immediately higher clause.

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6.   Similar data were presented in Moreira da Silva (1983) and latter discussed in Figueiredo Silva (1996). Similar facts also obtain in Hebrew (Borer 1989). In Hebrew, however, the presence of an overt complementizer in the embedded clause is incompatible with a null subject in the same clause, unless the complementizer cliticizes to the verb. This is definitely not the case in BP. Figueiredo Silva tries to extend to BP the idea of an anaphoric AGR proposed to Hebrew by Borer, but the differences observed between BP and Hebrew force her to excessively enrich BP clause structure. My analysis will try to account for these facts in a considerably simpler manner.

2.3   The avoid pronoun principle

In null subject languages, such as Italian and Spanish, the alternation null subject/overt subject is not completely free. There are contexts in which one of the forms is preferred or even required. To capture this asymmetry, several principles have been proposed to regulate this alternation. Perhaps the most familiar one is the Avoid Pronoun Principle (Chomsky 1981), which establishes the following:

(8)   *Avoid Pronoun*
      Whenever an alternation null pronoun/overt pronoun is possible, the null pronoun is preferred (or required).

Thus, in languages like Spanish or Italian, the overt pronoun will be used in a sentence corresponding to (9) only if it receives stress, indicating emphasis or contrast, a function obviously incompatible with the null pronoun.

(9)   João$_i$ disse que ele$_i$ comprou um carro novo.
      John said that he bought   a   car   new
      'John$_i$ said that he$_i$ bought a new car.'

However, BP allows (9) in neutral situations, giving us the impression that principle (8) does not apply (Duarte 1995). To the extent that this description is correct, we should look for an explanation for this state of affairs.

2.4   Montalbetti's effects

Another principle that regulates the alternations between null pronoun/lexical pronoun is the Overt Pronoun Constraint, proposed by Montalbetti (1984):[7]

(10)   *Overt Pronoun Constraint*
       An overt pronoun cannot be locally bound by a variable, if a null pronoun is possible in the same position.

The relevant data exemplifying how this principle applies are illustrated by the Spanish sentences below:

(11)   a.   *[Todo chico]$_i$ t$_i$ dijo que Maria piensa que él$_i$ es inteligente.
            every boy   said that Mary thinks that he is intelligent
            'Every boy said that Mary thinks that he is intelligent'.

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7.   (10) is in fact an adaptation of the Montalbetti`s original proposal (which was stated within Linking Theory) in terms of Binding Theory. See Lasnik & Uriagereka (1988) for a succinct but very clear discussion about Montalbetti`s proposal and the possibility of adapting it in terms of Binding Theory.

    b. [Todo chico]$_i$ t$_i$ dijo que Maria piensa que *pro*$_i$ es inteligente.
        every boy   said that Mary thinks that   is intelligent
        'Every boy said that Mary thinks that he is intelligent'.

(12) a. [Todo chico]$_i$ t$_i$ dijo que *pro*$_i$ piensa que él$_i$ es inteligente.
        every boy   said that   thinks that he is intelligent
        'Every boy said that Mary thinks that he is intelligent'.

    b. [Todo chico]$_i$ t$_i$ dijo que *pro*$_i$ piensa que *pro*$_i$ es inteligente
        every boy   said that   thinks that   is intelligent
        'Every boy said that Mary thinks that he is intelligent'.

The closest binder for the pronoun *él* in (11a) is t_i, a variable left by movement of the quantificational phrase *todo chico* at LF. According to (10), (11a) is ill-formed because the overt pronoun could be replaced by a null pronoun, as shown in (11b). (12a) admits an overt pronoun because it is not locally bound by a variable, but by the null pronoun of the intermediate clause. Therefore, the principle is inapplicable and both (12a) and (12b) are grammatical.

    Consider now similar cases in BP:

(13) a. [Nenhum menino]$_i$ t$_i$ disse que a Maria acha   que ele$_i$ é
        no   boy   said that the Mary thinks that he is
        inteligente.
        intelligent
        'No boy said that Mary thinks that he is intelligent'.

    b. *[Nenhum menino]$_i$ t$_i$ disse que a Maria acha   que *ec*$_i$ é
        no   boy   said that the Mary thinks that   is
        inteligente.
        intelligent
        'No boy said that Mary thinks that he is intelligent'.

Comparing (13a-b) with (11a-b), we can see that judgments in BP and Spanish are just the opposite: (13a), which corresponds to (11a), is good although the overt pronoun is locally bound by a variable, and (13b), which corresponds to (11b), is unacceptable despite the fact that it employs a null subject in the corresponding position. Once again, BP data seem to disregard a principle empirically supported by similar data from other null subject languages, a fact that demands explanation.

2.5   *Only* DPs and VP-ellipsis

BP null subjects give rise to two other interpretive restrictions, which are worth noting.[8] The first one has to do with different readings obtained using overt and null categories in examples like (14).

(14) a. Só o João acha   que ele vai ganhar a   corrida.
        only the John thinks that he will win   the race
        'Only John thinks that he will win the race'.

    b. Só o João acha   que vai ganhar a   corrida.
        only the John thinks that will win   the race
        'Only John thinks that he will win the race'.

(14a) is ambiguous. Under one reading, it means that *João* is the only person who believes in *João*'s victory, and it would be false in a situation in which other people also believe that *João* will win the race. Under the other reading, it means that *João* is the only person who believes in his/her own victory, and it would be false in a situation in which another person is also self-confident. It is also important to note that only (14a) admits a reading in which the subject of the embedded clause is related to an entity presented in the discourse situation, like *Peter,* for example; As for (14b), it is not ambiguous and can only mean that *João* is the only person who believes in his/her own victory.

    The second context to be presented here also reveals an asymmetry between overt and null subjects, this time in VP-ellipsis structures:

(15) a. João$_i$ acha que ele$_i$ vai ganhar a   corrida e   Maria também.
        John thinks that he will win   the race   and Mary too
        'John$_i$ thinks that he$_i$ will win the race and Mary too'.

    b. João acha que vai ganhar a   corrida e a Maria também.
        John thinks that will win   the race   and the Mary too
        'John$_i$ thinks that he$_i$ will win the race and Mary too'.

(15a) is ambiguous, admitting the strict and sloppy readings paraphrased in (16a-b), respectively. By contrast, (15b) is unambiguous, admitting just the sloppy reading.

(16) a. John$_i$ thinks that he$_i$ will win the race and Mary thinks that he$_i$ will the race.

    b. John$_i$ thinks that he$_i$ will win the race and Mary$_j$ thinks that she$_j$ will win the race.

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8.   As far as I know, these facts were first noted by Moreira da Silva (1983) and Chao (1983). For recent discussions, see Negrão & Viotti (2000) and Modesto (2000).

2.6   Hyperraising

A distinctive property of BP is that it allows raising from the subject position of a finite clause to the subject position of an immediately higher clause (hyperraising in Ura's 1994 terminology):

(17)   João parece que comprou um carro novo.
       John seems that bought   a   car   new
       'John seems to have bought a new car'.

Under standard analysis, *João* in (17) could not have been directly inserted in the matrix clause, since it would violate the θ-Criterion. One could argue that *João* is a topic, related to the subject position of the embedded clause, and followed by a null expletive in the subject position of the matrix clause. This, however, does not seem to be correct. We can replace *João* by a weak pronominal form (18a) or a bare quantifier (18b), and the sentences are still well formed. Since these elements cannot be topicalized, as shown in (19a-b), we are left with the conclusion that hyperraising is possible in BP.[9,10]

(18)   a.   Cê   parece que está doente.
            you$_{weak}$ seem   that is   sick
            'You seem to be sick.'

       b.   Alguém parece que está doente.
            someone seem   that is   sick
            'Someone seems to be sick.'

(19)   a.   *Cê,   João me disse que vai ser aprovada.
             you$_{weak}$ John me told   that will be approved-fem
             'You, John told me that you will be approved'.

       b.   *Alguém, João me disse que seria   aprovado.
             Someone   John me told   that would-be approved-masc

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9.   For similar arguments based on idiomatic expressions, see Martins & Nunes (2005).

10.   Some speakers detect some degradation in examples not involving singular third person. For other speakers (a group in which I include myself), however, this degradation does not exist and examples like (i) below are perfect:

(i)   Eles pareciam que estavam doentes.
      they seemed   that were   sick
      'They seemed to be sick'.

Even with singular first person, it is possible to obtain well-formed examples, once we find an appropriate context. For example, in a situation of perplexity, (ii) sounds perfect to me:

(ii)   Mas eu não tô parecendo que tô doente, tô?
       but I not am seeming   that am sick   am
       'But I don´t seem to be sick, do I?'

2.7   Null subjects and islands

Another restriction concerning the use of null subjects in BP has to do with the impossibility of their occurrence inside certain islands, as attested by the examples below, where an empty subject, but not its antecedent, appears inside a relative clause:

(20)   a.   ??João$_i$ não gostou dos   livros que [*ec$_i$* leu na   escola]
                 John not liked   of-the books that   read in-the school
                 'John didn't like the books that he read in the school'.

       b.   ??João$_i$ disse que [as   meninas [que *ec$_i$* encontrou]] eram
                 John said that the girls   that   met   were
                 estrangeiras
                 foreigners
                 'John said that the girls he met were foreigners'.

Examples like the ones above suggest that null subjects are disallowed inside a strong island if their antecedents are outside the island. However, in adjunct clauses (which are also strong islands) null subjects are allowed, as can be seen in (21).

(21)   João$_i$ visitou a   Maria [quando *ec$_i$* saiu do   trabalho]
       John visited the Mary   when   left from-the work
       'John visited Mary when he left his job.'

In this case, a null subject is possible and must be coreferent to the matrix subject.

     Let us now consider the case of weak *wh*-islands. Such cases reveal an interesting contrast: if the wh-phrase is an adjunct, then the null subject is allowed in the embedded clause, as shown by the examples in (22). On the other hand, if the *wh*-phrase comes from an argument position, then the use of a null subject makes the sentences degraded, as shown in (23).[11,12]

(22)   a.   João$_i$ não sabe   [quando *ec$_i$* leu esse livro]
                 John not knows   when   read this book
                 'John$_i$ doesn't know when he read this book'.

       b.   João$_i$ não sabe   [onde *ec$_i$* comprou esse livro]
                 John not knows   where   bought   this book
                 'John$_i$ doesn't know where he bought this book'.

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11.   The contrasts may be subtle in some cases, but they systematically point to the same direction: it is possible to find a speaker who labels the sentences in (22) as good, and those in (23) as bad, but there are no speakers who consider the sentences in (23) better than those in (22) (Thanks to Jairo Nunes for helping me clarify this point).

12.   Examples with a dislocated PP (= 23b) tend to be better than examples with a DP (= 23a). I will come back to this asymmetry in Section 4.6 below.

c. João$_i$ não sabe   [por que *ec*$_i$ leu   esse livro]
   John not knows   why   read this book
   'John doesn't know why he bought this book'.

d. João$_i$ não sabe   [como *ec*$_i$ perdeu esse livro]
   John not knows   how   lost   this book
   'John doesn't know how he lost this book'.

(23) a. ??João$_i$ não sabe   [que   livro *ec*$_i$ leu   na   semana passada]
      John not knows   which book   read in-the week   last
      'John doesn't know which book he read last week'.

b. ?João$_i$ não sabe   [pra quem *ec*$_i$ emprestou o   livro]
   John not knows   to whom   lent   the book
   'John doesn't know to whom he lent this book'.

A similar contrast can be noted when a topicalized element appears at the left pe-
riphery of the embedded clause. Again, non-arguments allow null subjects but
arguments do not:

(24) João$_i$ disse [que amanhã ec$_i$ vai viajar pra Europa]
   John said   that tomorrow   will travel to Europe
   'John said that tomorrow he will travel to Europe.'

(25) *João$_i$ disse [que esse livros *ec*$_i$ leu   na   semana passada]
   John said   that these books   read in-the week   last
   'John said that these books he read last week.'

Finally, another island where it is possible to find null subjects in BP is the Com-
plex-NP island, as in (26) below.[13]

(26) O   presidente$_i$ negou [os   rumores de que *ec*$_i$ recebeu dinheiro de
   the president   denied the rumors of that   received money   from
   empresários]
   executives
   'The president denied the rumors that he got money from businessmen.'

I will return to all the above examples in Section 4, where I try to derive their
properties using the analysis I develop in Section 3.

13. The possibility of null subjects inside complex-NP was noted by Modesto (2000). Example
(26) was borrowed from his work.

3. The analysis

Since Chomsky (1982), it has been assumed that the empty category occupying the
subject position of finite clauses in several languages correspond to an empty pro-
noun (*pro)*. The fact that not all languages of the world manifest the existence of
pro has immediately raised the question about what the basis of such partition is.
The idea of postulating a binary parameter (± pro-drop) specifically created to ac-
count for this distinction did not seem attractive, since it considered the existence
of null subjects an isolated phenomenon, predicting the possibility of coexistence
of null subjects and any other set of properties in the same grammar. The problem
is that the study of null subject languages has detected a cluster of properties that
approximate those languages from each other and at the same time differentiate
them from other languages (absence of *that*-trace effects and subject-verb inver-
sion, for example). It would be interesting to associate these properties to a single,
more abstract parameter, from which all of them (or at least a substantial part of
them) would follow.[14]

The standard assumption is that *pro* must be identified by means of a verbal mor-
phology rich enough to recover the formal features of *pro*'s referent.[15] In GB, the
concept of rich morphology was encoded in the functional head AGR, and languages
could have a rich or a poor AGR. The cluster of properties associated to the pro-drop
languages could then be derived from properties of AGR (rich but not poor AGR li-
censes *pro*; rich but not poor AGR can be a proper governor, and so on.)

A good source of data to verify the validity of this approach comes from dia-
chronic studies. For example, we expect to find languages that have undergone an
impoverishment in their verbal agreement morphology to also exhibit reduction
in its ability to license null subjects.[16] This is just what happened with BP. As

14. For arguments favoring an unified analysis of these properties, see Rizzi (1982); Brandi &
Cordini (1989) and Kenstowicz (1989). Kato (1999) presents an attempt to deduce the possibil-
ity of free inversion from the possibility of null subjects.

15. For different stages of this idea, see Taraldsen (1978), Chomsky (1981, 1982), and Rizzi
(1986) among others.

16. The possibility of null subjects, however, is not necessarily linked to the inflectional rich-
ness of the language (see Jaeglli & Safir 1989 for a discussion). Chinese, for example, allows for
null subjects but does not manifest any agreement mark in its verbal forms (see Huang 1989).
Also interesting is the case of Icelandic evolution. According to Sigurðsson (1993), the inflec-
tional paradigm of Modern Icelandic is not poor/richer in comparison with Old Icelandic.
However, the contexts in which null subjects are tolerated have altered during the period be-
tween these stages of the language. These facts indicate the existence of other forms of legitimat-
ing of null subjects other than richness of AGR. But in the case of BP, it must be stressed that the
diachronic facts point to a strong correlation between inflectional richness and legitimating of
null subjects (see Duarte 1995).

pointed out in Section 2.1, modern BP has undergone a considerable simplifica-
tion in its verbal paradigm if compared to earlier stages of the language (see Du-
arte 1995 for the details). Six different verbal forms have given place to only three,
and the distinction between second person and third person forms has disap-
peared. Interestingly, BP has also drastically reduced the contexts in which a null
subject is possible. In this regard, BP evolution seems to be partially different from
what is attested in French. French has also undergone an impoverishment in its
agreement system, but has completely lost the possibility of having a null subject
in finite clauses (cf. Adams 1987, and Roberts 1993 for different views on the his-
tory of French). Bringing *pro* to the scene, one could argue that French has lost its
resources to legitimate this empty category, behaving just like the theory predicts,
but that BP seems to have a kind of anaphoric *pro*.

In this section, I would like to suggest a different interpretation for the chang-
es observed in BP. The idea is that, as far as the legitimation of referential *pro* is
concerned, the history of BP and French are similar in that both languages have
lost the possibility of using *pro* due to an impoverishment of their agreement sys-
tems. However, these languages have divergently evolved in another aspect, to
which I shall return soon.

As for the theoretical background concerning agreement, I follow Chomsky
(2000) and assume that the functional head T(ense) has a set of φ-features that can
enter into a checking relation with the set of φ-features of a DP, and that the result
of this relation is the deletion of the Case feature of the latter (T heads themselves
have no Case feature). However, only a complete set of φ-features is capable of
eliminating the Case feature of a DP, making this DP inactive to the computa-
tional system, as far as A-movement is concerned.

A second assumption that will play a central role in my analysis concerns the
nature of thematic relations and their role in the course of a derivation. Chomsky
(1995, 2000) claims that thematic roles are not formal features and that their as-
signment does not involve any checking procedure. Inspired by work on "scram-
bling" in Japanese by Bošković & Takahashi (1998) and work on obligatory control
in English by Hornstein (1999, 2001), I will instead assume that θ-roles are formal
features and that movement into thematic positions is in conformity with the Last
Resort Condition, which limits applications of Move to cases involving feature
checking. Hornstein (1999, 2001), for example, proposes for a sentence like (27a)
a derivation involving movement of the subject out of the embedded clause, as
represented in (27b).

(27) a. John tried to win.
      b. [$_{TP}$ John$_i$ T [$_{vP}$ t$_i$ tried [$_{CP}$ [$_{TP}$ t$_i$ to [$_{vP}$ t$_i$ win]]]]]

In this derivation, the subject *John* enters into two thematic relations: one in its base
position within the embedded *v*P, and another one with the matrix *v*. It is this sec-
ond relation that triggers movement of *John* to the specifier position of matrix *v*. As
I will show in greater detail below, my analysis of the derivation of sentences con-
taining null subjects in embedded finite clauses in BP bears a close resemblance to
the analysis Hornstein (1999, 2001) proposes for control structures in English.

Back to BP, the interpretation I propose for the facts we have observed is that
finite T in this language has not only lost its capacity to legitimate *pro*, but also had
its set of φ-features reanalyzed as an incomplete set. Having been reanalyzed this
way, finite T began to behave like nonfinite T, that is, it attracts an element to its
Spec, but is unable to eliminate the Case feature of the moved element. The same
did not happen in French, where finite T, tough unable to legitimate *pro*, is still
analyzed as complete set of φ-features.

With this in mind, consider the derivation of a sentence like (28).

(28) João disse que comprou um carro.
      John said that bought   a   car
      'John said that he bought a car'.

I begin with the stage in which the embedded *v*P has already been formed by suc-
cessive applications of Merge. At this point, *João* occupies the specifier position of
v, where it enters into a thematic relation, receiving a θ-role:

(29) [$_{vP}$ João comprou um carro]
          John bought   a   car

Next, T merges with *v*P. T has an EPP feature and an incomplete set of φ-features,
both illegible. *João* has an illegible Case feature and is attracted to T, leaving a copy
in its original position. The set of φ-features of T and *João* establish a checking
relation and the φ-features of the former are eliminated. Since the set of φ-features
of T is incomplete, the Case feature of *João* is not eliminated and it is still active to
the computational system:

(30) [$_{TP}$ João T$_{φ\text{-inc}}$ [$_{vP}$ João comprou um carro]]
          John   John bought   a   car

The derivation goes on and, after successive applications of Merge, the structure
headed by the light verb of the matrix clause is formed:

(31) [$_{vP}$ disse [$_{CP}$ que [$_{TP}$ João T$_{φ\text{-inc}}$ [$_{vP}$ João comprou um carro]]]]
          said   that   John   John bought   a   car

Now we have reached a crucial point of the derivation. The matrix light verb has a
thematic feature that needs to be checked. *João* is an argument capable of

performing this role. It then raises to Spec of *v*, forming (32) below. Note that this operation is possible because a) *João* has a Case feature unchecked and is therefore active; b) a thematic relation is involved, respecting the Last Resort Condition; c) there is no violation of the Minimal Link Condition, that is, there is no intervening element which could also enter into a thematic relation with *v*, and (d) by assumption, there is no other element in the numeration that could also enter into a thematic relation with *v*.

(32)   [$_{vP}$ João disse [$_{CP}$ que [$_{TP}$ João T$_{\varphi\text{-inc}}$ [$_{vP}$ João comprou um carro]]]]
        John said   that   John   John bought   a   car

Next, matrix T, which has a complete set of φ-features, is merged with *v*P and, in virtue of having an EPP feature, attracts *João* to its Spec. The φ-features of T are eliminated and (33) is formed.

(33)   [$_{TP}$ João T$_{\varphi\text{-comp}}$ [$_{vP}$ João disse [$_{CP}$ que [$_{TP}$ João T$_{\varphi\text{-inc}}$ [$_{vP}$ João VP]]]]]
        John   John said   that   John   John

Then, the rest of the matrix clause (CP) is formed and, after deletion of copies and linearization of the structure in the phonological component (see Nunes 1999, 2004), we finally have a sequence like (28).

Our proposal then is that the derivation of a sentence like (28) in BP does not differ in its essence from the derivation Hornstein (1999, 2001) proposes for control structures involving infinitival embedded clause, which also exist in BP:

(34)   João tentou comprar um carro.
        John tried   buy-INF a   car
        'John tried to buy a car'.

According to the proposal presented here, both finite and nonfinite T in BP may have an incomplete set of φ-features, being unable to render the element raised to its Spec inactive. Then, in both cases, the subject of the embedded clause can be raised to the matrix clause where it receives a second θ-role. However, consider the following contrast:

(35)   a.   A   Maria disse que o   João comprou um carro.
             the Mary said   that the John bought   a   car
             'Mary said that John bought a new car.'

        b.   *A   Maria tentou o   João comprar um carro.
              the Mary tried   the John buy   a   car

This contrast reveals two points. First, infinitival T of control structures is always φ-incomplete. This is crucial in explaining why sentences such as (35b) are

ungrammatical: there is no way of eliminating the Case feature of the embedded subject. Second, having an incomplete set of φ-features should be an option, but not a requirement, for finite T. Otherwise, in sentences such as (35a), the subject of the embedded clause would never have its Case feature eliminated, since both finite and nonfinite T would be unable to perform this task, causing the corresponding derivations to crash.[17] The upshot is that BP should have both φ-complete and φ-incomplete finite Ts.

With respect to this optionality, my suggestion is the following: Universal Grammar presumably assigns to finite T the property of bearing a complete set of φ-features, or to use another jargon, the property of assigning nominative Case. This is the unmarked option, and a child acquiring his or her language does not need positive evidence to learn it. I propose that what happened with BP is that it gained an extra option, namely, the reanalysis of finite T as an incomplete set of φ-features, or, in the other jargon, the optionality of assigning nominative Case by T.

With this in mind, let us reconsider the derivation of (28), repeated here for convenience as (36).

(36)   João disse que comprou um carro.
        John said that bought   a   car
        'John said that he bought a car.'

If the numeration underlying this derivation contains two instances of finite T with an incomplete set of φ-features (henceforth I will call it just *incomplete T*), then the derivation will not converge, since the Case feature of *João* will not be eliminated. If two instances of complete T are chosen, the derivation will not converge again, this time due to the impossibility of raising *João* to the matrix clause, since it will be frozen in the Spec of embedded T and the formal features of the matrix T, as well as the θ-features of the matrix *v*, will not be eliminated, causing the derivation to crash. The only option leading to convergence is a numeration containing one instance of a complete finite T and one instance of an incomplete finite T. If the complete finite T is inserted in the embedded clause, we will not obtain any progress: once again, the matrix T will not have its illegible features eliminated, because *John* will be frozen in the embedded clause. On the other hand, if the incomplete T is inserted in the embedded clause, it will allow raising of the embedded subject to the matrix clause. The subject will first move to Spec of *v*, checking the θ-feature of *v*. Then, a checking relation will be established between its φ-features and the φ-features of matrix (complete) T. As a result, all illegible features are eliminated.

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17.   I am assuming with Hornstein (1999, 2001) that nonfinite T, even in the case of obligatory control structures, does not check (null) Case.

With respect to cases like (35a), convergence is obtained if we select a numeration with two instances of complete finite T. In this case, *João* and *Maria* will have their Case features eliminated along with the illegible features of matrix and embedded clauses respectively, and no hyperraising will be triggered.[18]

4.   Explaining the data

We saw in the last section that argumental null subjects appearing in BP embedded clauses correspond to a copy left by an element that had moved to a higher clause. We also saw that BP grammar does not license an argumental *pro* and that a sentence like (36) can only have a structure like (37).[19]

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[18]   Rodrigues (2004) also proposes an analysis for sentences like (36) based on movement into a thematic position. However, her explanation for why the subject of a finite clause may still be active for the computational system after agreeing with T differs from mine and is based on the following general assumptions: first, entering into an agreement relation with a functional head does not suffice for checking the Case feature of a DP. Instead, to have its Case feature deleted, a DP should move and enter into a Spec-Head configuration with the relevant head (T in our case). Second, there is overt V-to-T movement in BP and this is enough to check the EPP-feature of T. Thus, what characterizes BP in her view is not the fact that finite Ts can be either φ-complete or φ-incomplete, as I am proposing here, but rather the fact that a subject DP may stay in its base position within *v*P with its Case feature unchecked. Of course, this will lead to convergence only if later on in the derivation the subject DP moves out of its theta domain and enters a Spec-Head relation with a higher functional head. In the case of (36), the subject moves first to Spec of FP, (a left-peripheral projection hosted between TP and CP and whose specifier is the spell-out position of BP preverbal subjects, according to Rodrigues). At this point, the the subject will move from within the embedded clause to the specifier of matrix *v*, and then to the specifier of matrix F, where its Case feature gets deleted:

(i)   Derivation of the embedded clause:
[$_{CP}$ que [$_{FP}$ João$_{[Case]}$ F [$_{TP}$ T+v+ comprou [$_{vP}$ t$_{João}$ t$_{v+comprou}$ um carro]]]]]
        that   João   bought   a   car

(ii)   Derivation of the matrix clause:
[$_{FP}$ João$_{[Case]}$ F [$_{TP}$ T+v+ disse [$_{vP}$ t$_{João}$ t$_{v+disse}$ [$_{CP}$ que [$_{FP}$ t$_{João}$ F [$_{TP}$ ... comprou
        John   said   that   bought
um carro ...]]]]]
        a   car

A methodological drawback of this analysis is that it requires that the checking/deletion of certain features only occur under Spec-Head configurations. This is unnecessary in my implementation, which follows more closely the minimalist design of Chomsky (1995, 2000). On the empirical side both analyses seem to make the same predictions, due to the fact that they both rely on cross-clausal movement to account for the distribution of null subjects in BP.

[19]   For the sake of readability, I will represent copies as indexed traces.

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(37)   [$_{TP}$ João T$_{φ-comp}$ [$_{vP}$ t$_i$ disse [$_{CP}$ que [$_{TP}$ t$_i$ T$_{φ-inc}$ [$_{vP}$ t$_i$ comprou um
        John   said   that   bought   a
carro]]]]]
car

Let us now reconsider the sentences presented in Section 2 and show how the proposals made in Section 3 can explain the peculiar behavior revealed by those data.

4.1   The position of the antecedent

Let us begin with (38), which has led to the generalization in (7), repeated here in (39).

(38)   a.   *João disse [que a   Maria acha   [que *ec* é esperto]]
                John said   that the Mary thinks   that   is smart-masc
                'John said that Mary thinks he is smart'.

        b.   *A   mãe   do João acha   [que *ec* é esperto]
                the mother of John thinks   that   is smart-masc
                'John's mother thinks he is smart'.

        c.   *João disse [que a   Maria acha   [que *ec* são espertos]]
                John said   that the Mary thinks   that   are smart-PL
                'John said that Mary thinks that they are smart'.

        d.   *Comprou um carro.
                bought   a   car

(39)   Referential null subjects in BP must be c-commanded by an antecedent located in the immediately higher clause.

In (38a), the masculine form of the adjective indicates that the subject of the most embedded clause should be *João,* the only DP in the sentence that has this feature. Then, the only derivation that does not crash due to feature mismatch is the one in which *João* is (hyper)raised from Spec of T of the most embedded clause to the matrix Spec of *v*, raising next to the matrix Spec of T. We already know that raising operations like this one are possible only if the finite T of the clause from which the element raises is an incomplete T. Assume this to be the case. Then (38a) has the structure in (40).

(40)   [$_{TP}$ João$_i$ T$_{φ-comp}$ [$_{vP}$ t$_i$ disse [que Maria acha [$_{CP}$ que [$_{TP}$ t$_i$ T$_{φ-inc}$
        John   said   that Mary thinks   that
esperto]]]]]
smart-masc

The problem with this structure is that it results from an illegal derivation. Raising *João* from Spec of the most embedded T to Spec of matrix *v* violates the Minimal Link Condition, since *Maria* was closer to matrix *v* than *João* was.[20] That is why (38a) is ill formed. Note that if we change the masculine form of *esperto* to the feminine form *esperta*, the sentence becomes good. But this is not surprising. We now have a licit derivation, resulting from (41b), where *Maria* is inserted in the most embedded clause.

(41) a.   João disse que Maria acha   que é esperta.
           John said   that Mary thinks that is smart-fem
           'John said that Mary thinks that she is smart'.

      b.   [$_{TP}$ J$_i$ T$_{\varphi\text{-comp}}$ [$_{vP}$ t$_i$ disse que [$_{TP}$ M$_j$ T$_{\varphi\text{-comp}}$ acha   que [$_{TP}$ t$_j$ T$_{\varphi\text{-inc}}$
           John   said that Mary   thinks that
           esperta]]]]
           smart-fem

Now, consider (38b). Here too, the masculine form of the adjective indicates that the subject of the embedded clause must be specified as masculine. *João* is the only candidate. Assume that finite T in the embedded clause is an incomplete T and that Move has been applied, resulting in the structure below:

(42) [$_{TP}$ [A mãe   do João$_i$] T$_{\varphi\text{-inc}}$ acha [$_{CP}$ que [$_{TP}$ t$_i$ T$_{\varphi\text{-inc}}$ é bonito]]]
      the mother of John   thinks that   is handsome

However, this structure is also the product of an illegal derivation. The copy of *João* in Spec of embedded T is not c-commanded by the copy in the matrix clause. In other words, this is an instance of movement that violates the C-command Condition.[21]

(38c) indicates the impossibility of a split antecedent for the null subject. In the face of the hypothesis defended here, this has an obvious explanation: two elements could not have been moved from the same position. So, the subject of the embedded clause in (38c) cannot be *João* and *Maria*, since we would be forced to admit that both elements have been moved from the Spec of the embedded T and this is not possible. But this is the only option that could save the derivation from crashing due to feature mismatch. Therefore, (38c) is ill formed.

Finally, (38d) also receives a straightforward explanation. The absence of a DP that could check the verb's external θ-role and eliminate the illegible features of T makes unavailable the construction of a convergent derivation that would result in (38d). The possibility of a DP inserted in Spec of *v*, raised to Spec of T and then deleted in the phonological component is simply out of question since this would

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20. Following Chomsky (2000), I assume that a checked feature, although inert to the computational system, induces intervention effects.

21. But see Section 4.6 below for further discussion.

violate the Principle of Recoverability of Deletion, whatever the ultimate deduction of this principle may be.

We have then succeeded in deriving the generalization that referential null subjects in BP must be locally c-commanded by their antecedents. We have just seen that this follows from the fact that null subjects in this language are copies resulting from movement, and that this operation is constrained by the Minimal Link Condition, the C-Command Condition, and the Last Resort Condition. It is these restrictions that are actually responsible for the validity of (39).

A potential counterexample to the obligatoriness of a local antecedent to null subjects in BP is (43).[22]

(43) Paulo convenceu Pedro [que ec tinha que ir embora]
      Paul convinced Peter   that   had that go away
      'Paul convinced Peter that he had to leave.'

In (43), the embedded null subject must have *Paulo* as its antecedent. According to what we have seen, this should not be possible, since the matrix object seems to intervene between the null subject and the matrix subject. However, this configuration obtains only to the extent that the matrix object c-commands the embedded clause. This would be the case if the embedded clause is the complement of the matrix verb and the direct object occupies its specifier.

However, as noted by Rodrigues (2004), there are reasons to suspect that the embedded clause in (43) is not a complement, but an adjunct. Her argument is based on the impossibility of extracting adjuncts from such an embedded clause:

(44) ??Quando$_i$ você convenceu a   Maria [que   tinha consertado o
      when   you convinced the Mary that had fixed   the
      carro t$_i$]?
      car
      'When did you convince Mary that you had fixed the car?'

Now contrast (44) and (45).

(45) Quando$_i$ você disse [que tinha consertado o   carro t$_i$]?
      when   you said   that had fixed   the car
      'When did you say that you had fixed the car?'

The impossibility of (44) with the relevant interpretation led Rodrigues to assume that the embedded clause in this example is an adjunct to the matrix VP, hence a barrier for extraction. As for (45), the verb *dizer* actually takes a complement, giving rise to the contrast observed above. If the embedded clause in (44) is really a

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22. Examples of this sort are discussed in Modesto (2000).

VP-adjunct, then the matrix object does not c-command the embedded subject, and does not block raising to the matrix subject position.[23,24] Then, (43) is not a counterexample to my analysis. Additional evidence that the matrix direct object does not c-command the embedded subject in examples like (44) is (46).

(46) João convenceu Maria$_i$ [de que [a   idiota]$_i$ deveria assaltar um banco]
      John convinced Mary   of that the idiot   should rob   a   bank
      'John convinced Mary of that the idiot should rob a bank'.

In (46), the embedded subject is an epithet. Since this element can take the matrix object as its antecedent, the latter does not c-command the former; otherwise the sentence should be ill formed, due to a Principle C violation.

4.2   The avoid pronoun principle

Another feature of BP pointed out in Section 2 concerns the alternation between null and overt subjects. Consider the pair of sentences below, both well formed in BP:

(47) a. João disse que comprou um carro.
          John said that bought   a   car
          'John said that he bought a car.'

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23. Extraction of a subject out of an adjunct in cases like (43) will be discussed below.

24. Modesto (2000) points out contrasts such as (i)-(ii) below as a further argument against movement-based analyses of BP null subjects:

(i)   Paulo convenceu Pedro [que *ec* tinha   que ir embora]
      Paul convinced Peter   that   had   that go away
      'Paul convinced Peter that he had to leave.'

(ii) Pedro, Paulo convenceu   [que *ec* tinha   que ir embora]
      Peter Paul convinced   that   had   that go away
      'Peter, Paul convinced that he had to leave.'

In (i), the antecedent of the empty category *ec* can only be *Paulo*, whereas in (ii) it can be either *Paulo* or *Pedro*. Modesto sees the contrast above as showing that BP null subjects require some form of A-bar licensing (topicalization in (ii)) and claims that movement-based analyses of the sort I am advocating here are not well-equipped to deal with it. However, as Rodrigues (2004: 217ff) points out, following a suggestion by Norbert Hornstein, analyzing the embedded clauses in (i)-(ii) as adjuncts makes the constructions look very similar to the so-called parasitic gap constructions:

(iii) *John filed this paper without reading *ec*.

(iv) This paper, John filed without reading *ec*.

See Rodrigues (2004) for an analysis of the contrast between (i) and (ii) along the lines of Hornstein (2001) in a way that is fully compatible with movement-based analyses.

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b. João$_i$ disse que ele$_i$ comprou um carro.
    John said that he bought   a   car
    'John said that he bought a car.'

In null subject languages such as Italian or Spanish, the use of an overt subject in sentences corresponding to (47b) implies emphasis or contrast, whereas sentences corresponding to (47a) are associated with a neutral reading.

Curiously, it appears that Chomsky's Avoid Pronoun Principle does not apply in BP, since both (47a) and (47b) are appropriate to convey the neutral reading. In particular, (47b) does not imply any kind of emphasis or contrast. However, we are forced to conclude that the principle does not apply in BP only if we admit that a null pronoun occupies the subject position of finite clauses in this language.

Moreover, the postulation of a principle that only applies in some languages but not in others, or the possibility that some languages "loses" a certain principle seems rather unnatural, not to say contradictory, in the face of the very definition of what a principle is. It would be much more interesting to approach the question from another angle and conclude that the apparent violation of a certain principle in some language is linked to the fact that the characteristics of that language are such that the structural description necessary for the application of the principle is never attained. This line of reasoning is perfectly compatible with the analysis of null subjects in BP developed in this paper. The proposal made here that there are no instances of subject *pro* in BP renders applications of the Avoid Pronoun Principle vacuous and leaves us with the illusion that it does not apply. So, (47b) is perfect in BP not because BP lost the principle in question but because sentence (48) below has the structure (49b) and not (49a).

(48) João disse que comprou um carro.
      John said that bought   a   car
      'John said that he bought a car.'

(49) a. [João disse que [*pro* comprou um carro]]
      b. [João$_i$ disse que [t$_i$ comprou um carro]]

In this respect, BP does not differ from a language like English, in which the equivalent of (50) is possible because *pro* is not legitimated and the Avoid Pronoun Principle applies, but vacuously.

(50) João disse que ele comprou um carro.
      John said that he bought   a   car
      'John said that he bought a car.'

The difference between English and BP with respect to sentences like (48) is that the strategy of hyperraising is not available in English, since its finite T always has a complete set of φ-features.

4.3   Montalbetti's principle

Let us now explain the anomalous behavior of BP with respect to Montalbetti's Overt Pronoun Constraint (Montalbetti 1984). The relevant data is presented below:

(51) a.   [Nenhum menino]$_i$ t$_i$ disse que a   Maria acha   que ele$_i$ é
            no   boy   said that the Mary thinks that he is
            inteligente.
            intelligent
            'No boy said that Mary thinks that he is intelligent'.

      b.   *[Nenhum menino]$_i$ t$_i$ disse que a   Maria acha   que *ec* $_i$ é
            no   boy   said that the Mary thinks that   is
            inteligente.
            intelligent
            'No boy said that Mary thinks that he is intelligent'.

Differently from what happens in Spanish (see Section 2.4), sentences such as (51a) are well formed in BP. The pronoun *ele$_i$* is locally bound by the variable in the matrix clause, an apparent violation of the Overt Pronoun Constraint. But this is true only if there is a possibility of using a null pronoun in the same position. According to my analysis, this is not possible, because argumental subject *pro*s are never licensed in BP. Turning to (51b), we note that BP diverges from Spanish again. The ungrammaticality of this sentence shows that the empty category in the subject position of the most embedded clause cannot be locally bound by the variable in the subject position of matrix clause. My analysis correctly predicts this impossibility, since the only derivation in conformity with the desired interpretation is the one during which the quantificational phrase is inserted in the most embedded clause and then raised to the matrix clause. However, this movement violates the Minimal Link Condition, because *Maria* in the intermediate clause intervenes between the elements involved in the movement operation.

It is interesting to note that the ungrammaticality of (51b) runs against a proposal by Negrão & Müller (1996) that BP still allows for subject *pro* when this category functions as a bound variable. (51b) above and (52b) below show that even functioning as a bound variable, an empty category in subject position still obeys the generalization (53). As expected, (52a) is well formed.

(52) a.   [A   mãe   de [nenhum menino]$_i$] acha   que ele$_i$ é burro
            the mother of no   boy   thinks that he is stupid
            'No boy's mother thinks he is stupid'.

      b.   *[A   mãe   de [nenhum menino]$_i$] acha   que é burro
            the mother of   no   boy   thinks that is stupid
            'No boy's mother thinks he is stupid'.

(53) Null subjects in BP must be c-commanded by an antecedent located in the immediately higher clause.

(53) was the starting point for my proposal that the null subjects of embedded clauses in BP are copies left by a moved element. So, it is not necessary to admit a special *pro* in the cases where it has a quantificational antecedent, since it would force us to adopt a stipulation similar to (53), in order to account for the ill-formedness of (51b) and (52b), which contrasts with the wellformedness of (54).

(54) [Nenhum menino]$_i$ acha   que [*ec*$_i$ é burro]
       no   boy   thinks that   is stupid
       'No boy thinks he is stupid'.

If my analysis is right, such a stipulation is unnecessary. As opposed to (51b) and (52b), (54) is well formed because it is possible to move an element from the position indicated by *ec$_i$* to the position actually occupied by the quantifier phrase in the sentences.

Summing up, we can conclude that the apparent violation of certain principles in BP that regulate the alternation between null and overt pronouns is indeed apparent. The existence of those principles is supported by data from other languages and BP examples do not authorize the conclusion that they are lost or non-existent in this language. Once one assumes that there is no referential subject *pro* in BP, which I argued for here, the structural descriptions of those principles are never satisfied (as far as subject positions are concerned) and the principles apply vacuously.

4.4   VP-ellipsis and *only DPs*

Another issue related to asymmetries between null and overt subjects in BP that we saw in Section 2 has to do with interpretive restrictions involving cases of VP-ellipsis and clauses with subjects of the form *[only DP]*. I begin by reconsidering VP-ellipsis:

(55) a.   João$_i$ acha   que ele$_i$ vai ganhar a   corrida e   Maria também.
            John thinks that he will win   the race   and Mary too
            'John$_i$ thinks that he$_i$ will win the race and Mary too'.

b. João acha   que vai ganhar a   corrida e   Maria também.
John thinks that will win   the race   and Mary too
'John$_i$ thinks that *ec$_i$* will win the race and Mary too.'

What is interesting to note is that while (55a) is ambiguous, admitting both strict and sloppy readings, (55b) admits only the sloppy reading. I will assume here an analysis for ellipsis along the lines of Fiengo & May (1994), which involves a copy of the elided constituent. I will also admit that dependencies created by movement (annotated by β-indices in Fiengo and May's analysis) must be preserved during the process of copying. Then, the asymmetry above can be explained once we admit that (55b) is derived by movement, exactly what my analysis does: the null subject of the embedded clause is a copy that has the subject of the matrix clause as its antecedent. This will lead us to the conclusion that (55b) should be read as (56).

(56)   John thinks that he/John will win and Mary thinks that she/Mary will win.

Using lambda notation, what I am assuming is that dependencies created by movement correspond to predicates of the form λ*x. x......x*, so that (55b) could be represented as follows:

(57)   (John) [λx. x thinks that x will win] and (Mary) [λx. x thinks that x will win]

In the case of (55a), there is no movement relating the subject positions of the embedded and matrix clauses. The subject of the embedded clause is an overt pronoun with the matrix clause as its antecedent. In this case, according to Fiengo & May (1994), the ambiguity emerges from the fact that coreference here may be purely accidental (use of α indices, according to the authors) or might have been created by a kind of dependency similar to that observed in (55b), where the pronoun must have an antecedent in its own sentence (use of β indices). We thus obtain the sloppy and strict readings respectively.

Let us now return to the cases involving *[only DP]* subjects:

(58)   a. Só   João acha   que ele vai ganhar a   corrida.
only John thinks that he will win   the race
'Only John thinks he will win the race.'

b. Só   João acha   que vai ganhar a   corrida.
only John thinks that will win   the race
'Only John thinks that he will win the race'.

(58a) is ambiguous and means either that the only person that believes in *João*'s victory is *João*, or that the only person that believes in his/her own victory is *João*. On the other hand, (58b) means can only mean that the only person that believes in his/her own victory is *João*. Again, the explanation for this contrast may be

anchored in the fact that only in (58b) the subjects of matrix and embedded clauses are related to each other by movement. In this case, (58a) can be associated with either one of the representations in (59), while (58b) is always associated with the predicate (59b). In both cases, in order for the sentences to be true, the respective predicates must apply only to *João*.

(59)   a. [λx. x thinks that John will win the race]
b. [λx. x thinks that x will win the race]

Given the asymmetry between the derivations of sentences (55a-b) and the derivations of sentences (58a-b), an explanation along the lines of Fiengo and May becomes possible.

4.5   Hyperraising

I reexamine now the well-formedness of BP sentences like (60) below. Similar cases were discussed by Ura (1994) for other languages as involving hyperraising. Given the analysis presented here for (61), these cases appear as no surprise.

(60)   João parece que comprou um carro.
John seems that bought a   car
'John seems to have bought a car'.

(61)   João disse que comprou a   car
John said that bought a   car
'John said that he bought a car'.

The derivation of (60) is identical to that of (61), except for the fact that (60) involves no movement into thematic positions, since the verb *parecer* 'to seem' does not attribute a thematic role to its subject. Like the derivation of (61), which we have already discussed in detail, the derivation of (60) converges only if the finite T in the embedded clause is incomplete and the finite T in the matrix clause is complete. Both derivations are sketched below:

(62)   [$_{TP}$ João T$_{φ\text{-comp}}$ parece [$_{CP}$ que [$_{TP}$ t$_i$ T$_{φ\text{-inc}}$ [$_{vP}$ t$_i$ comprou um carro]]]]]
John   seems   that   bought a   car

(63)   [$_{TP}$ João T$_{φ\text{-comp}}$ [$_{vP}$ t$_i$ disse [$_{CP}$ que [$_{TP}$ t$_i$ T$_{φ\text{-inc}}$ [$_{vP}$ t$_i$ comprou um
John   said   that   bought a
carro]]]]]
car

The choice of a complete finite T for the embedded clause is possible only if a null expletive is inserted in the subject position of the matrix clause, yielding (64).

(64)   Parece que João comprou um carro.
seems   that John bought   a   car
'It seems that John bought a car.'

The well-formedness of (60) indicates that the option of hyperraising is in fact available in PB.[25,26]

4.6   Null subjects and islands

If all the results above are on the right track, that is, if the restrictions on the distribution and interpretation of null subjects in BP follow from restrictions imposed on movement operations performed by the computational system, then we predict that these subjects could not appear in configurations where the system blocks the application of these operations. A situation that immediately comes to mind is the

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25. Ura (1994), after surveying many languages in which hyperraising is attested, states the following generalization: *If a language allows hyperraising, then it also allows "null subject".*

For Ura, among the sentences below, only (ib) is derived via hyperraising. (ia) involves *pro*:

(i)   a.   João disse   que comprou   um carro.
John said   that bought   a   car
'John said that he bought a car.'

b.   João parece que comprou   um carro.
John seems that bought   a   car
'It seems that John bought a car.'

In my analysis, however, both cases involve hyperraising and the coexistence of these sentences is not surprising. Recall that I am assuming that for a language to allow hyperraising, it is necessary that finite Ts may contain an incomplete set of φ-features. The possibility of a finite T with this characteristic is sufficient to license the derivation of a sentence like (ib). For hyperraising to be possible in cases like (ia), we must assume that the language admits movement into thematic positions. But this is not a parameter, subject to variation across languages. On the contrary, I am assuming that movement into thematic positions is possible because θ-roles are formal features, which makes this kind of movement compatible with the Last Resort Condition. So, if the only relevant difference between the derivations of (ia) and (ib) is an instance of movement into thematic positions, we are led to the conclusion that if a language allows (ib), it also allows (ia), since the permission to move to a thematic position comes for free from Universal Grammar.

This conclusion is very close to Ura's generalization. In fact, the analysis presented here predicts that if a language allows hyperraising (what, for Ura, means licensing of sentences like (ib)), then it also allows "null subject" with the characteristics of BP null subjects. Unfortunately, Ura does not discuss the languages presented in his work in enough detail so that the predictions could be adequately tested. I leave this testing for further research.

26. Rodrigues (2004: 119) tries to dismiss the analysis presented here on the grounds that it cannot be tested. As the attentive reader will have noticed, it is clear that evidence pointing to a divorce between null subjects of the type attested in BP and the availability of hyperraising would be enough to falsify or at least serve as preliminary counter-evidence to the theory I am proposing here.

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case of configurations in which null subjects are separated from their antecedents by some kind of barrier, in the sense of Chomsky (1986). In these cases, we expect the relevant sentences to be ungrammatical. This prediction seems to be borne out. As shown in Section 2.7, null subjects inside certain strong islands are not allowed in BP. The relevant examples are repeated in (65), where null subjects, but not their antecedents, are found inside relative clauses:

(65)   a.   ??João$_i$ não gostou dos   livros que [*ec$_i$* leu na   escola]
John not liked of-the books that   read in-the school
'John didn't like the books that he read in the school'.

b.   ??João$_i$ disse que [as   meninas [que *ec$_i$* encontrou]] eram
John said that   the girls   that met   were
estrangeiras
foreigners
'John said that the girls he met were foreigners'.

Once the analysis advocated here is assumed, the explanation for the ill-formedness of (65a-b) is immediate: whatever causes the boundaries of relative clauses to be barriers for movement, this will also be responsible for the impossibility of having null subjects inside them in BP.

Turning now to null subjects inside complex-NP, consider (66) (from Modesto 2000).

(66)   O   presidente$_i$ negou [os   rumores de que *ec$_i$* recebeu dinheiro de
the president   denied the rumors of that   received money   from
empresários]
executives
'The president denied the rumors that he got money from executives'.

The fact that (66) is acceptable in BP leads to the conclusion that it is possible to extract a subject in configurations of this sort. Indeed, extraction of a wh-phrase in similar conditions does not produce an unacceptable sentence:[27]

(67)   Que   ministro a   imprensa negou o   boato de que recebeu dinheiro
which minister the media   denied the rumor of that received money
ilegal]?
illegal
'Which minister did the media deny the rumor that he received illegal money?'

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27. The possibility of null subjects inside complex-NPs was noted by Modesto (2000). Example (66) was borrowed from his work.

(67) seems to be only slightly worse than (66). Note also that if the complex-NP occupies the subject position of an embedded clause, a degradation arises:

(68)   ??João disse [que [o   boato de que viajou   pra Europa] era falso].
           John said   that the rumor of that traveled to Europe   was false
           'John said that the runor that he traveled to Europe was false.'

(68) is a case of extraction from a left branch and the observed degradation is expected. Therefore, the contrast between (66) and (68) and the parallelism between (66) and (67) suggest that an analysis along the lines developed here is on the right track.[28]

The analysis also gives an explanation for the contrasts related to null subjects within weak islands:

(69)   a.   João$_i$ não sabe   [quando *ec*$_i$ leu   esse livro]
               John not knows   when   read this book
               'John$_i$ doesn't know when he read this book'.

       b.   João$_i$ não sabe   [onde *ec*$_i$ comprou esse livro]
               John not knows   where   bought   this book
               'John$_i$ doesn't know where he bought this book'.

       c.   João$_i$ não sabe   [por que *ec*$_i$ leu   esse livro]
               John not knows   why   read this book
               'John doesn't know why he bought this book'.

       d.   João$_i$ não sabe   [como *ec*$_i$ perdeu esse livro]
               John not knows   how   lost   this book
               'John doesn't know how he lost this book'.

(70)   a.   ??João$_i$ não sabe   [que   livro *ec*$_i$ leu na   semana passada]
               John not knows   which book   read in-the week   last
               'John doesn't know which book he read last week'.

       b.   ?João$_i$ não sabe   [pra quem *ec*$_i$ emprestou o   livro]
               John not knows   to whom   lent   the book
               'John doesn't know to whom he lent this book'.

In the course of the derivations of all these sentences, there is a step corresponding to the movement of *João* from Spec of embedded T to Spec of matrix *v*, where this element receives its second θ-role. In all these cases, the moved element crosses a *wh*-phrase located in the left periphery of the embedded clause. It is fair to ask whether this phrase induces minimality effects or not. Note, however, that this kind of effect is to be observed only when the intervening element has the relevant features to check the features of the attracting head. Inspecting the examples above, we

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28.   But I admit that contrasts are not so sharp as one might expect.

can note that the attracting head is *v*, against which a thematic feature will be checked. In the sentences in (69), the intervening element is an adverb, unable to participate in a thematic relation. It is natural then to suppose that this kind of element does not have the relevant features required to the check a thematic feature. If so, these elements do not block the movement of a more distant element (in the cases at hand, the phrase *João*). This is why the sentences in (69) are well formed.

In the case of the sentences in (70), the situation is different: the intervening element comes from an argument position, showing that it can clearly take part in a thematic relation. Then, movement of *João* to the matrix clause is blocked, resulting in the ill-formedness of the examples in (70).[29]

4.7   Null subjects in adjuncts

Finally, I will turn to the discussion of null subjects inside adjuncts. Consider (71) below:

(71)   João comeu um sanduíche quando foi   à   feira.
          John ate   a sandwich when   went to-the market
          'John ate a sandwich when he went to the market'.

In order for examples like this to fall under the analysis developed in this paper, we must admit that (71) is obtained by means of a derivation involving movements like the ones sketched below (irrelevant details omitted):

(72)   [$_{TP}$ João$_i$ T [$_{vP}$ [$_{vP}$ t$_i$ comeu um sanduiche] [$_{Adj}$ quando t$_i$ foi   à
           John   ate   a sandwich   when   went to-the
           feira]]
           market

In (72), although the copy of *João* in the subject position of the matrix clause c-commands the other copies, these copies are not in c-command relation with each other (assuming that CP adjoins to *v*P). This makes impossible an analysis based on the successive movement from the inside of the adjunct to the specifier of the matrix light verb, and finally to the Spec of the matrix T, since we are admitting that movement operations are constrained by the C-command Condition.[30]
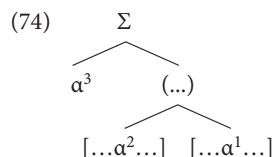
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29.   When the intervening element is a PP, the example seems to be better in comparison with cases with a DP ((70a) *vs.* (70b)). This could be explained if we admit that the relevant argument is not PP, but the DP inside it. Since the DP inside PP would not c-command the embedded subject, this subject could be raised without violating the Minimal Linking Condition.

30.   Furthermore, this movement would involve extraction from an adjunct island.

Indeed, I made crucial use of this condition to explain the ill-formedness of sentences like (73), in which we find copies that do not c-command each other.

(73) *A   mãe   do João$_i$ acha   que *ec*$_i$ é esperto.
      the mother of John thinks that   is smart
      'John's mother thinks that he is smart'.

A line of reasoning which seems promising is based on the copy theory of movement advocated by Nunes (1995, 2001, 2004), which admits some instances of sideward movement. For Nunes, movement is not an operation of the computational system, but rather the result of the interaction of the following operations: Copy, Merge, Form Chain, and Chain Reduction (operation responsible for the deletion of copies in the phonological component). Nunes assumes that the presence of more than one copy in the phonological component does not allow the linearization of the structure containing them, canceling the derivation. Since the process of deletion of copies is only permitted in the interior of a chain (via Chain Reduction) and formation of chains requires c-command, we expect that the system does not tolerate instances of sideward movement. This is true, Nunes argues, except in the cases where a configuration like (74) obtains.

(74)   Σ
             ╱────────╲
          α^3 (...)
                    ╱──────╲
              [...α^2...]   [...α^1...]

In (74), there was an instance of sideward movement from the position marked as α^1 to the position marked as α^2 followed by movement to a position (marked as α^3) that c-commands α^1 and α^2. So, it is possible to form two chains, both being headed by the same element. Next, Chain Reduction apples twice, eliminating the copies in the tail of these chains, and the structure can be linearized (see Nunes 1995, 1999 for details).

     Back to our examples, note that in (71), but not in (73), a configuration like (74) obtains. This would be the reason for the observed contrast: although both sentences were formed by a derivation with "sideward movement", only (71) resulted in a configuration that permits the linearization of the corresponding structure.[31]

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31. This is the analysis that Hornstein (2001) assumes for obligatory control in adjuncts.

Another contrast that would receive an adequate treatment, once we assume the proposal developed in this paper and the theory argued for by Nunes, is the following:

(75) a. *João conheceu Maria depois que ficou   rica.
          John knew   Mary after   that became rich-fem
          'John met Mary for the first time after she became rich'.

      b. João conheceu Maria depois que ela ficou   rica.
          John knew   Mary after   that she became rich-fem
          'John met Mary for the first time after she became rich'.

(75a) is derived using the sideward movement of *Maria* from the subject position of the adjunct clause to the subject position of the matrix clause. Differently of what happened with (71), this derivation does not lead to a configuration like (74), blocking the linearization of the structure in the phonological component. Examples with an overt pronoun are of course free from this kind of problem. Hence, the well-formedness of (75b).

     If this analysis for null subjects in adjuncts is on the right track, it is possible to conclude that all instances of referential null subjects observed in BP are copies created in the course of a derivation, which are subsequently deleted in the phonological component.

5.   Conclusion

In this paper, I proposed an analysis for referential null subject constructions in BP, in which I claim that the empty category occupying the subject position of certain clauses in BP are traces (deleted copies) left by the (hyper)raising of the phrase that originally filled this position. I pursued an implementation coherent with the parsimonious theoretical requirements imposed by the Minimalist Program, making crucial use of two hypotheses: a) finite T in modern BP can be instantiated by an incomplete set of φ-features, and b) thematic roles are formal features, which legitimates movement into θ-positions. To the extent that this analysis is able to derive the various peculiarities of BP null subjects, it provides further evidence for the idea that thematic roles should be considered formal features by the computational system, as advocated by Bošković (1994), Bošković & Takahashi (1998), Lasnik (1995), and Hornstein (1999, 2001), among others.

References

Adams, Marianne. 1987. From Old French to the Theory of pro-drop. *Natural Language and Linguistic Theory* 8: 1–32.

Borer, Hagit. 1989. Anaphoric Agr. In *The null subject parameter*, eds. Osvaldo Jaeggli & Ken Safir, 69–110. Kluwer, Dordrecht.

Bošković, Zeljko. 1994. D-Structure, θ-Criterion, and movement into θ-positions. *Linguistic Analysis* 24: 247–286.

Bošković, Zeljko & Daiko Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29: 347–366.

Brandi, Luciana & Patrizia Cordini. 1989. Two Italian dialects and the null subject parameter. In *The null subject parameter*, eds. Osvaldo Jaeggli & Ken Safir, 111–142. Kluwer, Dordrecht.

Chao, W. 1983. The interpretation of null subjects: Brazilian Portuguese. *Cahiers Linguistiques d'Ottawa* 11: 69–74.

Chomsky, Noam. 1981. *Lectures on government and binding*. Foris, Dordrecht.

Chomsky, Noam. 1982. Some concepts and consequences of the theory of government and binding. The MIT Press, Cambridge, MA.

Chomsky, Noam. 1986. *Barriers*. The MIT Press, Cambridge, MA.

Chomsky, Noam. 1995. *The minimalist Program*. The MIT Press, Cambridge, MA.

Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by Step: Essays on Minimalist Syntax in Honour of Howard Lasnik*, eds. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. The MIT Press, Cambridge, MA.

Duarte, Maria Eugenia. 1995. *A perda do princípio "Evite Pronome" no português brasileiro*. Ph.D Dissertation, Universidade Estadual de Campinas.

Ferreira, Marcelo. 2000. Argumentos Nulos em Português Brasileiro. Master Thesis. Universidade Estadual de Campinas.

Ferreira, Marcelo. 2004. Hyperraising and Null Subjects in Brazilian Portuguese. In *MIT Working Papers in Linguistics* 47: 57–85.

Fiengo, Robert & Robert May. 1994. *Indices and identity*. The MIT Press, Cambridge, MA.

Figueiredo Silva, M. C. 1996. A posição sujeito no português brasileiro: frases finitas e infinitivas. Campinas, Editora da Unicamp.

Galves, Charlotte. 1991. V-movement, levels of representation and the structure of S. *Letras de Hoje*, 96: 35–58.

Galves, Charlotte. 1993. O enfraquecimento da concordância no português brasileiro. In *Português brasileiro: uma viagem diacrônica*, orgs. Ian Roberts and Mary Kato, 387–408. Editora da Unicamp, Campinas.

Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry,* 30: 69–96.

Hornstein, Norbert. 2001. Move! A minimalist theory of construal. Oxford: Blackwell.

Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531–574.

Huang, C.-T. James. 1989. *Pro* drop in Chinese: a generalized control theory, In *The null subject parameter*, eds. Osvaldo Jaeggli & Ken Safir, 185–214. Kluwer, Dordrecht.

Jaeggli, Osvaldo, & Ken Safir, eds. 1989. *The null subject parameter*. Kluwer, Dordrecht.

Kato, Mary. 1999. Strong pronouns, weak pronominals and the null subject parameter. *PROBUS* 11: 1–37.

Kenstowicz, Michael. 1989. The null subject parameter in modern Arabic dialects. In *The null subject parameter*, eds. Osvaldo Jaeggli & Ken Safir, 263–275. Kluwer, Dordrecht.

Lasnik, Howard. 1995. A note on pseudogapping. IN *MIT working papers in linguistics 27: Papers on minimalist syntax*, 143–163. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, MA.

Lasnik, Howard, & Juan Uriagereka. 1988. *A course in GB syntax*. The MIT Press, Cambridge, MA.

Martins, Ana Maria & Jairo Nunes 2005. Raising Issues in Portuguese. *Journal of Portuguese Linguistics* 4.2:53–77.

Modesto, Marcello. 2000. On the Identification of Null Arguments. Ph.D. Dissertation, University of Southern California.

Montalbetti, Mario. 1984. *After binding*. Ph.D Dissertation, MIT, Cambridge, MA.

Moreira da Silva, Samuel. 1983. Études sur la symétrie et l'assymétrie sujet/objet dans le portugais du Brésil. Ph.D Dissertation, University of Paris VIII.

Negrão, Esmeralda & Ana Müller. 1996. As mudanças no sistema pronominal brasileiro: substituição ou especialização de formas. *D.E.L.T.A.* 12: 125–152.

Negrão, Esmeralda & Evani Viotti. 2000. Brazilian Portuguese as a discourse-oriented language. In *Brazilian Portuguese and the null subject parameter*, orgs. Mary Kato and Esmeralda Negrão.

Nunes, Jairo. 1995. The copy theory of movement and linearization of chains in the Minimalist Program, Ph.D Dissertation, University of Maryland, College Park, MD.

Nunes, Jairo. 1999. Linearization of chains and phonetic realization of chain links. In *Working minimalism*, ed. Samuel D. Epstein and Norbert Hornstein. The MIT Press, Cambridge, MA.

Nunes, Jairo. 2004. Linearization of Chains and Sideward Movement. The MIT Press, Cambridge, MA.

Rizzi, Luigi. 1982. *Issues in Italian syntax*. Foris, Dordrecht.

Rizzi, Luigi. 1986. Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17: 501–557.

Roberts, Ian. 1993. *Verbs and Diachronic Syntax*. Foris, Dordrecht.

Rodrigues, Cilene. 2004. Impoverished Morphonlogy and Movement out of Case Domains. PhD. Dissertation, University of Maryland, College Park, MD.

Sigurðsson, Halldór. 1993. Argument-drop in Old Icelandic. *Lingua* 89: 247–280.

Taraldsen, Knut. 1978. On nominative island constraint, vacous application, and the that-trace filter. In *Recent transformational studies in european languages*, ed. Samuel Keyser. The MIT Press, Cambridge, MA.

Ura, Hiroyuki. 1994. Varieties of raising and the feature-based bare phrase structure theory. In *MIT Occasional Papers in Linguistics*, 7, Department of Linguistics and Philosophy, MIT.