EMBEDDED NULL SUBJECTS IN BRAZILIAN PORTUGUESE*

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1.   Introduction

The weakening of verbal morphology in Brazilian Portuguese (henceforth BP) has led this language to the loss of referential null subjects.[1] However, there are two types of referential null subjects which are still widely used. The first is the null subject in matrix clauses illustrated in (1). The second is the embedded null subject coreferent with the subject in the matrix clause, as illustrated in (2).

(1)   Comprei   um carro novo   ontem.
       bought-1sg   a new car   yesterday

       'I bought a new car yesterday.'

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

       'John said that he bought a new car.'

Considering that BP has lost its *pro-drop* property, it has been frequently discussed how null subjects could still be licensed in these two specific contexts.

However, more detailed studies have pointed out that these subject omissions have some peculiarities which are not found in null subject languages. This observation therefore has led some researchers to hypothesize that the null subjects illustrated in (1) and (2) probably are not genuine null pronouns. Consequently, an inquiry was started in order to identify which grammatical properties could determine their existence.

Null subjects in matrix clauses like (1) are restricted to the first position in the clause and must refer to an element contained in the previous discourse. Therefore these null subjects are

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[1]   There is a wide literature concerning the loss of referential null subjects in BP as well as its correlation with the reduction of the inflectional paradigm. See the diachronic studies by Duarte (1996), the work by Figueiredo-Silva (1996) and the papers in Kato & Negrão (2000), among others.

interpreted as instances of Topic Drop, a phenomenon found in languages like German (cf. Figueiredo-Silva 1996 and Rodrigues 2002).

On the other hand, different analyses have been proposed in order to explain the nature of the embedded null subject illustrated in (2). More recently, Ferreira (2004) has proposed that this indeed is not a genuine null pronoun but a trace of a hyperraising operation.[2] According to this analysis, a sentence like (2) would have the derivation in (3):

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

     'John said that he bought a new car.'

(3) [$_{TP}$ João T$_{\phi complete}$[$_{vP}$ t$_i$ disse [$_{CP}$ que [$_{TP}$ t$_i$ T$_{\phi incomplete}$ [$_{vP}$ t$_i$ comprou um carro novo]]]]]
     John$_i$ said   that   t$_i$ bought   a new car

Assuming this derivation, Ferreira (2004) can explain all the syntactic and interpretive properties of the embedded null subjects in BP as the result of constraints on movement operations, namely Minimal Link Condition and C-command Condition. One relevant aspect in Ferreira's (2004) analysis is that it is linked to a highly debated topic in Generative Linguistics, that is the possibility for an element to move from one thematic position to another. Traditionally it has been assumed that A-chains must have only one thematic position. This restriction is expressed by the Thematic Criterion in Government and Binding theory and, even if it is formulated in different ways, it has remained valid until the most recent studies in the Minimalist Program (cfr. Chomsky 1995).

However, this traditional vision has been rejected in some recent works, particularly in Hornstein's (1999) analysis of obligatory control structures in English. Hornstein (1999) proposes that control structures like (4a), generally analysed as in (4b), have the derivation illustrated in (4c). As shown in (4c), the subject *John* is merged in a thematic position in the embedded infinitive clause and then is moved to the matrix clause, picking up another theta role.

(4) a.   John hopes to leave.

     b.   John$_i$ hopes [PRO$_i$ to leave]

     c.   [$_{IP}$ John$_i$ T [$_{vP}$ t$_i$ hopes [$_{IP}$ t$_i$ to [$_{vP}$ t$_i$ leave]]]]

Hornstein's approach caused a vivid discussion, to which Ferreira's (2004) analysis of embedded null subjects gives an interesting contribution. To the extent that this analysis can explain the peculiarities of embedded null subjects in Brazilian Portuguese, it can be taken as a support to the theory of movement which allows movement to thematic positions.

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[2]   A proposal along these lines is developed by Rodrigues (2002).

In this paper I discuss Ferreira's analysis and point out some problematic aspects of it. Based on the work by Rizzi (2006) on the form of chains, I consider some principles on the delimitation of chains which are incompatible with hyperraising and movement to thematic positions. In addition to this theoretical problem, I show that the analysis also suffers from some empirical inadequacies in that some of the properties of embedded null subjects in BP cannot be fully explained in terms of hyperraising. To conclude, I suggest that the peculiarities of embedded null subjects in BP become clearer if we adopt the approach proposed by Huang (1984) to languages like Chinese. According to Huang, in these languages embedded null subjects are not identified by the inflection. Differently from what happens in *pro-drop* languages, the identification is obtained through coindexation with the closest c-commanding NP.

2. Embedded Null Subject in Brazilian Portuguese and Ferreira's (2004) Analysis

The main characteristic of embedded null subject in BP in contrast to null subjects in *pro-drop* languages is that it must have an antecedent located in a higher clause. Sentences like those illustrated in (5), where there is no antecedent to the embedded null subject, are ungrammatical in BP.

(5) a. *A Maria$_i$ disse que *ec*$_j$ canto bem.
         Maria$_i$ said   that *ec*$_j$ sing   well

         'Maria said that I sing well.'

     b. *pro_{expl} parece que *ec* tinha telefonado.
         pro_{expl} seems that *ec* has   called

         'It seems that she has called.'

Furthermore, coreference between the null subject and the antecedent is constrained in a way that recalls the restrictions imposed to movement operations. For example, the null subject must have an antecedent located in the immediately higher clause, as shows (6a) in contrast with (6b-c). Moreover, embedded null subject cannot occur inside certain strong islands, like relative clauses, and take an antecedent outside the island, as shown in the examples in (7)[3]:

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

         'John thinks that he is smart.'

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[3] Examples extracted from Ferreira (2004).

b. *João$_i$ disse [que a Maria acha [que *ec$_i$* é esperto]].
John$_i$ said [that Mary thinks [that *ec$_i$* is smart-masc]]

'John$_i$ said that Mary thinks that he$_i$ is smart.'

c. *A mãe do João$_i$ acha [que *ec$_i$* é esperto].
John$_i$'s mother thinks [that *ec$_i$* is smart-masc]

'John$_i$'s mother thinks that he$_i$ is smart.'

(7) a. *João$_i$ não gostou dos livros [que *ec$_i$* leu na scola].
John$_i$ not like the book [that [*ec$_i$* 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 na rua]]
John$_i$ said that [the girls [that *ec$_i$* met in the street]]
eram estrangeiras.
were foreigners

'John said that the girls that he met in the street were foreigners.'

Considering the data illustrated in (5)-(7), Ferreira (2004) argues that embedded null subjects in BP involve a movement operation. According to Ferreira, embedded null subject is a trace resulting from hyperraising. In other words, it is a trace of the movement of the embedded subject from Spec,TP of the embedded finite clause to Spec,TP of the matrix clause.

Ferreira proposes that the possibility of having null subjects from hyperraising is due to the fact that BP has a finite T with an incomplete set of ɸ-features. He assumes that the weakening of verbal morphology in BP has led this language to have this kind of finite T. Because this finite T, like a non finite T, has an incomplete set of ɸ-features, it is unable to eliminate the Case feature of an element moved to its Spec.

Under this assumption, Ferreira (2004) proposes that a sentence with embedded null subject like (2), repeated in (8) below, has the derivation illustrated in (9):

(8) João$_i$ disse que *ec$_i$* comprou um carro novo.
John$_i$ said that *ec$_i$* bought a new car

(9) [$_{TP}$ John$_i$ T$_{ɸcomplete}$ [$_{vP}$ t$_i$ said [$_{CP}$ that [$_{TP}$ t$_i$ T$_{ɸincomplete}$ [$_{vP}$ t$_i$ bought a new car]]]]]

The numeration underlying the derivation in (9) has one ɸ-complete finite T and one incomplete finite T. The ɸ-incomplete finite T is merged in the embedded clause. The subject *João* raises from its thematic position in the embedded vP to the Spec of embedded TP. At this derivational step, the set of ɸ-features of T and the subject *João* establish a checking relation and, consequently, the ɸ-features of T are eliminated. Since the set of ɸ-features of T

is incomplete, the Case feature of the subject *João* is not eliminated. After successive applications of merge, the matrix *v*P is merged. Then, *João* raises to the Spec of the matrix *v* and checks its thematic feature. Then, matrix T with a complete set of ɸ-features is merged with *v*P, and *João* raises to its Spec. At this step we obtain another checking relation between the ɸ-features of the subject and the matrix T, and consequently the ɸ-features of T and the Case feature of *João* are eliminated.

Assuming the derivation in (9), the restrictions on embedded null subjects like the ones in (6) and (7) are interpreted as restrictions imposed on the movement of the embedded subject to the matrix clause. Consider again the contrast illustrated in (6):

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

         'John thinks that he is smart.'

     b. *João$_i$ disse [que a Maria acha   [que *ec*$_i$ é esperto]].
         John$_i$ said   [that Mary   thinks [that *ec*$_i$ is smart-masc]]

         'John said that Mary thinks that he is smart.'

     c. *A mãe do João$_i$ acha   [que *ec*$_i$ é esperto].
         John$_i$'s mother   thinks [that *ec*$_i$ is smart-masc]

         'John's mother thinks that he is smart.'

Following Ferreira's analysis, a sentence like (6b) is ungrammatical because the raising of the subject *João* from the Spec of the embedded TP to the Spec of the matrix *v*P violates the Minimal Link Condition, since *Maria* is closer to the matrix *v*P than the subject *João*. (6c) is ungrammatical because the movement of *João* to the matrix TP violates the c-command Condition, since the copy of *João* in the Spec of the embedded T is not c-commanded by the copy in the matrix clause. Regarding the impossibility of having null subjects inside relative clauses illustrated in (7), sentences like (7a) and (7b) are ill-formed because relative clauses are barriers for movement.

Ferreira (2004) argues that if we assume his analysis, we can also explain the following properties of embedded null subjects in BP:

A) Embedded null subjects freely alternate with overt pronouns. In BP a sentence with an overt embedded subject like (10b) can be also used in neutral situations (without emphasis or contrast), differently from what happens in null subject languages like Italian and Spanish. In other words, the data in (10) suggest that BP violates the *Avoid Pronoun Principle*, which establishes that whenever an alternation null/overt pronoun is possible, the null pronoun is preferred.

(10) a.   João$_i$ disse   que *ec*$_i$ comprou um carro novo.
         John$_i$ said   that *ec*$_i$ bought   a new car

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

       'John said that he bought a new car.'

According to Ferreira's analysis, the alternation in (10) is possible because it isn't the alternation expressed by the *Avoid Pronoun Principle*. In BP, sentences with an overt embedded subject like (10b) are used in neutral situations because in this language there is no referential *pro*. On the other hand, sentences with embedded null subjects like (10a) can alternate with embedded overt subjects because BP has the option of hyperraising.

B) Embedded null subjects cannot take split antecedents, as illustrated in (11):

(11) *João$_i$ disse [que   a Maria$_j$ acha [que   *ec*$_{ij}$ são espertos]].
     John$_i$ said   [that Mary$_j$ thinks [that   *ec*$_{ij}$ are smart-pl]]

    'John said that Mary thinks that they are smart.'

According to Ferreira's analysis, the embedded null subject in (11) cannot refer to both the elements *João* and *Maria* because two elements cannot be moved from the same position (embedded Spec, TP).

C) Embedded null subjects show a mixed behaviour regarding weak islands. For instance, in embedded wh-questions like those in (12), if the wh-phrase in the embedded Spec,CP is an adjunct, then the null subject is allowed in the embedded clause (cf. (12a)). On the other hand, if the wh-phrase is an argument, then the use of the null subject makes the sentence degraded, as illustrated in (12b-c).

(12) a.   João$_i$ não   sabe   [quando *ec*$_i$ perdeu esse livro].
         John$_i$ not   know [when   *ec*$_i$ lost   this book]

       'John doesn't know when he lost this book.'

    b. ??João$_i$ não   sabe   [que   livro *ec*$_i$ leu na semana passada].
         John$_i$ not   know [which book *ec*$_i$ read last week]

       'John doesn't know which book he read last week.'

    c. ?João$_i$ não   sabe   [pra quem *ec*$_i$ emprestou este livro].
         John not   know [to whom *ec*$_i$ lent   this book]

       'John doesn't know to whom he lent this book.'

According to Ferreira's analysis, the explanation for this contrast is the following: in sentences like (12b-c) the subject *João* raises from embedded TP to the matrix Spec,*v*P in

order to check the thematic feature of *v* and receive its second theta role. This kind of movement causes a minimality violation because the wh-phrase in the Spec of the embedded CP has the relevant features to check the thematic feature of *v*. On the other hand, sentences like (12a) are grammatical because the wh-phrase in the embedded CP is an adverb. As such, it does not have the relevant features to check the thematic feature of *v* and consequently it does not block the movement of the embedded subject to the matrix *v*.

D) Embedded null subjects in BP have a different behaviour from the one of an overt embedded subject in sentences in which the matrix subject has the form [*Only* DP], as illustrated in (13). It also has a different behaviour in VP-ellipsis structures like (15).

Only DP:

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

'Only John thinks that he will win the race.'

b. Só o João acha que *ec* vai ganhar a corrida.
only John thinks that *ec* will win the race

'Only John thinks that he will win the race.'

Given a group of persons, in (13a) *John* is the only person who believes in *John's* victory, in other words, Mary does not believe that John will win the race. Differently, in (13b) *John* is the only person who believes in his own victory, in other words, Mary does not believe that she will win the race.

According to Ferreira (2004), the different readings between overt and null subjects in examples like (13) is due to the fact that while a sentence like (13a) is associated with the predicate in (14a), a sentence with embedded null subject like (13b) is associated with the predicate in (14b), where the matrix and the embedded subject are related to each other through movement.

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

VP-ellipsis:

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

'John thinks that he will win the race and Mary too.' (strict/sloppy reading)

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

'John thinks that he will win the race and Mary too.' (sloppy reading)

A sentence with an overt embedded subject like (15a) is ambiguous: it can have a strict reading, as paraphrased in (16), or it can have a sloppy reading, as paraphrased in (17). On the other hand, in a sentence with embedded null subject like (15b) only the sloppy reading in (17) is available.

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

(17)   John$_i$ thinks that he$_i$ will win the race and Mary$_j$ thinks that she$_j$ will win the race.
   (sloppy reading)

Assuming an analysis for ellipsis that involves a copy of the elided constituent (Fiengo & May 1994), Ferreira explains the asymmetry in (15) as follows. If embedded null subject in BP is a trace of the subject raised to the matrix clause, then in sentences like (15b) the null subject of the elided embedded clause must refer to the matrix subject *Maria*. Consequently, (15b) has the sloppy reading illustrated in (17). On the other hand, in (15a) the subject of the elided embedded clause is an overt pronoun, hence it is not related to the matrix subject through movement. This allows for the subject of the elided embedded clause to have two different interpretations: it can refer to the subject *Maria* in its own clause (obtaining the sloppy reading in (17)), or it can refer to the subject *João* in the coordinate sentence (obtaining the strict reading in (16)).

On the one hand, most of the properties of embedded null subjects in BP can be explained assuming the analysis in terms of hyperraising and movement to thematic positions, as proposed by Ferreira (2004). On the other hand, we notice some problems with this kind of analysis, once we consider the discussion in Rizzi (2006) about the form of chains. In the following section I illustrate the main ideas of Rizzi's (2006) approach.

3.   Rizzi (2006): On the Form of A'-chains

Rizzi's (2006) approach highlights some principles of chain delimitation which are incompatible with hyperraising. Rizzi (2006) characterizes A'-chains as connecting an s-selection position to a criterial position. S-selection positions are dedicated to Theta assignment to arguments and to assignment of interpretive properties to non-arguments, like modifiers and adverbials. Criterial positions are dedicated to the assignment of scope and discursive properties, like focus and topic.

(18)   ... criterial ....   s-selection ...

A'-chains of the kind shown in (18) are created in order to satisfy a requirement involving the interface with semantics, for which certain natural language expressions need to be associated with two kinds of interpretive properties: argumental and scope/discourse properties. For example, in the sentences in (19), the phrase [*D book*] must receive both the interpretative property "patient of the verb *read*" and the interpretation of interrogative

element (19a), topic (19b) and focus (19c). In order to achieve this duality of interpretations, the phrase moves from the position of complement of the verb *read* to a position in the left periphery, dedicated to the interpretation of topic, focus or interrogative operator. We thus obtain a chain which links two positions:

(19) a.   Which book$_i$ should you read t$_i$?

b.   This book$_i$, you should read t$_i$.

c.   THIS BOOK$_i$ you should read t$_i$ (rather than something else).   (Rizzi 2006)

S-selection and criterial positions are relevant for the interface with semantics and form the backbone of A'-chains. In addition, chains must involve intermediate positions in between s-selection and criterial positions.[4] Intermediate positions are not motivated by interface needs, but by locality principles (according to which movement cannot be too far away). Thus, intermediate positions are steps that allow an element to reach a criterial position.

Rizzi provides empirical evidence showing that A'-chains are constrained in the following way:

"Chains begin at an s-selection position and terminate at a criterial position, and such positions are unique, each chain has exactly (or at most) one position of each kind."   (Rizzi 2006: 11)

Therefore, the three following situations cannot happen in A'-chains:

1) An argument cannot be merged in a non-Theta-position, and then be moved to a Theta-position to pick up its Theta-role. One kind of evidence for this constraint is the contrast illustrated in (20) (originally addressed by Chomsky 2000). (20) shows that it is impossible to have a derivation like (20b), where the pronoun *I* is merged in the Spec of the embedded TP in order to check the EPP feature of T, and then raised to the subject position of the verb *expect*, in order to receive its theta role.

(20) a.   I expected [$_{TP}$ a proof to be discovered t]
b.   *I expected [$_{TP}$ t to be discovered a proof]

2) An argument cannot be merged in a Theta-position and then pick up another Theta-role through movement.

For instance, control structures cannot be derived by movement of the subject from the lower subject position to the matrix clause, in contrast to Hornstein's (1999) approach. A crucial evidence against this kind of derivation in control structures is that they lack reconstruction effects typical of raising structures. Consider, for example, the reconstruction

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[4]   See Rizzi (2006) and references cited there for a detailed discussion about the various syntactic, morphosyntactic and interpretive evidence for intermediate positions.

effect illustrated in (21a). In (21a) the anaphor *each other* raised to the matrix clause can be bound by *the men* under reconstruction (cfr. Belletti & Rizzi 1988). If subjects of control structures were derived by movement, we would expect the same kind of reconstruction effect in (21b), contrary to facts.

(21) a.   Friends of each other seemed [t to amuse the men t]

    b.   *Friends of each other wanted [PRO to amuse the men t]

3) Positions higher than the criterial position are not allowed to occur in A'-chains. An empirical indication which suggests the presence of this constraint is illustrated in (22b). It shows that in a structure involving both an indirect question and a main question, a wh-phrase cannot satisfy the Wh-Criterion in the embedded CP and successively move to the main C system.

(22) a.   Bill wonders [which book C_Q [she read t]]

    b.   *Which book C_Q does Bill wonder [t' C_Q [she read t]]?

The same constraint can be illustrated by the contrast between the Italian sentences in (23):

(23) a.   Mi   domandavo   quale RAGAZZA   avessero scelto,
           CL.refl *ec* wondered-1sg which GIRL   *ec* had-3pl   chosen,
           non   quale   ragazzo.
           not   which   boy

        'I wondered which GIRL they had chosen, not which boy.'

    b.   *Quale   RAGAZZA   mi   domandavo   avessero scelto,
           which   GIRL   CL.refl *ec* wondered-1sg *ec* had-3pl   chosen,
           non   quale   ragazzo.
           not   which   boy

        'Which GIRL I wondered they had chosen, not which boy.'

(23a) shows that in Italian a wh-phrase moved to the embedded CP in order to satisfy the Q-Criterion, like *quale ragazza/which girl*, can also be contrastively focussed in that criterial position. In contrast, (23b) shows that the wh-phrase *quale ragazza* cannot move to the embedded CP to satisfy the Q-Criterion, and successively move to the left periphery of the main clause to receive the interpretation of a focussed element. Notice that in Italian the left periphery of the main clause is used to focalize an element generated in an embedded clause, as long as this element does not satisfy a criterion in the embedded CP. This is shown in (24), where the phrase *la ragazza/the girl* moves from embedded clause to the left periphery to receive the contrastive focus interpretation.

(24) La RAGAZZA   pensavo   che avessero scelto ____, non il ragazzo.
     the Girl   *ec*   thought-1sg that had-3pl chosen ____, not the boy

'The GIRL I thought they had chosen, not the boy.'

Thus, the contrast between (23b) and (24), as well the grammaticality of (22b), show that movement must stop when a criterial position is met.

The impossibility of movement from a criterial position is expressed by Rizzi (2006) with the principle called *Criterial Freezing*:

(25) Criterial Freezing: a phrase meeting a criterion is frozen in place.

Criterial freezing effects are also observed in complex phrases constituted by more than one A'-feature. Consider the Italian complex phrase *quanti libri di quale autore/how many books by which author* in (26), constituted by two A'-features of the same kind (two Q-features) and the complex phrase *quanti libri del quale/how many books by whom* in (27), containing two A'-features of different kinds (one Q-feature and one R(elative)-feature).

(26) a. C_Q Ti   domandi C_Q[siano stati   censurati   [quanti   libri
          CL.refl wonder-2sg C_Q[have been   censored   [how many books
          di quale autore]].
          by which author]]

'You wonder have been censored how many books by which author.'

  b. C_Q Ti   domandi   [[quanti   libri   di   quale autore] C_Q[siano   stati
        CL.refl wonder-2sg [[how many books by   which author] C_Q[have   been
        censurati   t]].
        censored   t]]

'You wonder how many books by which author have been censored.'

  c.   *[Quanti   libri   di   quale autore]C_Q ti   domandi   [t C_Q [siano stati
        [how many books by   which author]CL.acc wonder-2sg [t C_Q [have been
        censurati   t]]?
        censored   t]]

'How many books by which author do you wonder have been censored?'

(27) a.   Gianni [C_R [nonè   ancora stato   chiarito [C_Q [siano stati   censurati
          Gianni [C_R [not has yet   been   clarified [C_Q [have been   censored
          [quanti   libri   del quale]]]]]].
          [how many   books by   whom]]]]]]

'Gianni, it has not been clarified yet have been censored how many books by whom.'

b.   Gianni [C$_R$ [non   è   ancora stato   chiarito [[quanti   libri   del   quale]
      Gianni [C$_R$ [not   has   yet   been   clarified [[how many books   by   whom]
      C$_Q$ [siano   stati   censurati]]]].
      C$_Q$ [have   been   censured]]]]

'Gianni, it has not been clarified yet how many books by whom have been censured.'

c.   *Gianni [[quanti   libri   del   quale] C$_R$ [non è   ancora stato chiarito
      Gianni [[how many   books by   whom] C$_R$ [not   has yet   been   clarified
      [t$_{DP}$ C$_Q$ [siano stati censurati t$_{DP}$]]]].
      [t$_{DP}$ C$_Q$ [have   been censured   t$_{DP}$]]]]

'Gianni, how many books by whom it has not been clarified yet have been censured.'

Starting from a structure involving both a main and an embedded question like (26a), the complex phrase *quanti libri di quale autore/how many books by which author* cannot move to the embedded C-system, as in (26b), and then move to the main C-System, as in (26c). Similarly, it is impossible to derive a structure like (27c), where the complex phrase *quanti libri del quale/how many books by whom* starts from the configuration in (27a), moves to the Spec,CP of the indirect question (27b), and successively moves to the relative C system.[5]

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[5]   As for the example in (26), the only (marginally) possible option is the one in which the complex wh-phrase splits in the following order: first the complex wh-phrase moves to the embedded CP, yielding (26b), and successively the most embedded phrase *di quale autore/by which author* moves from the embedded CP to the main C-system, yielding (i):

(i)   ?[Di quale   autore] C$_Q$ Ti   domandi   [[quanti   libri   t] C$_Q$ siano stati
      [*by which author*] C$_Q$ CL.refl   wonder-2sg [[how many   books t] C$_Q$ have been
      censurati t]].
      censured   t]]

'By which author do you wonder how many books have been censured?'

As for (27), there are two possible options: the first one is the split of the complex phrase *quanti libri del quale/how many books by whom*, after moving to the embedded CP, as illustrated in (ii).

(ii)   Gianni, [del quale] C$_R$ [non   è   ancora stato   chiarito   [[quanti   libri   t $_{PP}$]
       Gianni, [by whom]   C$_R$ [not   has   yet   been   clarified   [[how many books   t $_{PP}$]
       C$_Q$ [siano stati censurati   t$_{DP}$]]].
       C$_Q$ [have been censured   t$_{DP}$]]]

'Gianni, by whom it has not been clarified yet how many books have been censured.'

The second one is illustrated in (iii), in which the complex phrase [*quanti libri del quale*] moves to the interrogative CP, yielding (iiib), and then the whole indirect question is pied-piped to the Spec of the relative C, yielding (iiic).

4.   EPP and Subject-object Asymmetries

Following his own analysis of chains, Rizzi (2006) proposes a new account of EPP, the principle expressing the obligatoriness of the subject position of clauses, as reported in (28):

(28) EPP: Clauses must have subjects.

Assuming a dissociation between EPP position and Case-Agreement system, Rizzi proposes that EPP is a criterial position. According to this analysis, EPP is the position dedicated to aboutness, that is, the position that provides subjects with the starting point interpretation of an event description.

Thus, in Rizzi's approach movement to subject position is understood as a movement to satisfy a criterion. There is a criterial head in the highest part of the inflectional field, "Subj" in Rizzi's terminology, and this head attracts a nominal element to its Spec.

(iii) a.   Gianni [C_R [non è   ancora stato chiarito   [C_Q [siano stati censurati
Gianni [C_R [not   has yet   been clarified   [C_Q [have   been censured
[quanti   libri   del   quale]]]]].
[how many books   by   whom]]]]]

'Gianni, it has not been clarified yet have been censured how many books by whom.'

b.   Gianni [C_R [non è   ancora stato chiarito   [[quanti   libri   del   quale]
Gianni [C_R [not   has yet   been clarified   [[how many books   by   whom]
C_Q [siano   stati censurati]]]].
C_Q [have   been   censured]]]]

'Gianni, it has not been clarified yet how many books by whom have been censured.'

c. ?(?)Gianni, [[[quanti   libri   del   quale] C_Q [siano stati censurati t_{DP}]]
Gianni, [[[how many books by   whom] C_Q [have been censured t_{DP}]]
C_R [non è   ancora stato   chiarito t_{CP}]].
C_R [not   has yet   been   clarified t_{CP}]]

'Gianni, how many books by whom have been censured it has not been clarified yet.'

Rizzi (p.c.) observes that, in order to account for the extraction of one part of a complex phrase from a criterial position, as illustrated in (i) and (ii), the Criterial Freezing in (25) must be reformulated. Criterial Freezing must affect only the element bearing the relevant criterial feature, the *Criterial goal*, but not all the elements of a complex phrase containing the criterial goal:

(iv)   Criterial Freezing: the Criterial Goal is frozen in place.

Regarding (iiic), Rizzi observes that the movement of the complex phrase [*quanti libri del quale*] from the interrogative CP to the relative CP does not rule out the structure because in this case the Q-Criterion and the Relative Criterion are satisfied by two distinct phrases. The Q-Criterion is satisfied by the phrase [*quanti libri del quale*] and the Relative Criterion by the whole indirect question *quanti libri del quale siano stati censurati*, which contains the complex nominal phrase.

(29) [XP   [Subj ...   [Agr   S ....

Combining the proposal of Criterial Freezing with this account of EPP, Rizzi provides a new explanation for the subject-object asymmetries, which were traditionally related to the ECP.

Consider the subject-object asymmetries in (30) and (31). According to Rizzi's approach, the sentences in (30a) and (31a) are ruled out because the wh-elements *who* and *qui* are frozen in the Spec of SubjP where they satisfy the Subject Criterion. As a consequence they cannot undergo further movement to the matrix CP.[6]

(30) a.   *Who do you think [that [t will come]]?

      b.   Who do you think [that [Mary will meet t]]

(31) a.   *Qui   crois-tu   [que [t viendra]]?
            who   think-you   [that [t will come]]

            'Who do you think will come?'

      b.   Qui   crois-tu   [que [Marie rencontrera t]]?
            who   think-you [that [Mary will meet   t]]

            'Who do you think that Mary will meet?'

Following the discussion in Rizzi (2006), we can conclude that there is reason to cast doubt upon the assumption of movement to thematic positions, as well as on the assumption of subject-to-subject movement present in Ferreira's (2004) analysis. On the one hand, data regarding the lack of reconstruction effects in control structures, like that discussed in (21), show that movement to thematic positions is impossible. On the other hand, if the subject position is constrained by Criterial Freezing, sentences with embedded null subjects are expected not to involve movement from the subject position
of the embedded finite clause to the matrix clause.

5.   Further Problems

The analysis in terms of hyperraising proposed by Ferreira (2004) suffers from other empirical inadequacies. First, consider the fact that embedded null subjects are allowed inside adjunct clauses, as shown in (32).

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[6] See Rizzi (2006) and Rizzi & Shlonsky (2007) for the lack of subject-object asymmetries in contexts like (30) and (31) in other languages and for the different strategies which allow subject extraction in theses contexts.

(32) João$_i$ visitou   a Maria [quando *ec*$_i$ saiu do   trabalho].
     John$_i$ visited   Mary   [when   *ec*$_i$ left his job]

    'John visited Mary when he left his job.'

If we assume an analysis in terms of movement, then we expect a sentence like (32) to be ungrammatical, since it involves extraction of the subject from an adjunct island. Ferreira (2004) argues that sentences like (32) involve a *sideward movement*, and this makes the extraction of the subject from the adjunct clause possible. However, if *sideward movement* made extraction from adjunct clauses possible, we would expect that other kinds of elements could also be extracted from this context. But this does not happen, as the impossibility of wh-object extraction in (33b) shows.

(33) a.   O João$_i$ ficou   contente [quando *ec*$_i$ ganhou   o prêmio].
         John$_i$ was   happy   [when   *ec*$_i$ won   the prize]

      'John was happy when he won the prize.'

    b.   *O que$_i$ o João$_j$ ficou   contente [quando *ec*$_j$ ganhou   *t*$_i$]?
           what$_i$ John$_j$ was   happy   [when   *ec*$_j$ won   *t*$_i$]

      'What does John was happy when he won?'

Since in BP it is not possible to extract an element from an adjunct clause, we conclude that the embedded null subject in (32) cannot be derived through movement.

    Another problematic point in Ferreira's analysis is its explanation for the behaviour of null subjects in weak island, as illustrated in (12) and repeated bellow.

(34) a.   João$_i$ não   sabe   [quando *ec*$_i$ perdeu esse livro].
         John$_i$ doesn't know   [when   *ec*$_i$ lost   this book]

      'John doesn't know when he lost this book.'

    b. ??João$_i$ não   sabe   [que   livro   *ec*$_i$ leu   na semana passada].
           John$_i$ doesn't know   [which   book   *ec*$_i$ read   last week]

      'John doesn't know which book he read last week.'

    c. ?João$_i$ não   sabe   [pra quem *ec*$_i$ emprestou este livro].
           John$_i$ doesn't know   [to whom *ec*$_i$ lent   this book]

      'John doesn't know to whom he lent this book.'

As discussed in section 2, Ferreira argues that sentences like (34b-c) are degraded because the raising of the subject *João* from the embedded clause to the matrix Spec,*v*P, in order to check the thematic feature of *v,* causes a minimality violation (since the wh-phrases *que livro/which book* and *pra quem/to whom* in the embedded CP have the relevant features to check the

thematic feature of *v*). However, if in the sentences (34b-c) there were a minimality violation, we would expect these sentences to be not only degraded, but completely ungrammatical, since minimality violations are strong violations.

Finally, a further complication in Ferreira's (2004) analysis is the fact that BP is subject to the Montalbetti's (1984) *Overt Pronoun Constraint*. According to *Overt Pronoun Constraint*, an overt pronoun cannot be locally bound by a variable, if a <u>null pronoun</u> is possible in the same position. The example in (35a) shows that BP is subject to this constraint: the overt pronoun *ele/he* in the embedded clause cannot be locally bound by the variable left by movement of the quantificational phrase *nenhum menino/no boy*. The only grammatical option is sentence (35b), with a null embedded subject.

(35) a.   *Nenhum   menino$_i$ acha   que ele$_i$ é inteligente.
        no   boy$_i$ think   that he$_i$ is intelligent

    'No boy thinks that he is intelligent.'

   b.   Nenhum   menino$_i$ acha   que *ec*$_i$ é inteligente.
        no   boy$_i$ think   that *ec*$_i$ is intelligent

    'No boy thinks that he is intelligent.'

The fact that BP undergoes the Montalbetti's *Overt Pronoun Constraint* suggests that embedded null subjects in BP are some kind of null <u>pronouns</u>. Consequently, BP null subjects in embedded contexts cannot be analyzed as traces from a hyperraising operation, as proposed by Ferreira (2004).

An alternative analysis of embedded null subjects in BP is to treat them like a *pro* as in languages like Chinese. In the next section I explore this possibility.

6.   Null Subjects in Chinese (Huang 1984)

Since the first formulations of the Null Subject Parameter (Chomsky 1981, 1982), it has been proposed that the crucial factor that distinguishes languages regarding subject omissions is the availability of a rich subject-verb agreement system. Thus, languages like Italian and Spanish can omit pronouns in the subject position of a finite clause because these languages have a subject-verb agreement system that is rich enough to permit the recovery of the content of a null subject. On the other hand, null subjects are not allowed in languages like English and French because these language have a poor agreement system that is unable to recover the content of a null pronoun.

Languages like Chinese represent a problem for this kind of theory, since they have a maximal freedom for the use of null arguments without having neither subject-verb nor verb-object agreement system. The sentences in (36) are some examples of subject and object

omissions in Chinese[7]:

(36) a. *ec* lai-le.
     [he] came

   b. Lisi   hen   xihuan *ec*.
      Lisi   likes   [him] very much

   c. Zhangsan shuo   [*ec* bu   renshi Lisi].
      Zhangsan said that [he] did not know   Lisi

   d. Zhangsan shuo   [Lisi bu   renshi *ec*].
      Zhangsan said that Lisi did not know [him]   (Huang 1984)

However, considering languages like Chinese more in detail, Huang (1984) has shown that the most of the omissions in (36) are not genuine null pronouns.

Huang observes that these null elements must refer to elements whose reference is fixed in the discourse. For instance, in (36d), the null object cannot take the matrix subject *Zhangsan* as its antecedent. It may only refer to someone or something that a given discourse is about, that is to a discourse topic. This behaviour is different from that of a pronoun. In an English sentence like (37), for example, the pronoun *him* is free in reference: it may refer to the matrix subject *John* or it may refer to someone whose reference is distinct from *John*.

(37) John said that Bill knew him.

The fact that null elements in Chinese must be bound by some NP whose reference is fixed in the discourse led Huang (1984) to treat them as cases of Topic drop. In other words, sentences like those in (36) are assimilated to sentences like those in (38)-(40). The only difference is that while the topic is present in (38)-(40), in (36) the topic is recoverable from previous discourse. According to this analysis, a sentence with a null object like (36d) has the derivation in (41b), where the object is topicalized and then deleted from topic position.

(38) Neige ren$_i$,   Zhangsan shuo [Lisi bu   renshi e_i].
     That   man$_i$, Zhangsan said   Lisi didn't know e_i

(39) Neige ren$_i$,   Zhangsan xiwang   [Lisi keyi kanjian e_i].
     That   man$_i$, Zhangsan hopes   that Lisi will be able to see e_i

(40) Neige ren$_i$,   Zhangsan zhidao   [Lisi mei banfa shuifu e_i].
     That   man$_i$, Zhangsan   knows that Lisi won't be able to persuade e_i

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[7] Examples from Huang (1984).

(41) a.   Zhangsan shuo   [Lisi bu   renshi *e*].
           Zhangsan said that   Lisi did not   know [him]

     b.   [$_{Top}$ e_i], [Zhangsan shuo [Lisi bu renshi e_i]   (Huang 1984)

Thus, null subjects and null objects in languages like Chinese can be analysed as variables that are bound to a zero topic, and not as genuine null pronouns.

The only kind of null element which behaves like a null pronoun in Chinese is the one in subject position of embedded finite clauses, as illustrated in (36c). The null subject in (36c) can refer both to a discourse topic and to the matrix subject *Zhangsan*.

According to Huang (1984), the embedded null subject coreferent with the matrix subject is a null pronoun which is identified through coindexation with the closest c-commanding NP. Huang proposes this analysis essentially assuming the two following ideas:

1)   Null pronouns must be identified by the closest c-commanding nominal element.
2)   Agr qualifies as a potential antecedent of a null pronoun.

Let us see how Huang's ideas can be applied to the English examples in (42):

(42) a.   *ec came.

    b.   *John said that *ec* saw Bill.

    c.   John tried *ec* to come.

According to Huang's ideas, in sentences like (42a) and (42b) the null pronouns must be coindexed with the Agr contained in *come* and *saw*, which are the closest nominal elements. Since the agreement system in English is degenerated, Agr is unable to identify the content of a null pronoun. Consequently, these sentences are ungrammatical. On the other hand, in languages like Italian and Spanish sentences like (42a) and (42b) would be grammatical because the agreement system of these languages is rich enough to determine the content of the null pronoun.

The only context in which a null pronoun is possible in English is in the subject position of an embedded infinitive clause, as in (42c). In (42c), there is no Agr in the embedded clause. Consequently, the closest potential antecedent for the null pronoun are the Agr contained in the matrix verb *tried* or the matrix subject *John*, which are both located in the same clause. Since there is no principle that blocks this kind of interpretation, the sentence in (42c) is grammatical, with the null pronoun interpreted as being controlled by *John*.

According to Huang, Chinese null subjects in embedded finite clauses like (36c) are identified in the same way as English null subjects in control structures. Consider again (36c):

(36) c.   Zhangsan shuo   [*e* bu   renshi Lisi].
          Zhangsan said that [he] did not   know Lisi

Since in Chinese there is no Agr, the closest potential antecedent for the embedded null pronoun in (36c) is the matrix subject *Zhangsan*. As the null pronoun is coindexed to *Zhangsan*, the sentence is ruled in.

Thus, according to Huang's ideas, the embedded null subject in (36c) is a null pronoun different from that of languages like Italian and Spanish. While in Italian and Spanish a null pronoun in subject position within an embedded finite clause is identified by Agr, in Chinese the null pronoun is identified in the same way as a PRO in control structures.

7.   BP under Huang's (1984) Analysis

In this section I explain the properties of embedded null subjects in BP following the analysis of Huang (1984). Consider again the behaviour of embedded null subjects in BP:

- Embedded null subjects must have an antecedent located in the immediately higher clause, as (43a) in contrast with (43b-c) show.

(43) a.   João$_i$ acha   [que   *ec*$_i$ é esperto].
          John$_i$ thinks [that   *ec*$_i$ is smart-masc]

          'John thinks that he is smart.'

    b. *João$_i$ disse [que   a Maria   acha   [que   *ec*$_i$ é esperto]].
          John$_i$ said   [that   Mary   thinks [that   *ec*$_i$ is smart-masc]]

          'John$_i$ said that Mary thinks that he$_i$ is smart.'

    c. *A mãe do João$_i$ acha   [que   *ec*$_i$ é esperto].
          John$_i$'s mother thinks [that   *ec*$_i$ is smart-masc]

          'John$_i$'s mother thinks that he$_i$ is smart.'

According to Huang's analysis, embedded null subjects in Chinese are null pronouns which must be identified through coindexation with the closest c-commanding NP. Applying this analysis to BP, we find a direct explanation for the contrast in (43). Among the sentences in (43), only (43a) is grammatical because only in this case the null pronoun is identified through coindexation with the closest c-commanding NP. In (43b) the null subject cannot refer to the matrix subject *João* because this is not the closest c-commanding NP. Similarly, in (43c) the embedded null subject cannot refer to *João* because this element does not c-command the null subject.

- Embedded null subjects can freely alternate with an overt pronoun:

(44) a. João$_i$ disse que   *ec*$_i$ comprou   um carro novo.
          John$_i$ said   that *ec*$_i$ bought   a new car

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

          'John said that he bought a new car.'

As discussed in section 2, the problem connected with this alternation is that it should be banned by the *Avoid Pronoun Principle*, which establishes that whenever an alternation null/overt pronoun is possible, the null pronoun is preferred. If we assume Huang's analysis we can explain why the alternation in (44) is not banned by the *Avoid Pronoun Principle*. In (44) there is no alternation between an overt pronoun and a null referential pronoun like that of null subject languages, but an alternation between an overt pronoun and a *pro* which is identified by the coindexation with the closest c-commanding NP. This kind of alternation is not the one expressed by the *Avoid Pronoun Principle* and consequently it cannot be banned by this principle.

- Impossibility of split antecedent:

(45)*João$_i$ disse [que   a Maria$_j$ acha   [que *ec*$_{ij}$ são   espertos]].
     John$_i$ said   [that Mary$_j$ thinks [that *ec*$_{ij}$ are   smart-pl]]

     'John said that Mary thinks that they are smart.'

Assuming Huang's analysis, sentences like (45) are ungrammatical because the null pronoun cannot refer to both *João* and *Maria* but it must refer only to the NP *Maria*, which is the closest c-commanding NP.

- Embedded null subjects cannot occur inside relative clauses:

(46) a. *João$_i$ não   gostou   dos livros   [que [*ec*$_i$ leu na escola]].
          John$_i$ not   like   the books   [that [*ec*$_i$ 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   na rua]].
          John$_i$ said that [the girls [that *ec*$_i$ met   in the street]]
          eram estrangeiras.
          were foreigners

          'John said that the girls that he met in the street were foreigners.'

In sentences like (46a-b), the null subjects inside relative clause cannot refer to the NP *João* because there are other c-commanding NPs which are closer to these null subjects, that is, the

NPs *meninas*/girls and *livros*/books.

- While embedded null subjects cannot occur inside certain strong islands, similarly to relative clauses, they are allowed in adjunct clauses:

(47) João$_i$ visitou a Maria [quando *ec*$_i$ saiu do trabalho].
     John$_i$ visited Mary [when *ec*$_i$ left his job]

    'John visited Mary when he left his job.'

    As discussed in section 4, the analysis in terms of movement proposed by Ferreira (2004) cannot explain why in (47) the null subject can occur inside the adjunct clause. On the other hand, if we adopt Huang's (1984) analysis, we can explain this possibility. In (47), the null subject is allowed inside the adjunct clause because it is identified through coindexation with the matrix subject *John*, which is the closest c-commanding NP. Note that the NP *Maria* is not a potential antecedent for the null subject, since it does not c-command the null subject.

- Mixed behaviour regarding weak islands:

(48) a.   João$_i$ não   sabe   [quando *ec*$_i$ perdeu   esse livro].
         John$_i$ not   know   [when *ec*$_i$ lost   this book]

        'John doesn't know when he lost this book.'

    b. ??João$_i$ não   sabe   [que   livro *ec*$_i$ leu   na semana passada].
         John$_i$ not   know   [which book *ec*$_i$ read   last week]

        'John doesn't know which book he read last week.'

    c. ?João$_i$ não   sabe   [pra quem *ec*$_i$ emprestou   este livro].
         John$_i$ not   know   [to whom *ec*$_i$ lent   this book]

        'John doesn't know to whom he lent this book.'

Assuming Huang's analysis, sentences like (48b-c) are degraded because in Spec of the embedded CP there is a c-commanding NP (or DP) which could be the antecedent of the null pronoun (*que livro*/which book and *pra quem*/to whom). This blocks the coindexization of the null pronoun with the matrix subject *João*. On the other hand, in (48a) the coindexization of the null pronoun with the matrix subject *João* is not blocked because the wh-phrase in the embedded CP is an adverb, an element that cannot be an antecedent for the null subject pronoun.

- An embedded null subject has a different behaviour from the one of an overt embedded subject in sentences in which the matrix subject has the form [O*nly* DP].

(49) a.   Só   o João acha   que *ec* vai   ganhar   a   corrida.
            only John   thinks that *ec* will   win   the   race

            'Only John thinks that he will win the race.'

      b.   Só o João acha que ele vai ganhar a corrida.

            'Only John thinks that he will win the race.'

A sentence with an embedded null subject like (49a) has the interpretation in (50), while a sentence with an overt embedded subject like (49b) is interpreted as in (51):

(50) *John* is the only person who believes in his own victory.

(51) *John* is the only person who believes in *John's* victory.

    Notice that in BP a sentence with embedded null subject like (52a) can freely alternate with a sentence with an overt embedded subject like (52b). The use of a null or an overt pronoun in the subject position of the embedded clause does not implicate any particular interpretative difference between (52a) and (52b).

(52) a.   O João acha   que *ec*$_i$ vai ganhar a   corrida.
            John   thinks that *ec*$_i$ will win   the   race

            'John thinks that he will win the race.'

      b.   O João acha que ele$_i$ vai ganhar a corrida.

            'John thinks that he will win the race.'

In addition, notice that the sentences in (49) involve a quantification, and thus can be represented as in (53):

(53) a.   [Só o João]$_i$ t$_i$ acha   que *ec*$_i$ vai ganhar   a   corrida.
            [only John]$_i$ t$_i$ thinks that *ec*$_i$ will win   the   race

            'Only John thinks that he will win the race.'

      b.   [Só   o João]$_i$ t$_i$ acha   que ele$_i$ vai ganhar   a   corrida.
            [only John]$_i$ t$_i$ thinks that he$_i$ will win   the   race

The interpretative difference between a sentence with an embedded null pronoun like (53a) and a sentence with an overt pronoun like (53b) can be understood as a consequence of the Montalbetti's (1984) *Overt Pronoun Constraint* (OPC). OPC says that an overt pronoun cannot be locally bound by a variable if a null pronoun is possible in the same position. In the case of the interpretation illustrated in (50), a null pronoun is possible in BP. Thus, the use of the overt subject pronoun with this context is banned by the OPC.

According to OPC, an overt embedded pronoun can only be locally bound by a variable in a context in which a null pronoun is not possible. This is what happens in (53b). (53b) involves some kind of focalization of the embedded subject. Since null pronouns cannot be focussed, in this context an overt pronoun is allowed.

- An embedded null subject has behaves differently from an overt embedded subject in VP-ellipsis structures. A sentence with an overt embedded subject like (54a) is ambiguous: it can have a strict reading or a sloppy reading. On the other hand, in a sentence with embedded null subject like (54b) only the sloppy reading is available.

(54) a. João$_i$ acha   que ele$_i$ vai ganhar   a corrida   e   a Maria   também.
         John$_i$ thinks that he$_i$ will win   the race   and Mary   too
         (strict/sloppy reading)

    'John thinks that he will win the race and Mary too.'

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

    'John thinks that he will win the race and Mary too.'

As discussed in section 2, Ferreira (2004) explains the asymmetry in (54) by assuming an analysis of ellipsis which involves a copy of the elided constituent (Fiengo e May 1994). Combining this analysis with Huang's (1984) approach, we explain the asymmetry in (54) in the following way. If the embedded null subject in BP is a *pro* which is identified through coindexation with the closest c-commanding NP, then in sentences like (54b) the null subject of elliptic embedded clause must refer to the matrix subject *Maria*. Consequently (54b) will have a sloppy reading, as illustrated in (55):

(55) John$_i$ thinks that he$_i$ will win the race and Mary$_j$ thinks that she$_j$ will win the race.

On the other hand, in (54a) the subject of the elliptic embedded clause is an overt pronoun. This allows the overt pronoun to have two different interpretations. It can be coreferent with the matrix subject *Maria* in its own clause (thus obtaining the sloppy reading) or it can be coreferent with the subject *João* in the coordinate sentence (thus obtaining the strict reading).

8.   Conclusions

The analysis in terms of hyperraising and movement to theta positions proposed by Ferreira (2004) for embedded null subjects in BP has problematic aspects and it cannot fully account for the behaviour of embedded null subjects in BP. Thus, we can conclude that embedded null subjects in BP cannot be taken as support to a theory of movement to thematic positions.

A relevant point discussed in this paper is that BP is subject to Montalbetti's (1984) *Overt pronoun Constraint*. This suggests that sentences with embedded null subjects involve a kind of null pronoun, not a trace from a hyperraising operation. I also have shown that, if we assume Huang's (1984) analysis, we can explain embedded null subjects in BP in the following way. In BP, referential null subjects are not allowed because this language has a degenerated agreement system, unable to identify a *pro*. However, null subjects are allowed in embedded finite clauses, where null subjects are identified through coindexation with the closest c-commanding NP. This is a different kind of identification if compared with the one of null subjects in null subjects languages. The syntactic and interpretative differences between null subjects in BP and in *pro-drop* languages are a consequence of this fact.

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