Acquisition in the context of language change

The case of Brazilian Portuguese null subjects*

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Brazilian Portuguese (BP) has been described as having undergone a selective loss of null subjects, with the categorical maintenance of null expletives, and a limited possibility of referential null subjects in the third person. In the I-language of most literate adults, a range of referential null subjects is still possible, competing with the innovative weak pronouns. The present study will claim that core grammars do not admit morphological 'doublets', and will give evidence that pre-school children do not have pronouns competing with referential null subjects. These are argued to be acquired as a second grammar, through schooling. The maintenance of anaphoric null subjects is observed in written texts, the object of diachronic studies. The conclusion is that the only null subject licensed in BP core grammars is the non-referential null subject, namely expletive and indefinite subjects without the clitic *se*. The study will also claim that the null subject recovered through schooling is not the same as the prototypical null subject that was lost, but is still an object possible in Universal Grammar (UG).

Keywords: Brazilian Portuguese, core grammar, null and pronominal subjects, L2 grammar

1. Introduction

The theory of UG tries to account for the acquisition of core grammars, through parameter setting, in a context of poverty of stimulus (Chomsky 1986), which can be understood partly as data containing competing forms, due to different values of the same parameters, coexisting in the input that children receive. This is exactly the situation that a child faces when there is a recent change or a change in progress. The well-studied case of the Null Subject (NS) parameter is particularly interesting, as Brazilian Portuguese (BP) has been claimed to be changing from a NS to a non-NS language (Duarte 1993) since the 19th century. As the adult I-language may have more than one core grammar, or may contain an extended periphery of forms learned through instruction and not selection (cf. Kato 2005), the linguist's intuition of his/her own core grammar may be obscured, and the innovative forms may deserve contradictory descriptive interpretations from different linguists. Thus, in the case of the NS, while for some linguists the variation in the input is due to the competition of the old and new grammars (Duarte 2000; Kato 1999), for others the new system is a consistent grammar, but unrelated to a prototypical non-null subject grammar (inter alios Modesto 2000; Ferreira 2000).

The aim of this chapter is to analyze the resistant null referential subjects in anaphoric contexts (a) in the I-language of Brazilians reflected in contemporary written corpora (Barbosa, Duarte & Kato 2005), and in literate adults' judgments, and (b) in the core grammar of BP as reflected in the I-language of pre-school children, as we believe that before schooling we can obtain the closest features of the acquired core grammars.

The paper is divided into 4 sections. In Section 2 I will review the changes in BP regarding properties related to the NS parameter, and, in particular, to the nature of the NS in contemporary Brazilian Portuguese; in Section 3 facts related to the residual null expletive and 'anaphoric' subjects in BP will be presented; in Section 4, I will discuss the NS in early acquisition and compare it with the NS during schooling, interpreting the data in Magalhães (2003, 2006) and Simões (2000); Section 5 has considerations on the NS of literate adults. Section 6 contains the concluding remarks.

2.   The null subject parameter and the changes in Brazilian Portuguese

2.1   Parallel changes

As what seems to be happening in Brazilian Portuguese is not a change in an iso-lated property, but a cluster of syntactic changes, which are attributed to the NS parameter, it is not surprising that many linguists have been considering Brazilian Portuguese grammar as partially resulting from changes of a parametric nature (cf. Duarte 1993; de Andrade Berlinck 1995, 2000; Kato 1999 a.o.). The changes are listed as follows: (a) progressive replacement of NSs with pronouns (Duarte 1993, 2000), (b) loss of V(O)S order (de Andrade Berlinck 1995, 2000; Kato et al. 2006) and (c) loss of clitic climbing (Cyrino 1993; Pagotto 1993).

Thus, Duarte (1993) shows that null subjects have been progressively replaced by overt pronouns since the 19th century (see Figure 1), with the third person being quantitatively the most resistant to the change, in embedded co-referential contexts, and the indirect second person *você* more resistant in questions.

(1) a. Ø moro   com os   meus filhos.   (19th century)
         live.1PSG with the my   children
         'I live with my children.'
     b. (Eu) moro   com os   meus filhos   (20th century)
         I   live.1PSG with the my   children
         'I live with my children.'

(2) a. Ø fala bem inglês.   (19th century)
         speak well English
         'He/she/you speak(s) English well.'
     b. *(Ele/você) fala   bem inglês.   (20th century)
         he/she/you speak well English
         'He/she/you speak(s) English well.'
     c. (Você) fala   inglês?   (20th century)
         you   speak English
         'Do you speak English?'
     d. O Pedro$_i$ disse que (ele)$_i$ fala   bem inglês.   (20th century)
         the Pedro said that he   speaks well English
         'Peter$_i$ said that he$_i$ speaks English well.'

De Andrade Berlinck (1995) had shown, on the other hand, that BP had been losing 'free inversion' in the same period, and Kato et al. (2006) show that with transitive verbs it has almost categorically lost it (see Figure 2).
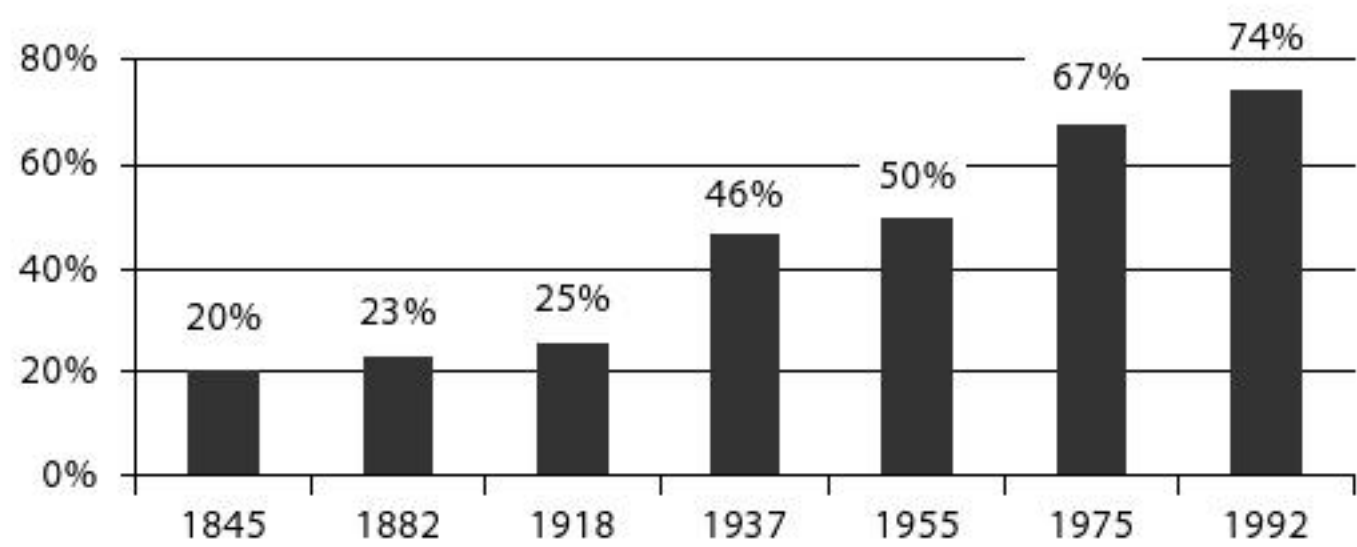
Figure 1. Overt pronominal subjects through seven periods (%)
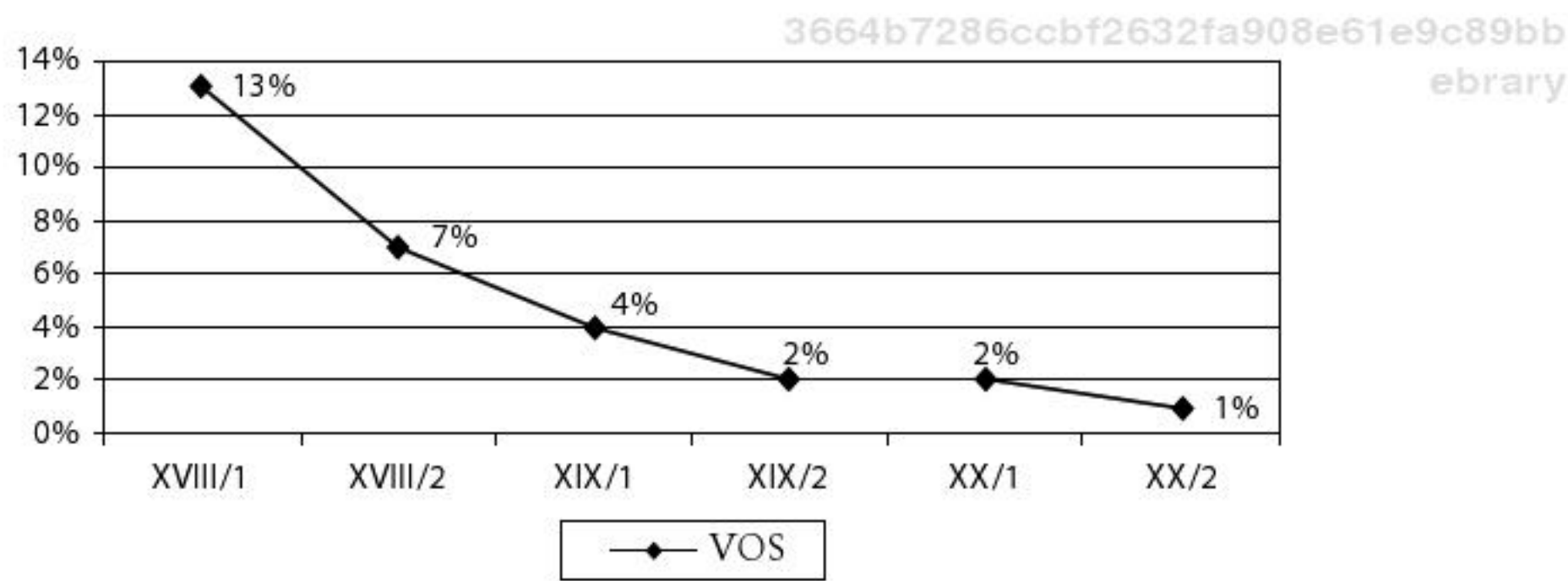(apud Duarte 1993: 112)

Figure 2. VOS in declarative sentences with transitive verbs (apud Kato, Duarte, Cyrino & Andrade-Berlinck 2006: 432)

(3) a. Moram   comigo   dois dos   meus filhos.   (19th century)
         live.3PPL with-me two of-the my   children
         'Two of my children live with me.'
     b. Dois dos   meus filhos   moram   comigo.   (20th century)
         two of-the my   children live.3PPL with-me
         'Two of my children live with me.'

The third change, observed by both Pagotto (1993) and Cyrino (1993), is the loss of clitic climbing, a property assigned to the NS parameter by Kayne (1989). See, for instance the position of clitics in negative sentences starting in the first half of the 18th century. Until the second half of the 19th century the clitic was placed before the Auxiliary in the context of negation. After that, it occupies the position between the Auxiliary and the main verb.

(4) a. João não me tinha cumprimentado.   (19th century)
         John not me had   greeted
         'John had not greeted me.'

b.   João não tinha me cumprimentado.   (20th century)
     John not had   me greeted
     'John had not greeted me.'

These parallel changes suggest that a change in the NS parameter is involved.[1]

Table 1. Position of the clitic in the presence of Neg (adapted from Cyrino 1996: 169)

	NEG/CP cl "AUX" V	NEG/CP "AUX" cl V
1st half 18th	100%	0%
1st half 19th	87.5%	12.5%
2nd half 19th	90%	10%
2nd half 20th a	20%	80%
2nd half 20th b	0%	100%

Table 2. Parallel changes in BP since the 19th century

BP	+NS	VOS	+Clitic climbing
2nd half of 19th	74%	13%	100%
2nd half of 20th	20%	1%	Ø%

2.2   The distribution of pronouns and null subjects in European Portuguese and Brazilian Portuguese

In contrast to BP, the variety of Portuguese spoken in Portugal (EP) remains a prototypical NS language. Comparing with English (EN), a non-NS language, we can observe that the distribution and interpretation of NSs in EP is exactly the same as that of weak pronouns in English.

(5) a.   John$_i$ told   Bill$_k$ that he$_{i/k/j}$ was   sick.   EN (−NSL)
     b.   O João$_i$ disse ao Bill$_k$ que Ø$_{i/k/j}$ estava doente.   EP (+NSL)
     c.   John$_i$ asked   Bill$_k$ if he$_{i/k/j}$ was   pale.   EN (−NSL)
     d.   O João$_i$ perguntou ao Bill$_k$ se Ø$_{i/k/j}$ estava pálido.   EP (+NSL)

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1.   But not all properties seem to be connected to the NS parameter as is the case of the violation of the 'that trace filter' (cf. Haidar 2001). Non NS languages can, in general, extract from the object position but not from the subject position. BP continues to license extraction from the subject position:

(i)   What did you say that you bought ec yesterday?
(ii)   *Who did you say that ec bought a car yesterday?
(iii) Quem você disse que ec comprou um carro ontem?

Thus, the pronoun in English and the NS in EP may co-refer to any c-command-ing antecedent, or it may refer to a third party.

In contrast to English, the pronoun in EP, unless heavily stressed (a strong pronoun), does not co-refer to the antecedent in the main clause (cf. Barbosa et al. 2005).

(6) O João$_i$ disse ao Pedro$_k$ que ELE$_{i/k}$ está doente.   EP
the J.   said to-the P.   that HIM   was sick
'John$_i$ said to Peter$_k$ that he$_{i/k}$ was sick.'

In BP,[2] the overt pronoun is exactly like in English, a weak pronoun.[3] It is fully referential. But the null subject, unlike EP, can only co-refer to a c-commanding antecedent. Thus, the NS in BP occurs only in a subset of contexts where the NS in EP are allowed. The discussion on the nature of such NS will be seen in Section 3.

(7) a. O João$_i$ disse ao Pedro$_k$ que ele$_{i/k/j}$ estava doente.   BP=EN
the J.   said to-the P   that he   was   sick

b. O João$_i$ disse ao Pedro$_k$ que Ø$_{i/*k/*j}$ estava doente.   BP≠EP
the J.   said to-the P   that   was   sick

c. O João$_i$ perguntou ao Pedro$_k$ se Ø$_{i/*k/j}$ estava doente.   BP≠EP
the J.   asked   to-the P. if   was   sick

The great innovation in BP was, therefore, the introduction of an English-like paradigm of weak pronouns (Nunes 1990a; Kato 1999).

2.3 Contexts of resistance to change in BP

2.3.1 *In root clauses*

Though the parallel changes seen in Section 2 and the comparison with EP suggest that a new grammar is emerging, we cannot say that BP has become a language exactly like English, a non NS language. This is due to the contexts of resistance to change in both root clauses and in complement clauses:

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2. See studies by Kato (2000), Figueiredo Silva (2000), Modesto (2000), Ferreira (2000) and Rodrigues (2004), and the consensual judgment of these data.

3. Barbosa et al. (2005) show that whenever a 3rd person pronoun is overt in EP, it is [+human], which is a restriction of strong pronouns, while in BP the third person subject pronouns can be either [+human] or [−human], which is evidence that they are weak.

2.3.1.1   *NSs in impersonal and indefinite root clauses.* While referential NSs have been progressively lost, null expletives were maintained in impersonal constructions (see (8)) and in indefinite constructions (see (9c)), without the clitic *se*.[4]

(8)   Ø chove em S.Paulo, Ø faz   sol no Rio.   (19th/20th cent.)
           rains in   S.Paulo,   makes sun in Rio
       'It rains in São Paulo, it is sunny in Rio.'

(9)   a.   Fervem-se   os   camarões.   (19th century)
             boil.3PPL-REFLCL the shrimps
       b.   Ferve-se   os   camarões.[5]   (19th/20th cent.)
             boil.3PSG-REFLCL the shrimps
       c.   Ø ferve   os   camarões.   (20th century)
             Ø boil3PSG the shrimps
             'One boils the shrimps.'

It might be considered that null expletives will also end up being lost, like in French.[6] But this does not seem to be the case. BP is trying to satisfy the EPP in some alternative way. Duarte (2003) shows that with impersonal verbs, BP preferentially resorts to locative raising (see (10)), and with indefinite subjects, it frequently resorts to the insertion of a sort of 'personal expletive' (see (11)), namely *você* 'you' or *a gente* 'we', with indefinite interpretation.

(10)   S.Paulo chove, Rio faz   sol.   (20th century)
        S.Paulo rains, Rio makes sun
        'It rains in São Paulo, it is sunny in Rio.'

(11)   *Você / a gente* ferve   os   camarões.   (20th century)
        you / we   boil3PSG the shrimps
        'One boils / you boil the shrimps.'

2.3.1.2   *Short answers, with verbal answers.* Only languages positively marked for the NS parameter seem to dispose of short answers constituted solely by the

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4.   For the loss of clitic *se* in BP, see Nunes (1990b). Before losing the clitic *se*, BP loses the so-called passive *se*, and verbal agreement with the postverbal DP. When the clitic *se* is inserted, we have only the so-called indefinite *se*, without agreement.

5.   The clitic is no longer enclitic, but proclitic in BP (*Se ferve os camarões.*), see Pagotto (1993) and Cyrino (1993).

6.   See for instance Cyrino, Duarte & Kato (2000), who take this perspective.

inflected verb (cf. Kato & Tarallo 1992). We could consider then that short answers are a domain unaltered by the change.[7]

(12)   A: Você   me   ama?[8]
             you   me   love
             'Do you love me?'
        B: Amo.   (19th/20th cent.)
             love1PSG
             'I do.'

2.3.2   *Optional null subjects in complement clauses*

Linguists[9] have observed that a sentence like (13a), with the NS, is unacceptable in contemporary BP, even if the referent is in the scope of attention of both the speaker and the hearer. However, if the sentence is embedded in a complement clause where the NS can find an antecedent in a c-commanding position, the sentence is judged to be perfectly grammatical (see (13b–d)). It is important to observe that the embedded subject can, moreover, be either a NS or a pronoun. This NS has been receiving mainly two different types of analysis: a context of resistance to the change, with the empty category having the same nature as in previous stages (Duarte 1993) or a different type of empty category (Figueiredo Silva 2000; Modesto 2000; Ferreira 2000; Rodrigues 2004; Barbosa et al. 2005).[10]

Here, I will assume, with Kato (2000), Huang's (1989) generalized control theory for empty categories. The relevant facts are the following: (i) the third person NS in BP requires an antecedent (see (13a)), (ii) the NS must have an antecedent in a c-commanding position (see (13b, c and d) *vs* (14a)), and (iii) the overt third person pronoun can have an antecedent without such restriction.

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7.   Though I think this construction is related to the NS parameter, it is not merely a sentence with a NS and a null object, but is rather an instance of IP ellipsis. This idea was first presented in Laka (1990), and later it was developed in Holmberg (2001) in minimalist terms.

8.   Though, in general, the second indirect person can be null in questions (see example (2c)), with clitics the tendency is to have the pronoun overt, unless it is in the imperative (*Me pega o jornal?* 'Will you get me the newspaper?').

9.   See references in Note 2.

10.   For Figueiredo Silva the agreement is anaphoric, in the sense of Borer (1989); for Modesto (2000), the empty category is a variable bound by a DP in A'-position; for Ferreira (2000) and Rodrigues (2004), the ec is a trace left by A-movement, in Hornstein's (1999) sense and to Barbosa et al. (2005), it is a pronominal anaphor, in Reinhart & Reuland's (1993) theory. In Nunes (this volume) the analysis also follows Hornstein's line.

(13) a. *Ø está doente.
          Ø is   sick
          'He/she/you is/are sick.'

      b. A Ana$_i$ disse que Ø$_i$/ela$_i$ está doente.
          the Ana said that Ø/she is   sick.
          'Ana said that she$_i$ is sick.'

      c. O Pedro$_i$ disse que Ø$_i$/ele$_i$ está doente.
          the P.   said that Ø/he is   sick.
          'Peter said that he$_i$ is sick.'

      d. Você$_i$ disse que Ø$_i$/cê tá doente.
          you   said that Ø/you are sick
          'You said that you are sick.'

(14) a. [O tio   do [João$_k$]$_i$ disse que Ø$_{i/*k}$ está doente.
          the uncle of John   said that Ø   is   sick
          'John's uncle said that he is sick.'

      b. [O tio   do [João$_k$]$_i$ disse que ele$_{i/k}$ está doente.
          the uncle of John   said that he   was sick
          'John's uncle said that he$_{i/k}$ was sick.'

Moreover, if (15a), with an indefinite null subject, is embedded in a complement clause, it loses the indefinite interpretation and the NS acquires a co-referent meaning (Kato 2000):[11]

(15) a. Ø conserta sapato.
          Ø repairs   shoe
          'One repairs shoes.'

      b. João$_i$ disse que Ø$_i$ conserta sapato.
          John$_i$ said that he$_i$ repairs   shoes.

      c. João$_i$ perguntou ao   Pedro$_k$ se Ø$_k$ conserta sapatos
          John   asked   to+the P   if Ø$_k$ repairs   shoes
          'John$_i$ asked Peter$_k$ if he$_k$ repaired shoes.'

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11. Though it is generally the case that we have the coreferential interpretation, we can also obtain an interpretation from a discourse Topic. I analyze a sentence with this reading by postulating an empty Topic (=PRO) in the matrix sentence.

   (i) PRO$_i$ [O João disse que Ø$_i$ conserta sapato]
        'John$_i$ said that he$_k$ repairs shoes.'

3. **An analysis of residual Null Subjects in Brazilian Portuguese: The null expletive and the 'anaphoric' Null Subject**

3.1 **An analysis adapted from the 'generalized control' theory (Huang 1989)**

From the above description, we can conclude that the grammar of the Brazilian adult speaker contains two types of NSs: the null expletive and the 'controlled' type.

My analysis tries to account for the two types of NS under the 'generalized control' theory (Huang 1989). More precisely, my proposal is based on the following assumptions:

– pronouns can be strong, weak or clitics/affixes (Cardinaletti & Starke 1999);
– *pro*, or the pronominal agreement of NS languages, is a weak pronominal;
– *PRO* can be adjoined to finite clauses, and not only to infinitive clauses;
– controlled subjects in finite clauses are logophoric pronouns.

The indefinite NS in (16) is co-indexed with a PRO, from which it obtains the arbitrary/generic reading, just as it is with infinitives. But PRO can also appear adjoined to the embedded clause with a NS (17), in which case we have an 'anaphoric' PRO, controlled by the upper subject:

(16) a. Conserta sapato.
 'One repairs shoes.'
 b. [PRO$_i$ [Ø$_i$ conserta sapato]]

(17) a. O Pedro$_i$ disse que [PRO$_i$ [Ø$_i$ conserta sapato]].
 'Peter$_i$ said that he$_i$ repairs shoes.'
 b. O Pedro$_i$ está perguntando ao João$_k$ [se [PRO$_k$ [Ø$_k$ conserta sapato]]
 'Peter$_i$ is asking John$_k$ if he$_k$ repairs shoes.'

3.2 **NS as logophoric pronouns in BP**

The subject thus identified by a *PRO* will be analyzed as a logophoric pronoun, in the sense of Kuno (1972) and Kato (1976).[12] According to Kuno, logophoric pronouns are associated with direct speech first and second pronouns, and never to the direct speech third person. For Kato (1972) logophoric pronouns can be null in indirect speech if they can be null in direct speech. As first and second persons

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12. Among other treatments, *logophors* have been associated with the notion of anaphors that do not fall under the Binding Theory (see also Reinhart & Reuland 1993).

can be optionally null, in direct speech, they can also be optional as third person in indirect speech.[13]

(18) a. Pedro disse: "(Eu) quero café."
           Peter said: (I)   want   coffee.
           'Peter said: I want coffee.'
      b. Pedro$_i$ disse que (ele$_i$) queria café.
           Peter   said that he   wanted coffee.
           'Peter said that he wanted coffee.'

(19) a. Pedro$_i$ perguntou pro João$_k$:"(Você) quer café?"[14]
           Peter   asked   to John: you   want coffee?
           'Peter$_i$ asked John$_i$: Do you want coffee?'
      b. Pedro$_i$ perguntou pro João$_k$ se (ele$_k$) queria café.
           Peter   asked   to John if (he) wanted coffee
           'Peter$_i$ asked John$_i$ if he$_i$ wanted coffee.'

(20) a. Pedro$_i$ disse: "*(Ele$_k$) quer café"
           Peter   said: (He)   wants coffee.
      b. Pedro$_i$ disse que *(ele$_k$) queria café.
           Peter   said that he   wanted coffee

The BP logophoric null subject is similar to the Japanese *jibun*, a long distance anaphora.

(21) a. O Pedro$_i$ disse [que [Ø$_i$ conserta sapato]].
           the P.   said   that Ø$_i$ repairs   shoe
           'Peter$_i$ said that he$_i$ repairs shoes.'
      b. Peta$_i$-wa [[*jibun$_i$*-ga   kutso-o naosu] to]   yuta
           Peter-TOP   *jibun*-NOM shoes   repairs COMP said
           'Peter$_i$ said that he$_i$ repairs shoes.'

(22) a. [O Pedro$_i$ está perguntando ao   João$_k$ [se Ø$_k$ conserta sapato]]
           the P   is   asking   to-the J.   if Ø$_k$ repairs   shoe

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13. The NS in BP is thus necessarily bound to the upper clause and not free in its domain as are pronouns. In EP, on the other hand, the NS in embedded clauses can be free.

14. The second persons *você/vocês* can be null in interrogatives, but rarely so in embedded declaratives:

(i) O   Pedro disse para a Maria: ??(Você) precisa sair.
      the Peter said to the Maria: you   have   to leave
      'Peter told Maria: "You have to leave."'

b. Peta$_i$-wa Jun$_k$-ni [[*jibun$_k$*-ga kutsu-o naosu] ka] to kiite-iru
Peta-TOP Jun-DAT *jibun*-NOM shoe-ACC repairs Q COMP asking is
'Peter$_i$ is asking John$_k$ if he$_k$ repairs shoes.'

3.3 Parameters as a function of functional lexical items

Studying the puzzling *jibun* in Japanese, Sportiche (1986) proposes that parameters are a function of how binding items are lexicalized. Thus, while Japanese lexicalizes items occurring vertically, in Table 4, with the same items (anaphors and logophoric pronouns), English does so horizontally with the same items (Table 3) (logophoric pronouns and referential pronouns).[15]

In EP logophoric pronouns and referential pronouns have the same distribution and are lexicalized horizontally (Table 5).

Table 3. English (adapted from Sportiche 1986)

	c-command required	**c-command not-required**
+locality	Anaphor *himself*	
−locality	Logophoric pronoun *he*	Referential pronoun *he*

Table 4. Japanese (adapted from Sportiche 1986)

	c-command required	**c-command not-required**
+locality	Anaphor *jibun*	
−locality	Logophoric pronoun *jibun*	Referential pronoun *kare*

Table 5. European Portuguese

	c-command required	**c-command not-required**
+locality	Anaphor *se*	
−locality	Logophoric pronoun ∅	Referential pronoun ∅

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15. Originally, Sportiche had 'pronouns as variables' instead of 'logophoric pronouns'. But I believe that pronouns as variables and logophoric pronouns have the same distribution in the languages under study.

Thus, logophors and pronouns as variables are in the same distribution.

(i) No child$_i$ thinks that **he**$_i$ is stupid. EN
(ii) Nenhuma criança$_i$ acha que ∅$_i$ é estúpida. EP
(iii) Nenhuma criança$_i$ acha que **ela**$_i$/∅$_i$ é estúpida. BP

Table 6. Brazilian Portuguese adult

	c-command required	c-command not-required
+locality	Anaphor *se/Ø*[16]	
–locality	Logophoric pronoun *ele/Ø*	Referential pronoun *ele*

In Table 6 the Brazilian adult I-language has a 'doublet' *se/Ø* (in Kroch's 1994 sense),[17] in both the anaphor cell (see (23a and b)), and in the logophoric pronoun cell *ele/Ø* (see (24a and b)). This is understandable when we have an adult and his language is unstable due to change and prescription. With regard to the anaphor *se*, it is being lost in the 20th century and what can be seen, very often, is the two competing forms *se/Ø* in the discourse of one individual, as in (23c). The same can be found in the discourse of one adult concerning logophors, in which he can alternate the pronoun with the null variant, as in example (24c).

(23) a. Ferve-**se**   os   camarões[18]   (19th century)
          boil-REFLCL3PSG the shrimps

      b. Ø Ferve   os   camarões.   (20th century)
          boil.3PSG the shrimps
          'One boils the shrimps.'

      c. Parte-**se**   um ovo; Ø pōe a   gema; entāo Ø vai   junto
          break-REFLCL an   egg   puts the yolk; then   goes together
          com o   camarao com queijo ao   forno. … ai Ø retira
          with the shrimp   with cheese to the oven …   then takes
          os   dois […] e   serve-**se**.
          the two   and serves-REFLCL
          'One breaks an egg; puts the yolk…; then it goes together with the shrimp
          and cheese to the oven … then take out the two and serve them.'

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16. Though the indefinite *se* has been lost, the reflexive *se* is still obligatorily present with certain verbs.

    (i)   O ladrão **se** matou.   (ii)   O   Pedro **se**   machucou.
          'The thief killed himself.'   the Peter hurt himself
    (iii) *O ladrão Ø-matou.   (iv)   O Pedro Ø-machucou.

17. "Syntactic heads, we believe, behave like morphological formatives generally in being subject to the well-known 'Blocking Effect' (Aronoff 1976), which excludes morphological doublets, and more generally, it seems, any coexisting formatives that are not functionally differentiated…" (Kroch 1994: 180).

18. Enclisis is lost in spoken language, but maintained in written discourse, due to prescription.

(24) a. O Pedro~i~ disse que Ø~i~ conserta sapato.
      b. O Pedro~i~ disse que **ele**~i~ conserta sapato.
          'Peter~i~ said that he~i~ repairs shoes.'
      c. O Pedro~i~ disse que **ele**~i~ conserta sapato, mas ele~i~ disse que Ø~i~
          the P   said that he   repairs   shoes   but he   says that
          não conserta botas.
          not repairs   boots.
          'Peter~i~ said that he~i~ repairs shoes, but he~i~ said that he~i~ doesn't repair
          boots.'

4. How does a child acquire a language like Brazilian Portuguese?

4.1 Hypotheses

In previous work (Kato 2001), I confirmed Radford's (1990) hypothesis that like English, BP children start with strong pronouns, through which they learn the interpersonal semantic/pragmatics of pronouns in general. Also in that study, I showed that weak pronouns are learned simultaneously with agreement. In Kato (1999) I claimed that agreement was one type of weak pronoun, and that languages displaying pronominal agreement would be of the NS type.[19] In my analysis there is no *pro*, and the affix itself is the weak pronominal.[20] The change in BP was due to the introduction of a new paradigm of free weak pronouns, the agreement morphemes ceasing to be pronominal as a consequence of the impoverishment of inflection (Galves 1987; Duarte 2000 a.o.).

In order to learn the type of language concerning the NS parameter, a child
has to discover what sort of weak pronoun the target language has: the free or the

Table 7. BP 'core' grammar

	c-command required	c-command not-required
+locality	Anaphor Ø	
−locality	Variable and logophoric pronoun *ele*	Referential pronoun *ele*

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19. The postulation in Chomsky (1995) that subjets carry interpretable Φ-features and not INFL made the conception that *pro* is identified by INFL/Agr contradictory with the general assumption about subjects.

20. Just for ease of understanding, I have been using Ø as the empty category, or NS, but, in accordance with Kato (1999), there is no real *ec*, as the agreement itself is the bound pronoun, which is attributed the thematic role and merged at Spec of vP/VP, and raised to T to check its case and Φ-features. No Spec of T is projected as EPP is satisfied morphologically.

bound type. The English child realizes that all weak forms are free and overt; the European Portuguese child discovers that no weak form is free. For both types of children, hitting the target grammar is not difficult.

What about the BP child? The following hypotheses will underlie our proposal:

a.   A core grammar does not contain 'doublets', namely a grammar learned by parameter selection does not contain two possible items in one single cell; this means that the child does not show the variation of the adult.

b.   If the child is the agent of syntactic changes (Lightfoot 1999), a core grammar should always have the innovative variant. The BP child should have, therefore, the matrix regarding binding items as shown in Table 7.

c.   Core grammars are attained before schooling;

d.   The adult or adolescent I-language exhibits 'doublets', if he has experienced a second grammar.

Exemplifying with indefinite anaphors, which is not the object of our study, the core grammars of pre-school children should contain examples like (25a), but schooling brings them the competence to understand and produce the anaphoric *se* clitic (example (25b))[21] as the product of a second grammar (L2).

(25)   a.   Não Ø pode comer banana.
           Not   can   eat   banana
       b.   Não **se**   pode comer bananas.
           Not **REFLCL** can   eat   banana
           'One cannot eat bananas.'

The same should hold for logophoric pronouns. While referential NSs should not be null in children's core grammars, schooling would bring them the additional resource of the logophoric NS, the b forms in the following examples.

(26)   a.   O Zé$_i$ contou que **ele**$_i$ chorou.
           the Zé said   that he   cried

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21. The reflexive anaphor *se*, according to Grolla (2005), is acquired earlier but without agreement, as in (i), but we also find the zero variant.

(i)   Eu **se**   machuquei
      I   **REFLCL3P** hurt
(ii) Eu Ø-machuquei
      I   Ø hurt
      'I hurt myself.'

    b.   O Zé$_i$ contou que Ø$_i$ chorou.
        the Zé said   that Ø cried
        'Zé$_i$ said that he$_i$ cried.'

(27) a.   A mãe$_i$ perguntou pro   Zé$_k$ se **ele**$_k$ comeu tudo.
        the mother asked   to-the Zé if he ate   everything

    b.   A mãe$_i$ perguntou ao   Zé$_k$ se Ø comeu tudo.
        the mother asked   to-the Zé if Ø ate   everything
        'His$_k$ mother asked Zé$_k$ if he$_k$ had eaten everything.'

In Section 4.2 we will present evidence for the logophoric NS in Brazilian child grammar being the result of schooling.

4.2   Empirical evidence

Null subjects in early children are root phenomena (cf. Rizzi 1992),[22] common among languages, whether the target language is a NS or a non-NS type. In BP, besides the general root null subject type, as in example (28) (Kato 1995), children's production include minimal answers (29) and imperatives (30), which are also part of the adult I-language (cf. Kato 1994). It can also contain the innovative indefinite null subjects (31), which are today licensed in BP.[23]

(28) a.   Child: A lê.   (R.1;9.8)
                a   read
                'I will read.'

    b.   Child: Zogando bola.   (R.1;9.20)
                playing   ball
                'She is playing ball.'

(29) a.   Adult: Chega. Já   <u>limpô</u>?
                enough. Already cleaned
                'Enough. Have you already cleaned?'

    b.   Child: (Lim)p<u>ô</u>.   (R.1;8.25)
                cleaned.3psg
                'Yes, I did.'

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22. In Rizzi's paper, this early null subject is a root phenomenon, with the subject dropped from the sentence initial position. It is different from the phenomenon of topic-drop, as the latter can affect objects and can also be an expletive.

23. The data are from the Social-interactionist Project on Language Acquisition at UNICAMP, Campinas, except for example (31), which I heard from my own child Suzana.

c. Adult: Cê conta?
you tell
'Will you tell it?'

d. Child: Conto. (R.1;9.8)
(I) tell
'I will tell it.'

(30) a. Child: Põe! (R.1;6.6)
put-IMPERATIVE
'Put it here.'

b. Child: Liga aqui. (R.1;9.8)
turn-on here
'Turn on here.'

(31) Child: Pode comê? (S.2;1.0)
can.3PSG eat
'Can one eat this?'

In order to show how a young Brazilian child distributes NSs and pronominal subjects, I will use one of Magalhães' (2006) subjects, whose data was collected from 2002 to 2003.[24]

Figure 3 shows that the NS, which was the most frequent, goes down from 88.4% to less than 39.7%. The pronominal subject, on the other hand, goes up
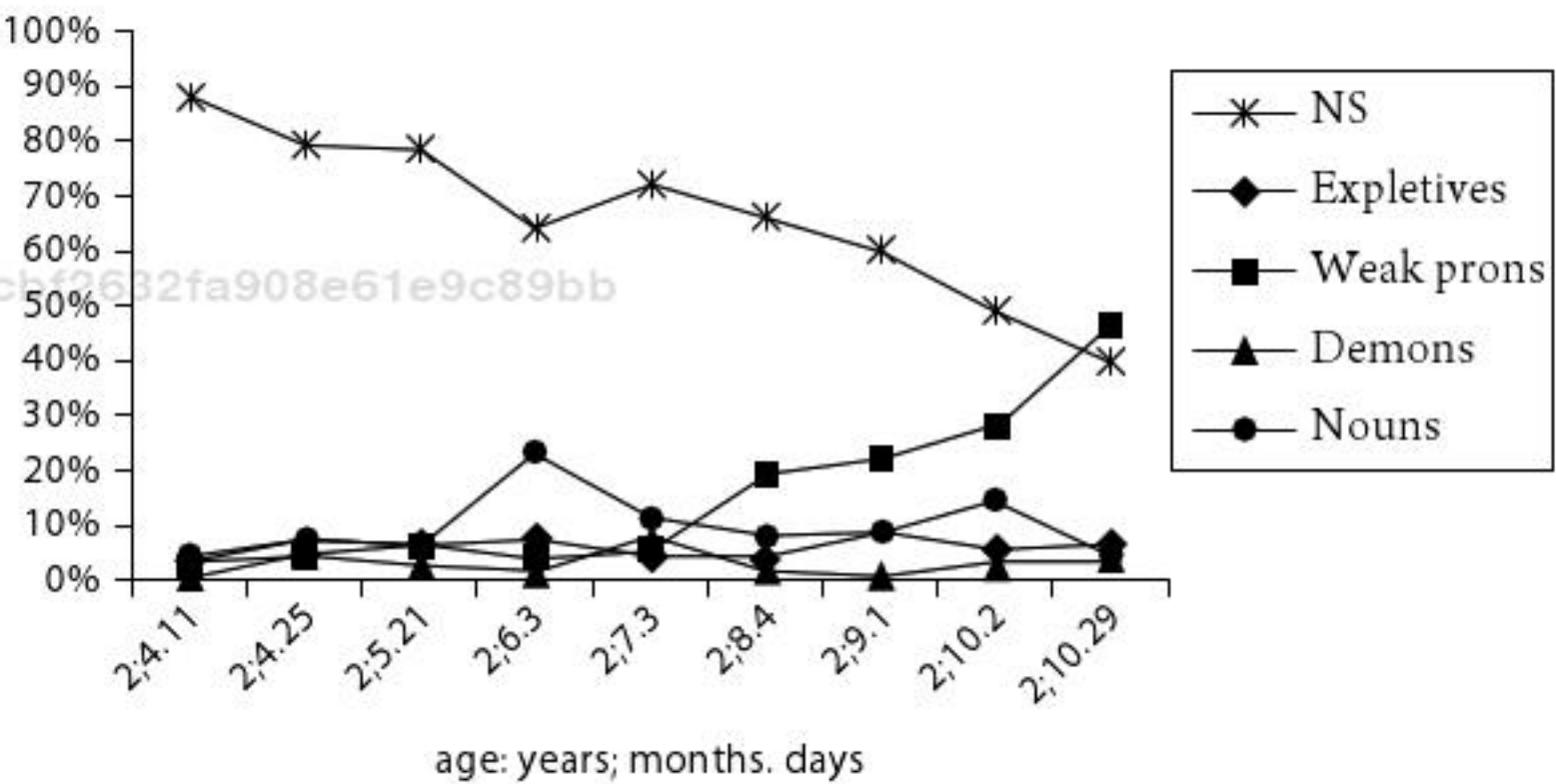
Figure 3. Types of subject in Ana from 2;4.11 to 2;10.29 (MLU: 1.5–2.7) (apud Magalhães 2006: 66)

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24. Magalhães' study contains two longitudinal studies of BP children (*Ana* and *Raquel*), who she compares with data of two EP children. As *Raquel* had her data collected much earlier than *Ana*, in the 1970s, I decided to use only *Ana*, whose data reflects the change in the distribution of null and pronominal subjects in more recent years.
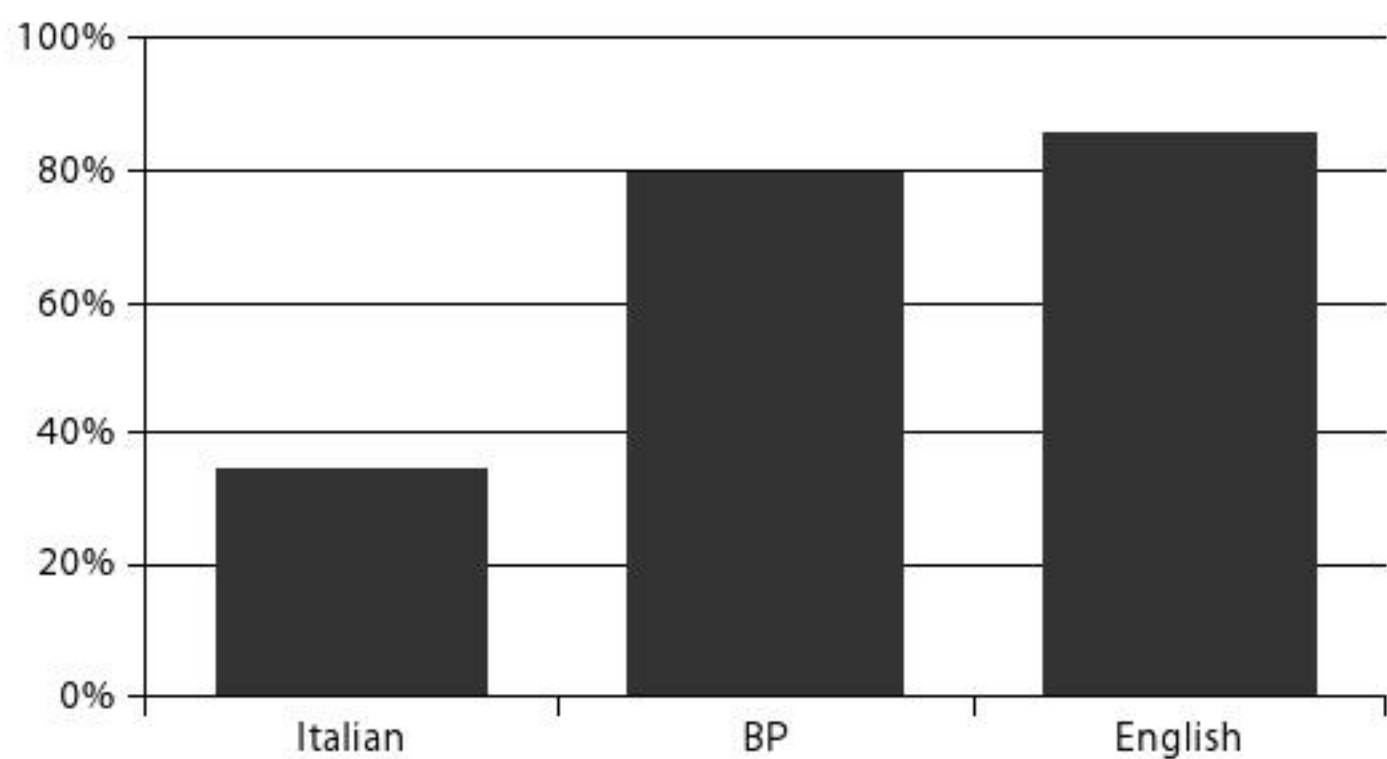
Figure 4. Pronominal subjects in early speech of children acquiring Italian, Brazilian Portuguese and English (apud Simões 2000: 80)

from 2.9% to 46.6%. This shows that except for short answers, imperatives and indefinite subjects, the child is on the way to achieve the distribution of overt pronouns of the target language, which is identical to that of a language like English.

Another study by Simões (2000) confirms this hypothesis. Her study compares the early pronominal subjects in children acquiring Brazilian Portuguese with the pronominal subjects shown in other studies describing English and Italian children, and the production of a BP child is observed to be much closer to that of an English child. This means that in order to set the parameter in the BP value, the child pays more attention to the distribution of overt pronouns rather than NSs in the input (see Figure 4).

I will now reinterpret another study by Magalhães (2003). At the age at which the child masters complex clauses in the pre-school period, the NS is still almost inexistent in his/her oral production of complement clauses. The NS starts to grow very rapidly through the grades, in their written performance, achieving the status of an equal variant of the pronominal at the end of the 8th grade (see Table 8).

These data show that what we have been considering the BP core grammar, or the competence of children before schooling, does not contain the logophoric NS, which appears after the child comes into contact with written language and the written norms.

Table 8. Pronominal and null subjects in complement clauses

	Pre-school	3rd/4th grades*	7th/8th grades**
Pronominal subjects	97.89%	78.0%	50.38%
Null subjects	2.11%	22.0%	49.62%

* Around 7 and 8 years old.   ** Around 13 and 14 years old.

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5.   The grammar of the literate Brazilian

The following points summarize what we have discussed so far:

- in the child's core grammar the distribution of referential pronouns is like that of the English one (*ele*; *ele*);
- while maintaining the pronoun *ele*, for both referential and logophoric pronouns, which the child acquired as his/her 'core' grammar, the null variant is learned, through instruction, as a second grammar; as a consequence, the literate adolescent and adult's competence contain the doublet *ele*/Ø;
- the adult I-language consists of a 'core' grammar and an extended 'marked periphery' (Chomsky 1988: question part), where aspects learned through instruction are stored; Brazilian children have the same 'core' grammar, but can have a distinct extended periphery, depending on the instructional input;
- the educated child becomes a sequential bilingual, in Meisel's (1991, 2007) sense, but in his/her own language, with the possibility of code-switching between grammar1 and grammar2;
- though its place is in the periphery, the logophoric null subject is an object of UG, similar to the 'long distance anaphora' *jibun* in Japanese;
- the logophoric NS in UG is a subset of the NSs possible in prototypical NS languages like Italian and EP.

We can assume that a language with only logophoric NSs is part of the *Minimal Default Grammars* (MDGs), in the sense of Roeper (1999), namely a grammar that obeys economy principles, and that if, nevertheless, is not selected due to input, it stays latent in the child, under the possibility of being activated when there is a second type of input.

The Brazilian child sets the NS parameter to its minus value in his/her core grammar, but later s/he activates the *MDG*, from Universal Grammar, with a restricted set of NS structures, namely the logophoric type (Figure 5).
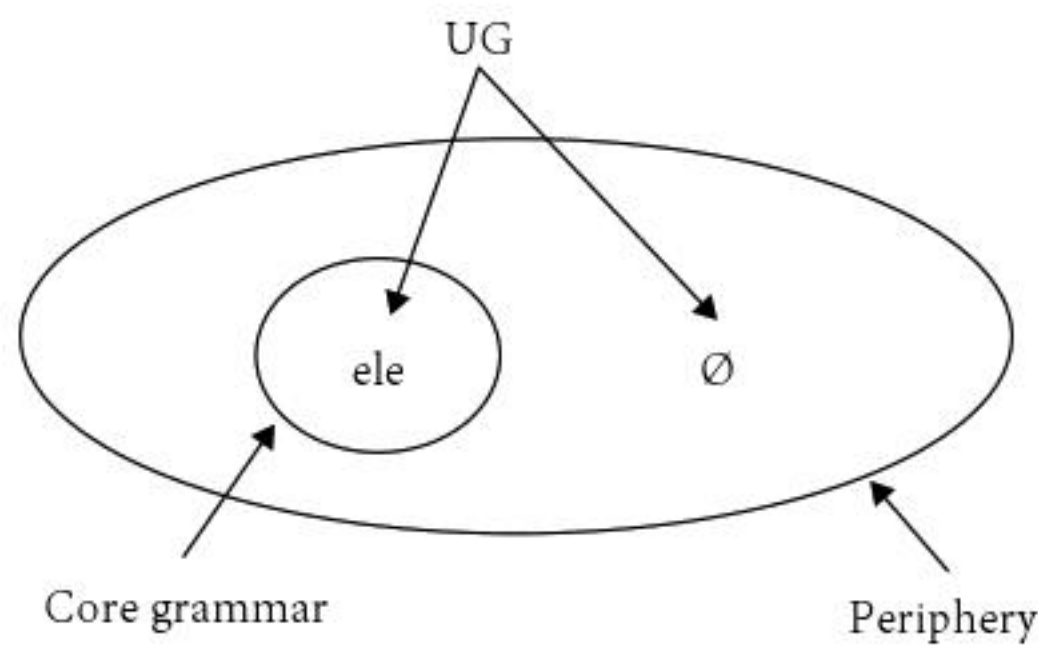

Figure 5. Core and periphery in BP grammar

6. Conclusion

To conclude, a talk about acquisition and change in syntax is a talk about Parameters, a concept which brought along with it an extremely useful technology to handle empirical data. However, the descriptive results come accompanied with many challenging theoretical questions as Jaeggli & Safir (1989: 21) had foreseen in their classical overview of this parameter, as the following text expresses: "whatever the Null Subject Parameter is, it has many subtle effects that no superficial theory will capture."

I hope that this study on BP, with its intriguing non-prototypical behavior, has shed some light on its nature, by separating its 'core' grammar from the knowledge acquired later through instruction.

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