On the notion of partial (non-) pro-drop in Romance[1]

Andrés Saab

Universidad Nacional del Comahue / Leiden University

al_saab75@yahoo.com.ar

Abstract: This paper centers on the nature of partial *pro*-drop languages in Northern Italian dialects and Brazilian Portuguese. I propose that the distribution of overt and null subjects in these languages provides evidence for an analysis of the null subject parameter in terms of ellipsis. In particular, I defend the idea that nominative subjects are deleted at PF in consistent null subject languages through what I call *head ellipsis*, a morphological operation subjected to the same locality conditions that other post-syntactic operations. Head ellipsis dictates when and how a particular syntactic object should be pronounced. Thus, Northern Italian dialects are seen as null subject languages with some subjects phonetically realized by the same reasons that apply in other cases of multiple copy realization. In turn, Brazilian Portuguese is a non-null subject language with some null subjects. Crucially, these subjects are not the result of morphological head ellipsis, but of another syntactic mechanism of licensing.

1. Introduction

In this paper, I explore the null subject parameter (NSP henceforth) in Romance. In particular, I will focus on the notion of *partial pro-drop* in the empirical domain of some Northern Italian dialects (NIDs) and Brazilian Portuguese (BP). These languages can be descriptively seen as partial *pro*-drop in the sense that the distribution of their null subjects is considerably more restricted than in consistent null subject languages (NSLs) like Spanish, standard Italian or European Portuguese. However, while NIDs share the relevant syntactic properties of consistent NSLs, such as free inversion or absence of *that*-trace effects (Rizzi 1986b, Brandi & Cordin 1989, among others), BP patterns like consistent non-NSLs (see in particular Barbosa, Duarte & Kato 2005) in some respects (absence of free inversion of referential

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subjects) but like radical *pro*-drop languages as far as the distribution of some of their null subjects is concerned (Barbosa 2010)[2].

Here, I will try to show that the empirical scenario these languages display provides evidence for a particular approach to the NSP, one that integrates the null subject problem into a general theory of ellipsis. Concretely, I will adopt and defend Saab's (2009) theory, according to which ellipsis is an all-the-way-down operation that can apply at syntax or morphology (in the sense of Distributed Morphology) under a unique identity condition but under different locality condition depending on the component of the grammar involved (i.e., syntax or morphology). In this respect the qualitative differences between partial and consistent *pro*-drop languages follows from the fact that referential null subjects in NSLs like Spanish or NIDs are cases of ellipsis entirely resolved at PF, whereas null subjects in partial NSLs like BP are exclusively resolved in the syntax.

The paper is organized in the following way. In section 2, I briefly summarize the debate on the NSP and present an empirical argument against the hypothesis that agreement is interpretable in NSLs. In section 3, I introduce the basic definitions of the theory of ellipsis defended in Saab (2009). In section 4, this theory is illustrated with reference to NSLs. I show there how this system predicts NSLs with some obligatory subjects. This case is particularly instantiated by NIDs. In section 5, I explore the reverse case, namely, a no *pro*-drop language with some null subjects in finite contexts. This case is illustrated with reference to BP, a language that is losing all the properties that characterizes NSLs, although still allowing for some null subjects in certain restricted contexts. It is shown that these null subjects are not cases of morphological ellipsis. Section 6 contains the conclusion.

2. Three approaches to the NSP in the generative framework

Three general approaches to the NSP are in the focus of debate in the generative framework. Putting apart differences in implementation, they can be summarized as follows:

(A) The GB style approach (Chomsky 1982, Rizzi 1982, 1986a, and much subsequent work), according to which consistent NSLs license a special type of empty category, namely, *pro*. Different versions of the minimalist program, including Chomsky's own work, have adapted this theory to minimalist considerations.

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[2] So, it is tempting to say that Northern Italian dialects are *partial NSLs*, whereas BP is a *partial non-NSL*. However, I will restrict the term *partial pro-drop* or *partial NSL* just for BP, as is usual in the current literature.

(B) The pronominal agreement approach (Jelinek 1984, Barbosa 1995, 2010, Ordóñez 1997, Alexiadou & Anagnostopoulou 1998, Kato 1999, Barbosa, Duarte & Kato 2005, among others), according to which agreement on tense is pronominal / interpretable in consistent NSLs.

(C) The deletion approach (Perlmutter 1971, Holmberg 2005, 2010a, Saab 2009, Roberts 2010, among others), according to which at least some null subjects are a (sub-)case of ellipsis.

Different arguments have been provided in favor or against the approaches summarized above. The theory of *pro* has been criticized for those that believe that *pro* does not follow from minimalist considerations (Manzini & Savoia 1997 and Alexiadou & Anagnostopoulou 1998, among many others) or is conceptually incompatible with some versions of the theory of *Agree* (Holmberg 2005). In Saab (2009), I argue that arguments should not be constructed on the basis of this kind of conceptual considerations, but on the basis of the predictive power of a given theory to capture broad generalizations about the cross-linguistic distribution of empty categories in general. In this respect, the weakness of the theory of *pro* is that it loses the generalization that null subjects are not inherently null. In other words, we find instances of phonetic realization of *pro*. Indeed, as argued in Saab (2009), the conditions that regulate when and how a particular syntactic object is (not) pronounced are quite general and extend to apparently not related phenomena (ellipsis, copy realization, null subjects, etc.). Put it in another way, there are empirical reasons that force us to capture the *nullness* of null subjects in derivational terms. This argument against the theory of *pro* can be similarly extended to the approach (B) mentioned above. Indeed, I think the problem with this approach is even more severe than with *pro* theory (see also Camacho in preparation). Let us see this problem with some detail.

The assumption that agreement is interpretable on T in consistent NSLs makes some predictions in connection with the identity condition on ellipsis. As is well known, interpretable features or features controlling agreement do not tolerate difference between the antecedent and a putative elided constituent in ellipsis contexts (Saab 2009 for extensive discussion and references).

(1)   Interpretable features (or features controlling agreement) never trigger partial identity effects under ellipsis whenever they are part of an elliptical gap.

This can be easily tested in the case of TP ellipsis in Spanish where the interpretable tense features on T cannot differ between the antecedent and the elided phrase even when the temporal information can be recovered from the linguistic context. Thus, (2), where the antecedent is in the past and the elided TP is in the future, gives an ungrammatical result even when the adjunct *en el futuro* should be enough for recovering the missing information:

(2)   *María   ha   leído   mucho   y   Elena   en   el   futuro
         María   has   read   a-lot   and   Elena   in   DET   future
         ~~habrá~~   ~~leído~~   ~~mucho~~ también.
         will-have   read   a-lot   also
         'María has read a lot and Elena in the future will have too.'

<div align="right">(Murguia 2004: 86)</div>

The behavior of gender is even more revealing in this respect: gender differences under ellipsis are only attested when gender is no interpretable on the elided phrase (see Depiante & Masullo 2001, Saab 2004, 2009, Nunes & Zocca 2009, and Merchant forthcoming, among many others).

NP-ellipsis: Gender strict identity effects

(3)   a. *Juan visitó   a su   tío   y   Pedro prometió visitar a la   ~~tía~~ de él.
           Juan visited his.sg uncle and Pedro promised visit   the.f.sg   ~~aunt~~ of his
        b. *Juan visitó   a su   tía   y   Pedro prometió visitar   al   ~~tío~~ de él.
           Juan visited his.sg aunt and Pedro promised visit   acc.the.m.sg   ~~uncle~~ of his

Predicate ellipsis: Partial identity effects for agreeing adjectives

(4)   a. Juan es alto   y   María también   ~~es~~   ~~alta~~.
           J.   is tall.**masc** and   M.   also   is   tall.**fem**

        b. María es alta   y   Juan también   ~~es~~   ~~alto~~.
           M.   is tall.**fem** and   J.   also   is   tall.**masc**

If T has interpretable φ-features or agreement is interpretable by itself as claimed by the proponents of the approach (B), NSLs should have strict identity effects in contexts of ellipsis. However, this prediction is not borne out.

Partial identity of subject agreement:

(5)   a. Juan fue   al cine   y   nosotros también ~~fuimos   al   cine.~~

          J.   went.3SG to-the cinema and we   also   went.1PL to-the cinema

         b. Nosotros fuimos al cine y Juan también ~~fue al cine~~.

        we went.1PL to-the cinema and J.   also   went.3SG to-the cinema

         c. Juan fue   al   cine   y   yo también ~~fui   al cine~~.

          J.   went.3SG to-the cinema and I   also went.1SG to-the cinema

         d. Yo fui   al   cine   y   Juan también ~~fue   al   cine~~.

          I   went.1SG to-the cinema and J.   also   went.3SG to-the cinema

As far as I know, this is the most relevant empirical argument against theories of interpretable agreement[3]. Notice that the problem cannot be resolved under the approach (B) just claiming that agreement is a relational / redundant feature, whereas tense is not (see for instance Brucart 1987 and Murguia 2004). As the contrast in (3) and (4) shows, the problem is not in the intrinsic nature of features but in their distributional properties. That is, gender can be obviated whenever is not the controller of agreement.

On the basis of the discussion of this section, I think that the deletion approach to the NSP is the most promising one and, in what follows, I present a specific implementation of it (see Holmberg 2005, 2010a and Roberts 2010 for other implementations).

3. Syntactic ellipsis *vs*. morphological ellipsis

A particular deletion approach to the NSP is proposed in Saab (2009) in the general framework of Distributed Morphology. According to this theory, ellipsis can apply all-the-way-down from syntax to PF. As shown in (6), syntactic ellipsis only affects phrases under c-command or selection (E-selection in Merchant's 2001 terms), whereas morphological ellipsis only affects heads under the same morphological conditions that apply to post-syntactic displacements, namely, immediate locality and adjacency.

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[3] In Saab (2009) I have shown that Homberg's (2005) argument against approach (B) based on the distribution of null subjects and overt expletives in Finish is not conclusive.

(6)

$$\textbf{Syntax} \quad \begin{array}{|l} \leftarrow\textit{Phrasal ellipsis} \text{ (under c-command or E-selection)} \\ \\ \leftarrow\textit{Head ellipsis} \text{ (under immediate locality or adjacency)} \\ \textbf{PF} \end{array}$$

Here, ellipsis is understood as an instruction for non-pronunciation. A [+I] feature is added to elliptical heads/phrases under formal identity. The adding of the [+I] feature blocks the lexical insertion rules that, otherwise, would automatically apply on terminal nodes. The relevant definition is as follows:

Non- Insertion:[4]

(7)   No Lexical Insertion Rule, *IR*, applies in the domain of X^0, X^0 a MWd, if X^0, or some projection of X^0, is specified with a [+I] feature.

From this definition, the following corollary is obtained:
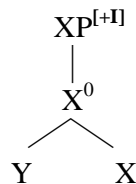
Sub-word Deletion Corollary:.

(8)   No SWd can be subject to *Non-insertion* if the MWd that contains it is not *I*-assigned.

So, in a situation like the one in (9c), Y^0 has to be pronounced:

(9)   a. $XP^{[+I]}$ b. XP c. XP

                     X^0 $X^{0\ [+I]}$ X^0

              Y X Y X $Y^{[+I]}$ X

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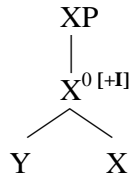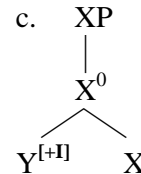
[4] The associated definitions are formulated in (i)-(iii) (ii and iii from Embick & Noyer 2001: 574):

(i) The domain of X^0, X^0 a MWd, is the set of terminal nodes reflexively contained in X^0.

(ii) At the input to Morphology, a node X^0 is (by definition) a *morphosyntactic word* (MWd) iff X^0 is the highest segment of an X^0 not contained in another X^0.

(iii) A node X^0 is a *subword* (SWd) if X^0 is a terminal node and not an MWd.

That is to say, the theory explicitly states when a given syntactic object has to be pronounced even when the identity condition for ellipsis is satisfied. As we will see in the next section, (9c) is instantiated in the case of Northern Italian dialects.

Crucial for my present purposes is the definition of morphological *I*-Assignment or Head Ellipsis given in (10):

I-Assignment (Head Ellipsis):

(10)   Given a morphosyntactic word (MWd) Y^0, assign a [+I] feature to Y^0 if and only if there is a node X^0 identical to Y^0 contained in a MWd **adjacent** or **immediately local** to Y^0. (where the notion of *contained* is reflexive)

Immediate locality is the relation between a head and the head of its complement. It is the structural condition that applies for affix hopping in English, where adjacency is irrelevant, as the intervention of adverbs between the inflectional affix and the verbal base shows:

(11)   John [$_{TP}$ *t* [$_{vP}$ completely destroy-ed the opposition...

<div align="right">(adapted from Embick & Noyer 2001: 585)</div>

Other cases of affixation at PF require adjacency between the targets of the movement. This kind of post-syntactic movement is called *Local Dislocation* (LD) in Embick & Noyer's (2001) framework. A well-known case of LD is the synthetic comparative/superlative formation in English:

(12)   a. Mary is the mo-st amazingly smart person . . .
b. *Mary is the *t* amazingly smart-est person . . .   (Embick & Noyer 2001: 565)

The difference between Lowering and LD can be derived if post-syntactic operations can take place before or after the introduction of linearization statements. Once a linearization statement is introduced in the structure, adjacency becomes a relevant condition for displacement. So, the ***or*** part in the definition in (10) is not stipulated but follows from the derivational property of the computational system.

The system briefly sketched above predicts a set of interactions between syntax, head ellipsis and other post-syntactic operations -such as Agreement and Local Dislocation.

Abstractly, if Y^0 and X^0 are MWds and $X^0 = Z^0$, head ellipsis can apply to X^0 in a configuration like (13). However, if X^0 is adjoined to Y^0 like in (14), *I*-Assignment to X^0 is left without effect and Lexical Insertion has to apply to every terminal node contained in Y.
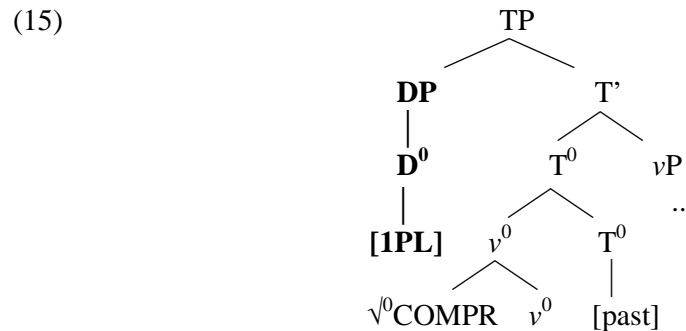
(13) $[X] \wedge [_Y Y \oplus Z]$ ($\wedge$ = concatenation of MWds, $\oplus$ = concatenation of SubWds)

(14) $[X] \wedge [_Y Y \oplus Z] \rightarrow [_Y [X] \oplus [Y \oplus Z]]$

    As shown in the next section, (13) and (14) are concretely instantiated in the domain of NSLs. Specifically, (13) is the typical situation in consistent NSLs, whereas (14) is the particular situation attested in Northern Italian dialects, where incorporation of the subject on T via LD produces a case of copy realization.
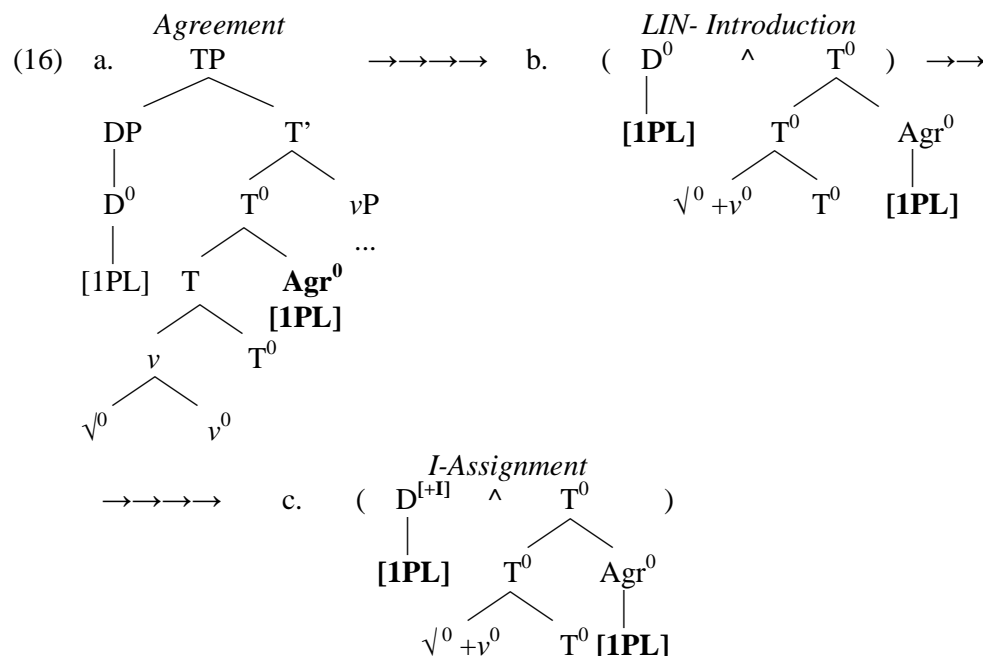
4. Null subjects as morphological ellipsis

As I already mentioned, I would like to propose that null subjects instance a case of *I*-Assignment at PF, which is fed by the introduction of a dissociated morpheme of agreement (in the sense of Embick & Noyer 2001) at that level and under an adjacency condition. Assume that for a sentence like *compramos* 'bought.1pl' we have the following syntactic derivation:

(15)

$$
\begin{array}{c}
\text{TP} \\
\diagup \quad \diagdown \\
\textbf{DP} \qquad \text{T'} \\
| \qquad \diagup \quad \diagdown \\
\textbf{D}^0 \qquad \text{T}^0 \quad v\text{P} \\
| \qquad \diagup \diagdown \quad \cdots \\
\textbf{[1PL]} \quad v^0 \quad \text{T}^0 \\
\diagup \diagdown \quad | \\
\sqrt{}^0\text{COMPR} \quad v^0 \quad \text{[past]}
\end{array}
$$

    As in Robert's (2010) approach, a null subject is just maximal D projection in Spec,TP. This is all the (narrow) syntax we need. The crucial steps of the derivation take place in the PF branch. Following Halle & Marantz (1993), Embick & Noyer (2001) and Bobaljik (2008), I assume that agreement is implemented exclusively at PF through the introduction of a dissociated morpheme. This morpheme is simply a copy of the formal features of the subject (16a). After the linearization statement $\wedge$ is introduced in (16b) (see Embick 2007 for a precise definition), we get a situation identical to the abstract representation in (13). In other words, (16b) satisfies head ellipsis as defined in (10). In (16c),

then, a [+I] feature is added on the D node indicating that the lexical insertion rules for this node are blocked in consonance with (7)[5]:

(16) a. *Agreement* →→→→ b. *LIN- Introduction*

$$\text{a.}\quad \begin{array}{c} \text{TP} \\ \diagdown \\ \text{DP} \quad \text{T'} \\ | \qquad \diagdown \\ \text{D}^0 \quad \text{T}^0 \quad v\text{P} \\ |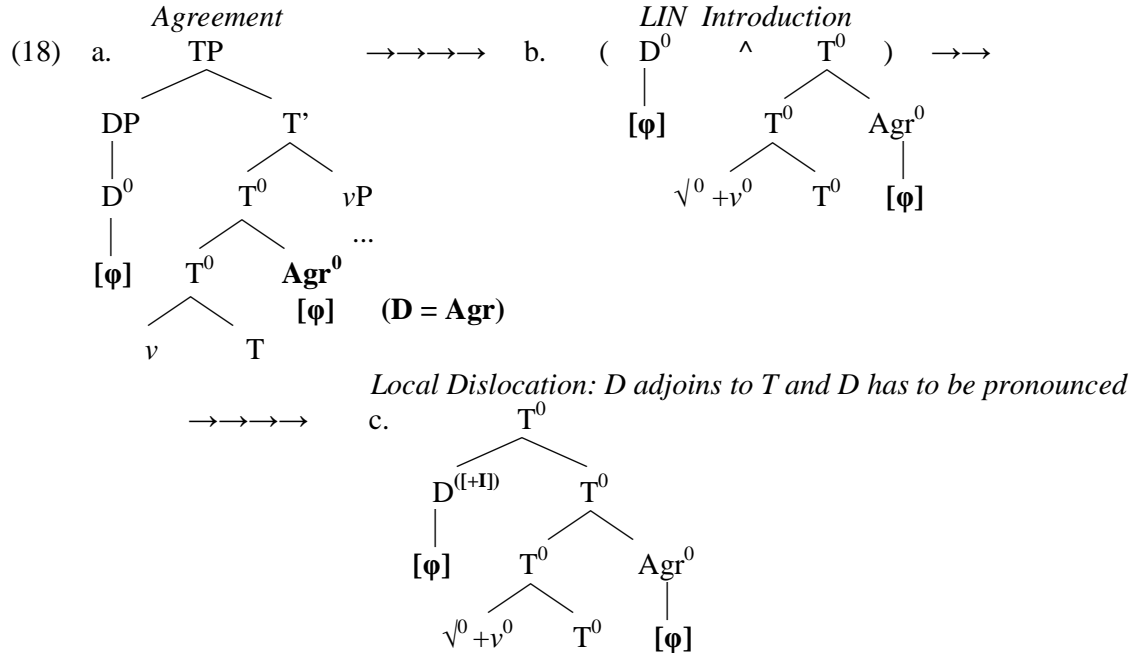 \qquad \diagdown \qquad ... \\ \text{[1PL]} \quad \text{T} \quad \textbf{Agr}^0 \\ \diagdown \quad \textbf{[1PL]} \\ v \quad \text{T}^0 \\ \diagdown \\ \sqrt{}^0 \quad v^0 \end{array}$$

$$\text{b.}\quad (\ \text{D}^0 \quad \wedge \quad \text{T}^0 \ ) \ →→ \\ \quad | \qquad \qquad \diagdown \\ \textbf{[1PL]} \quad \text{T}^0 \quad \text{Agr}^0 \\ \qquad \diagdown \qquad | \\ \sqrt{}^0 +v^0 \quad \text{T}^0 \quad \textbf{[1PL]}$$

→→→→   c.   *I-Assignment*

$$(\ \text{D}^{\textbf{[+I]}} \quad \wedge \quad \text{T}^0 \ ) \\ \quad | \qquad \qquad \diagdown \\ \textbf{[1PL]} \quad \text{T}^0 \quad \text{Agr}^0 \\ \qquad \diagdown \qquad | \\ \sqrt{}^0 +v^0 \quad \text{T}^0\ \textbf{[1PL]}$$

Assume now that a language is identical to Spanish in the relevant respects (i.e., they have referential post-verbal subjects, "rich" agreement, and a nominative pronoun in Spec,TP). They have, however, a crucial difference: the head of the pronominal DP is a clitic incorporated on T^0 through Local Dislocation. This situation is illustrated in (17)-(18):

(17)

$$\begin{array}{c} \text{TP} \\ \diagdown \\ \text{DP} \qquad \text{T'} \\ | \qquad \qquad \diagdown \\ \textbf{D}^0 \quad \text{T}^0 \quad v\text{P} \\ | \qquad \diagdown \\ \textbf{[φ]} \quad v^0 \quad \text{T}^0 \\ \diagdown \quad | \\ \sqrt{}^0 \quad v^0 \ \text{[tense]} \end{array}$$

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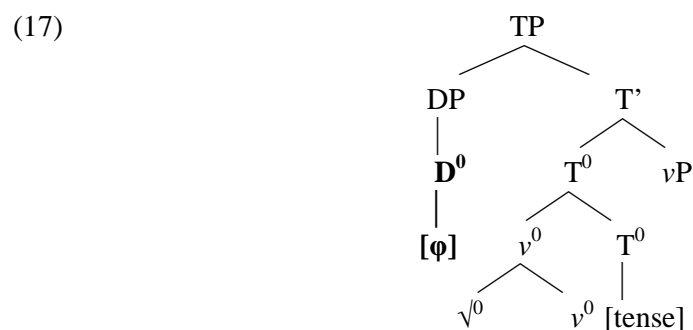
[5] Notice that the D^0 node in subject position is a morphosyntactic word, but the dissociated morpheme is not. Therefore, the *Sub-word Deletion Corollary* in (8) predicts that the subject can be elided (i.e., not pronounced), but the dissociated morpheme cannot as shown in (i).

(i)   a. ~~D(P)~~~~[1pl]~~ compramos un libro.   'We bought a book.'
         b. *Nosotros compra~~mos~~ un libro.

Morphology:

(18) a. *Agreement*   TP   →→→→   b.   *LIN Introduction*   (D^0 ^ T^0)   →→

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          TP                              (  D⁰      ^      T⁰  )   →→
        /    \                               |      / \
      DP      T'                            [φ]   T⁰   Agr⁰
      |      /  \                                 / \    |
      D⁰    T⁰   vP                          √⁰ +v⁰  T⁰  [φ]
      |    /  \   ...
     [φ]  T⁰  Agr⁰
         / \  [φ]   (D = Agr)
        v   T
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Local Dislocation: D adjoins to T and D has to be pronounced

→→→→   c. T^0

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                    T⁰
                   /  \
              D^([+I])  T⁰
                |      /  \
               [φ]   T⁰   Agr⁰
                    / \     |
                √⁰ +v⁰  T⁰  [φ]
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NIDs seem to have the relevant properties of this kind of languages (see Safir 1986, Rizzi 1986b, Brandi & Cordin 1989, and Poletto 2000, among many others). As specifically argued by Rizzi (1986b) and Brandi & Cordin (1989), these languages have the classical properties associated to NSLs (free inversion as in 19d) although they have some obligatory clitic subjects, a fact predicted by the system proposed here, if these clitics are analyzed as SWds:

(19)   a. el Mario el magna.   ***Trentino***

     the Mario he-eats

    b. el magna.

     he-eats

    c. *magna.

      eats

    d. magna el Mario

     eats   the Mario   (Safir 1986: 336)

That clitic subjects in Trentino are SWds (clitics, in Cardinaletti & Starke's 1999 sense) can be corroborated independently by well-known tests that distinguish week pronouns from clitics:

Italian vs. Trentino:

(20)   a. ***Lui*** mangia della zuppa e - beve del vino.   ***It.***

      Egli mangia della zuppa e - beve del vino.

    he eats   of-the sopu and drinks of-the wine

    *****La*** canta e – bala   ***Trent.***

     she sings and dances

    b. ***Lui*** e   la ragazza del bar sono gli unici ad apprezzare tutto questo.   ***It.***

     he and the girl   of-the bar are the only to appreciate all   this

    *****La*** e la Maria è vegnude algeri.   ***Trent.***

    she and the Mary are come yesterday

<div align="right">(Cardinaletti & Starke 1999: 166-7)</div>

Thus, the theory proposed captures a very intriguing fact: Why clitics -beside be associated with potential antecedents at PF- cannot be elided? This is a very important question and I don't know of any explicit answer to it. Theories assuming that subject clitics in NIDs are just agreement markers (Rizzi 1986b and Brandi & Cordin 1989 among others) have to explain why there is reduplication of agreement markers (agreement clitic plus agreement morpheme). In my theory, this follows straightforwardly from the *Sub-word Deletion Corollary*. Even more important, subject clitics in these languages form a natural class with other well-known cases of multiple copy realization discussed in detail by Nunes (2004) and Saab (2009)[6].

5. From null subjects to partial *pro*-drop

As I already mentioned, the impossibility of null subjects in NIDs follows in part from a licensing condition on Head Ellipsis. However, Head Ellipsis could also fail because of the identity condition on ellipsis, as formulated in Saab (2009):

Identity:

(21) An abstract morpheme α is identical to an abstract morpheme β if and only if α and β match all its semantic and syntactic features.

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[6] The claim that null subjects are deleted by the same mechanism that underlies copy deletion is independently made by Roberts (2010), although he does not propose any explicit mechanics for copy deletion nor connect multiple copy realization to subject clitics in Northern Italian dialects.

This is the general case in consistent non-*pro*-drop languages like English or French, where the head of a subject DP cannot be elided at PF just because agreement cannot feed the identity condition on morphological ellipsis. I would like to claim that this is also the case in partial *pro*-drop languages like Brazilian Portuguese. Almost without exceptions, the literature on BP claims that this language is indeed a non-NSL (in the relevant sense) with some instances of null subjects[7].

Through a detailed diachronic study, Duarte (1993), (1995) and (2000) shows how the loss of verbal morphology (probably triggered by an impoverishment in the pronominal system; Kato 1999 and below) has as a consequence the decreasing in the use of null subjects. In effect, BP suffered at least two reduction of the verbal paradigm: from six distinctions to four in a first stage and finally to only three distinctions in the last generations (Duarte 2000:18). According to Duarte, the first replacement affected the second person singular and plural, *tu* and *vós*, respectively. The forms that replace them are *você* y *vocês*. These forms are combined with third person verbs just because they historically derive from an expression of third person[8]. In many current dialects, the first person plural pronoun *nós* was also replaced by a formally third person singular expression, *a gente* 'the folk'. See the following Table from Duarte (2000):

Table 1

Person	Pronouns	Paradigm 1	Paradigm 2	Paradigm 3
1sg	Eu	am **o**	am **o**	am **o**
2sg	Tu	am a **s**	---	---
	Você	am a	am a	am a
3sg	Ele/Ela	am a	am a	am a
1pl	Nós	am a **mos**	am a **mos**	---
	A gente	**---**	am a	am a
2pl	Vós	am a **is**	---	---
	Vocês	am a **m**	am a **m**	am a **m**
3pl	Eles/Elas	am a **m**	am a **m**	am a **m**

A particular interpretation of the paradigm 3 in BP is given by Nunes (2008), for whom BP is a language with no syntactic specification for person features on T; only number is encoded on the first person and on all the plural forms. For the rest of the singular forms,

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[7] See, among many others, Duarte (1993), (1995), Kato (1999, 2000), Modesto (2000), Ferreira (2000), Rodrigues (2004), Barbosa, Duarte & Kato (2005), Barbosa (2010), and Camacho (this volume).

[8] *Vossa Mercê*. The evolution is as follows: *vossa mercê > vossemecê > vosmecê > você*. Interestingly, the same change took place in the second person plural in the dialects of American Spanish although any relevant change in the NS property is attested. For different reasons, some Caribbean dialects did suffer some changes in the NS property (see Camacho, this volume, for a comparison between these dialects and BP).

number is just a default value. According to Nunes, the realization of the first person singular is obtained by a redundancy rule at PF. Such rule specifies that a first person value is added whenever Number is SG; otherwise, a default value is obtained. See Table 2 from Nunes (2008):

Table 2. Verbal agreement paradigm in (colloquial) Brazilian Portuguese

cantar 'to sing': indicative present			
Eu	(I)	*cant<u>o</u>*	<u>P:1.N:SG</u>
você	(you.SG)	*canta*	P: default, N: default (=3SG)
ele	(he)		
ela	(she)		
a gente	(we)		
vocês	(you.PL)	*canta<u>m</u>*	P:default, <u>N:PL</u>(=3SG)
eles	(they.MASC)		
elas	(they.FEM)		

Therefore, BP cannot license null subjects of the type attested in Spanish or European Portuguese. However, this language does have another kind of null subjects. In what follows, I will claim that these null subjects are licensed at syntax.

5.1. Basic properties in BP

As other partial *pro*-drop languages, BP has some of the following properties. As for the distribution of null subjects, BP does not have referential null subjects in out of the blue contexts[9]:

(22)   a. *(Eu) como   pizza.

        I   eat+1st   pizza

         'I eat pizza.'

    b. *(você) come   pizza.

       you   eat+S3rd pizza.

         'You eat pizza.'

    c. *(Ele) come   pizza.

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[9] Some exceptions to this pattern (see i) are argued to be cases of Topic Deletion (see Ferreira 2000 and Rodrigues 2004):

(i)   *e* falei   com o João   ontem   a noite   (BP)
      spoke-1Sg with the João yesterday at night
      'I spoke with João yesterday night'   (Rodrigues 2004: 81)

he eat+S3rd pizza.

'He eats pizza.'

d. *(A gente) come pizza.

the folks(=we folks) eat pizza. (Kato 1999: 5)

However, other instances of null subjects are attested in BP such as quasi-arguments or expletives (23) and generic/impersonal subjects (24):

(23) a. Tá chovendo.

be+S3rdp raining

'It is raining.'

b. Tem novidade.

have+S3rd news

'There is news.'

c. Parece que vai chover.

seem+S3rd that go+3rd rain

'It seems that it is going to rain.' (Kato 1999: 5)

(24) a. Aqui pode fumar.

here can+S3rd smoke

'You/can smoke.'

b. Aqui conserta sapatos.

here repair+S3rd shoes

'One repairs shoes.' (Kato 1999: 5)

Null third person subjects are also allowed in embedded contexts if some locality constraints are obeyed. In effect, these null subjects require some condition of closeness and c-command (although things are more complex, see Holmberg 2005). Compare (25) and (26):

(25) a. Ninguém acha que é estúpido.

'Nobody$_i$ thinks that he$_i$ is stupid.'

b. O João disse que comprou um carro.

the John said that bought+S3rd a car.

'John$_i$ said that he$_i$ has bought a car.' (Kato 1999: 5)

(26) a. *O   João   disse   [que   a   Maria   acha   [que   *e*   é   bonito]]

the   J.   says   [that   the   M.   believe [that   *e*   is   pretty]]

b. *A   mãe   do   João   acha   [que   *e*   é   bonito]

the   mother of   J.   believes [that *e*   is   pretty]

(Ferreira 2000: 20)

Crucially, null subjects in partial *pro*-drop languages are not cases of morphological ellipsis as in NSLs. Whatever their licensing mechanism is, it should be related to the semantic/syntactic component. In other words, null subjects in BP are licensed in the syntax. There are several proposal in the literature on BP: third null subjects are *PRO* (Kato 1999), *Trace/Copy* (Ferreira 2000, Rodrigues 2004), defective φP in Spec,TP (Holmberg 2005 for Finish), or null NP anaphora (Barbosa 2010).

If the movement analysis for the finite control cases in (25) is on the right track (Ferreira 2000 or Rodrigues 2004), syntactic null subjects are just cases of syntactic ellipsis under c-command (cf. 6):

(27)   [O João] disse que [o João]$^{[+I]}$ comprou um carro.

Of course, this analysis does not extend to null quasi-arguments (23) or to generic/impersonal null subjects (24). An alternative analysis could be to adopt Barbosa's (2010) approach according to which both controlled null subject in finite contexts and generic/impersonal ones are cases of null NP-anaphora. In any case, it is clear that the licensing mechanism should be syntactic and not morphological. I do not have a particular commitment with any of these approaches at this point, but I will make some additional observations on this issue in the last section.

As for overt subjects in BP, they share all the properties of weak pronouns in the sense of Cardinaletti & Starke (1999) (see Kato 1999 and Barbosa, Duarte & Kato 2005). In particular, they can be used to refer both to animate or inanimate referents (28) and have a bound variable behavior (29):

(28)   a. E   ele$_i$ precisou ir ao   banheiro.   Quando ele$_i$ viu o que

And he needed   go to-the bathroom. When he   saw that

que era o banheiro,   ele$_i$ ficou apavorado.

that was the bathroom he was terrified

'And he had to go to the bathroom. When he saw that the bathroom looked like he was terrified.'

b. [A casa]$_i$ virou um filme quando ela$_i$ teve de ir abaixo.

the house turned-into a movie whet it had to go down

'The house became a movie when it was demolished.'   (Barbosa *et al* 2005: 15-6)

(29)   a. [Ninguém no Brasil]$_i$ acha que ele$_i$ é prejudicado pelo Governo.

no-one   in Brazil   thinks that he is harmed by the government

'No-one in Brazil thinks that he is harmed by the government.'

b. [Nenhuma criança]$_i$ acha que ela$_i$ é burra.

No child thinks that she is stupid.

'No child thinks that s/he is stupid.'

c. [Algum professor]$_i$ vai achar que ele$_i$ é o responsável.

some teacher   will-think that he is the responsible

'Some teacher will think that he is the responsible one.'   (Barbosa *et al* 2005: 44-5)

As is well known, parallel sentences in European Portuguese or Spanish must replace these overt pronouns by a null subject. Weak pronouns in BP pattern, then, as null subjects in NSLs with respect to all these interpretative/ distributional properties.

From this set of facts, an important conclusion emerges: there is a correlation between the arising of weak subjects and the loss of the *pro*-drop properties in BP. I will call this correlation *Kato's observation*, because it was this author the first in noting it (see in particular Kato 1999):

Kato's observation:

(30)   The arising of weak forms correlates with the losing of *pro*-drop properties.

Kato's observation raises important questions regarding the nature of (partial) *pro*-drop languages, the direction of linguistic change and related issues (see the next section). At the same time, though, this observation reinforces the idea defended in this paper that the *nullness* of null subjects cannot be a lexical, inherent, property. As we have seen in the case of NIDs, some potential null subjects have to be phonetically realized because of the Sub-word Deletion Corollary (see 8), which prevents deletion of parts of words. In the case of BP, it is

the identity condition on ellipsis what prevents subject ellipsis. The arising of weak forms is then a natural consequence of the deletion approach. Put it in another way, Kato's observation follows if weak forms and null subjects are the same syntactic object as extensively argued by Roberts (2010). Under my view, BP lost the rule introducing dissociated morphemes at PF or the features of the dissociated morphemes are impoverished with respect to the features of the pronominal subject. The natural conclusion is that weak pronouns in BP are the "visible" reflex of the old null subjects.

5.2. On the direction of linguistic change

As the reader may have noted, a purely morphological approach to the NSP as the one defended here leads us to the question on the syntactic effects of the NSP. The correlation between head ellipsis and free inversion, for instance, seems to lack any deep motivation. It should be observed, however, that the general correlation between morphological richness and syntactic freedom is a long-standing problem in the generative program. Other approaches to the NSP in the framework of DM assume that some morphological operations, like impoverishment, take place pre syntactically (Müller 2005 and Roberts 2010 for detailed discussion). I will not take such a radical move here. I think that the basic mechanics of post-syntactic operations are well-motivated in DM and I don't see any reason to modify such architectural assumptions. Indeed, I believe that the system proposed here has the potentiality for accounting for the syntactic effects of the NSP. Let us explore this with some detail.

A way to address this issue is to explore the nature of EPP across languages. A plausible conjecture could be that the introduction of dissociated morphemes and the EPP (i.e., the need of a specifier for some functional head) are in complementary distribution.

Conjecture:

(31)   The introduction of dissociated morphemes (i.e., morphological agreement) and the EPP are in complementary distribution.
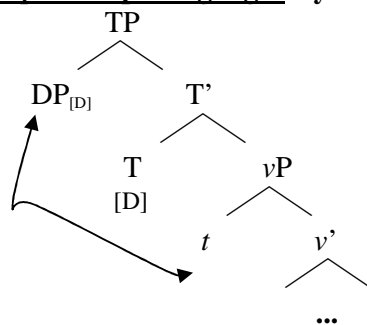
Let us assume that the EPP is just the requirement that T is associated with a nominal feature (maybe, a D or N feature) as in Chomsky's (1995) approach.
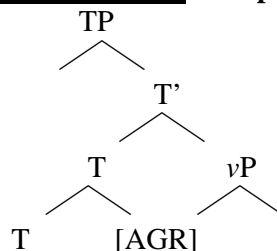
EPP:

(32)   T must be associated with a nominal (D/N) feature at syntax or PF.

17

Non-NSLs satisfy the EPP in the usual way, merging the DP subject on T (33), whereas NSLs satisfy the EPP in the morphology via the introduction of an agreement node within the T head (34).
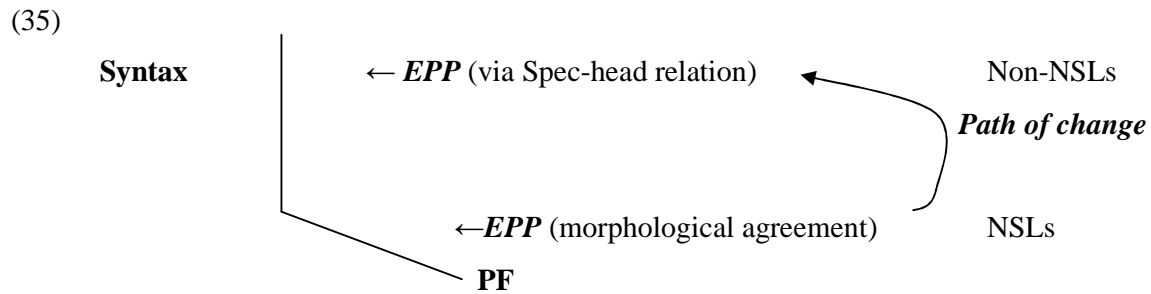
Non *pro*-drop Languages: syntactic *EPP*

(33)

```
                    TP
                   /  \
              DP[D]    T'
                      /  \
                    T     vP
                   [D]   /  \
                        t    v'
                            /  \
                           ...
```

Pro-drop Languages: morphological *EPP*

(34)

```
              TP
               \
                T'
               /  \
              T    vP
             / \   / \
            T  [AGR]
```

Notice that this simple idea straightforwardly accounts for the basic correlation between morphological richness and word order (free inversion, specifically): Morphological agreement yields the null subject property via head ellipsis as explained in the previous sections. Free inversion is now a natural consequence of the fact that Spec,TP does not need to be filled for EPP reasons. This hypothesis seems to be connected to Alexiadou & Anagnostopoulou's (1998) analysis of the NSP at least in a broad sense (i.e., the NSP follows in part from the EPP). Nevertheless, it also differs in non-trivial aspects. In Alexiadou & Anagnostopoulou's system NSLs just do not make use of Spec,TP, but according to the conjecture made here Spec,TP is perfectly available in NSLs. In this sense, movement to Spec,TP and the EPP should also be dissociated.

The NSP is derived then as a problem of the syntax-morphology connection. I think that the conjecture I am sketching here provides a clear way of stating the problem of linguistic variation. In effect, we can think of the change suffered by BP as a change that goes from morphology to syntax: because of the loss of morphological agreement, the EPP in BP has to be satisfied in the syntax. The direct consequence of this change is the loss of free inversion among other typical properties of NSLs (see Barbosa, Duarte & Kato 2005).

(35)

Syntax   ← ***EPP*** (via Spec-head relation)   Non-NSLs

Path of change

←***EPP*** (morphological agreement)   NSLs

PF

An additional advantage of this way of addressing the problem is connected to the problem of generic / impersonal null subjects in partial NSLs, an issue that has received considerable attention in the last years (see in particular, Holmberg 2005, 2010b, Holmberg, Nayudu & Sheehan 2009 and Barbosa 2010, among others). As claimed by Holmberg (2010b), the occurrence of a type of null generic subject in finite contexts is a property of partial NSLs, which quite surprisingly is not attested in consistent NSLs. Compare in this respect the impersonal sentences in (24) (repeated as 37 below) with parallel sentences in Spanish:

(36)   a. Aqui pode   fumar.

      here can+S3rd   smoke

   'You/can smoke.'

     b. Aqui conserta   sapatos.

      here repair+S3rd   shoes

     'One repairs shoes.'   (Kato 1999: 5)

(37)   a. *(Se) castiga   a   los culpables.

        SE punishes   to.acc   the culprits

   'Someone punishes the culprits.'

     b. *(Se) trabaja duro.

      SE works hard

     'One works hard.'

As mentioned above, the question is why partial NSLs license a type of null subject that is not licensed in NSLs. This is not a trivial question as the recent literature on this topic shows. I can only provide some preliminary thoughts.

First, it should be noted that it is not the case that null generic subjects are not attested in general in NSLs and in consistent non-NSLs. What is particular to BP and other partial *pro*-drop languages is just the licensing of control structures in finite contexts. Crucially, impersonal SE is disallowed in non-obligatory control contexts in consistent NSLs (see Saab 2002 and the references therein).

(38) Juan   dice   que   castigar*(*se)*   a   los   culpables es necesario.
      J.   says   that   to.punish(*SE)   to.acc the   culprits   is necessary
      'John says that to punish the culprits is necessary.'

Therefore, it is tempting to assume that whatever is the underlying null subject in a case like (38), it is also present in finite contexts like (36) in BP. So, it is not the case that partial NSLs have a special type of pronoun (say, a null NP in Barbosa's 2010 terms). In this sense, the answer to the problem posed by cases like (36) consists in answering what licenses (non-)obligatory control in finite configurations.
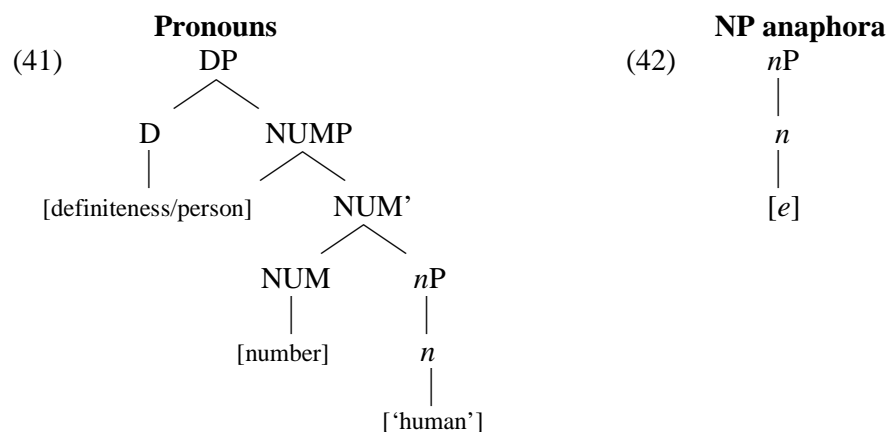
A possible route of analysis is Case theory. As shown in Saab (2002), impersonal SE in Spanish is allowed whenever a full nominative subject is also available. Thus, impersonal SE is attested in absolute clauses like (39):

(39) De   castigar*se / él*   a   los   culpables, el país   mejoraría.
      of   to.punish.SE / he   to.acc the   culprits   the country would.improve
   'If one / he punishes the culprits, the country would improve.'

This seems to confirm the hypothesis that T may be defective in BP (see in particular Ferreira 2000 and Nunes 2008): a generic null NP and hyperraising (see for instance 25) are licensed only in contexts in which the T node is defective and incapable of licensing a nominative DP. A virtue of this option is that also accounts for the contrast in (38) and (39). As is well-known, full nominative DPs are not allowed in control structures:

(40) Juan   dice   que [castigar **(*el gobierno**)]   a   los culpables es necesario.
      J.   says   that [to.punish (*the government)] to.acc the culprits   is necessary
      'John says that to punish the culprits in necessary.'

My second observation about the complementary distribution between impersonal SE and null generics is connected to the conjecture on the EPP made above. I would like to claim that impersonal SE (as other types of SE; see Pujalte & Saab, in press) is a purely morphological expletive that occurs for the need of satisfying a selectional property of T. Adapting Barbosa's (2010) analysis, let us assume that impersonal sentences contain indeed a null NP anaphora that triggers default agreement *both* in BP and Spanish. A crucial difference between regular pronouns and NP anaphora is that the latter lacks φ-features (as also claimed by Rivero 2001).

Pronouns

(41)

DP
- D
  - [definiteness/person]
- NUMP
  - NUM'
    - NUM
      - [number]
    - *n*P
      - *n*
        - ['human']

NP anaphora

(42)

*n*P
- *n*
  - [*e*]

Notice now that a *n*P can satisfy the EPP property in the syntax in those languages that has syntactic EPP. So, the configuration in (43) is perfectly legitimate in BP as far as the EPP is concerned, but not in Spanish because default agreement cannot satisfies morphological EPP via agreement. Consequently, a default SE form (i.e., an unspecified D form) is inserted at PF as a way of satisfying this formal requirement (44).

(43)

TP
- *n*P
- T'
  - T
  - *v*P
    - *t*
    - *v*'
      - ...

(44)

TP
- *n*P
- T'
  - T
    - *SE*
    - T
  - *v*P
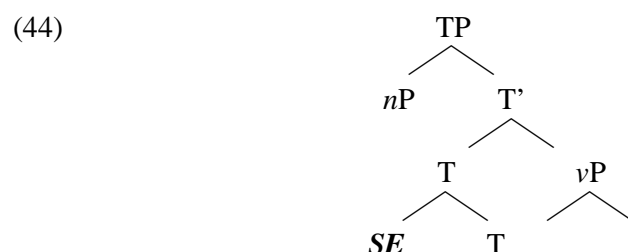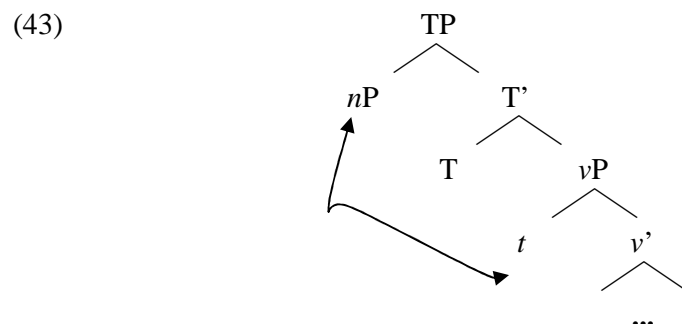
In sum, the purely morphological account of the NSP I have proposed here can account for the syntactic effects of NSLs provided we accept the conjecture in (31). BP and partial NSLs in general can be seen as cases where the availability of morphological EPP (plainly, morphological agreement) vanishes and the resort to syntactic EPP arises as the only legitimate option. I have also shown that this view can elegantly account for the occurrence of a morphological expletive in impersonal constructions in consistent NSLs, namely, the expletive SE.

6. Conclusion

In this paper, I have defended the idea that the null subjects of NSLs are instances of morphological ellipsis. This type of ellipsis is subjected to the same conditions that apply to other kind of post-syntactic operations. In the case of null subjects, adjacency is the crucial locality condition. The theory predicts several situations where a potential elliptical subject has to be pronounced. We have seen this case instantiated in NIDs, which are NSLs with some obligatory overt subjects. In particular, this type of clitic subjects arises as a consequence of the Sub-word deletion corollary, which prevents sub-words of being affected by Non-insertion. Clitic subjects in NIDs form then a natural class with other cases of copy realization across languages.

Partial *pro*-drop languages of the BP type are, instead, cases of non-NSLs with some null subjects licensed in the syntax, probably by the same conditions that license non-finite control. Crucially, the impoverishment of the verbal paradigm in BP caused that the EPP in this language cannot be resolved morphologically. A syntactic way of checking the EPP, like in non-NSLs, then arose and, as a consequence, other pro-drop properties also vanished. I have shown how this conjecture has some positive results when considering the complementary distribution between impersonal null subject and the clitic SE in Romance.

An important theoretical result of this work is that it integrates the long-standing problem of the NSP into a general theory of ellipsis, whose most striking property is that grammatical silences are derived in the course of the syntactic derivation under the same conditions that are needed independently for other syntactic mechanisms (displacement, for instance). As I have shown elsewhere (Saab 2009), this theory successfully extends to domains that go beyond the particular domain of null subjects.

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