

## ***pro* as a minimal NP: towards a unified theory of *pro*-drop**

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In recent years, there has been a return to Perlmutter's (1971) insight that the implicit subject in the Null Subject Languages (NSL) is a fully specified pronoun that is deleted in PF (cf. Holmberg 2005 and Roberts 2010). This view has been motivated by the observation that the classic GB theory of *pro* according to which *pro* is a minimally specified nominal whose features are supplied by Infl is incompatible with the approach to feature theory developed in the Minimalist Program. In this framework, the  $\phi$ -features in T are assumed to be uninterpretable, hence unvalued. This raises a problem for the idea that subject *pro* is inherently unspecified for  $\phi$ -features. The PF deletion analysis circumvents this problem. Concomitantly, recent theories of the nature of pronouns (Elbourne 2005) have posited a phonologically null NP as a complement of D in every pronoun (an NP affected by deletion, in the case of E-type pronouns, or  $[_{NP} e]$ , an index, in the case of regular pronouns). This proposal reintroduces the need to posit a null, minimally specified NP in the grammar, thus reopening the issue of whether *pro* can be reduced to an instance of  $[_{NP} e]$ . Here we offer a unified analysis of different types of *pro*-drop based on the hypothesis that  $pro = [_{NP} e]$ .

It is possible to isolate at least four typological patterns of NSL: **1.** Languages with rich subject agreement morphology (*consistent* NSLs), such as Italian. **2.** Languages that have agreement and referential null subjects whose distribution is restricted (*partial* NSLs), such as Hebrew, Finnish, Marathi, Russian, colloquial Brazilian Portuguese (BP). **3.** Languages that lack agreement, such as Chinese or Japanese, which have been described as topic-oriented languages and allow for any argument to be dropped (*discourse pro*-drop languages). **4.** Languages that only have impersonal and expletive NSs (*semi pro*-drop): a range of Creoles, Icelandic.

One key property that distinguishes Type 2 from Type 1 NSLs (Holmberg 2005) is that a 3P subject can have a generic interpretation equivalent to English 'one' (which may include the speaker and the addressee) in Type 2, whereas the languages of Type 1 must resort to some overt strategy in order to convey this reading. So as to capture this difference, Holmberg (2005) proposes that the distinctive property of the consistent NSLs as opposed to the other types of NSL is that T has a D-feature encoding definiteness. In Holmberg's system, positing this feature has an impact on the interpretation of the NS, but has no consequences on the syntax of overt pre-verbal subjects: in all of these cases, they are assumed to raise to Spec-TP and check the EPP. However, the languages of Type 2 differ from the languages of Type 1 with regard to the distribution and interpretation of **overt** subjects. Consider the following Portuguese examples:

- (1) O João disse que ele comprou um computador.  
the João said that he bought a computer

In the European variety of Portuguese, a Type 1 NSL, the embedded pronoun in (1) is preferably interpreted as non-co-referential with the matrix subject. For co-reference, the NS option is used (the so-called Avoid Pronoun Principle). In BP, however, the overt pronoun in (1) may be co-referent with the matrix subject (similar facts obtain in all the other partial NSLs). Since, under the pronoun deletion analyses, the presence of the D-feature in T has no impact on the status of overt preverbal subject pronouns, these facts are left unaccounted for. One alternative analysis of Type 1 languages is that the +D  $\phi$ -feature specification in T is interpretable (cf. Barbosa 1995, Alexiadou and Anagnostopoulou 1998, a. o.). One of the corollaries of this approach is that pre-verbal (non-quantified) subjects are Clitic Left Dislocated (CLLD). Viewed in this light, the Avoid Pronoun Principle simply reduces to the preference for not merging a pronoun as a CLLDed Topic unless it is required to signal topic switch or for emphasis/empathy. In a partial NSL, by contrast, the overt pronoun is a genuine

argument that raises to pre-verbal position and so we see no effect of topic switch. Secondly, since the *phi*-features in T are interpretable in a consistent NSL, 3Person morphology entails reference to an entity that excludes the speaker or the hearer; this is why some overt strategy must be used in order to convey the generic inclusive reading.

The availability of a generic (inclusive) reading for the 3rd person NS is a feature that is shared by Type 2 and Type 3 languages. Among the analyses that have been proposed in the literature on discourse *pro*-drop is the hypothesis that it reduces to *null-NP anaphora* (Tomioka 2003). Tomioka observes that all of the languages that allow discourse *pro*-drop allow (robust) bare NP arguments. He shows that the interpretation of full-fledged NPs in Japanese is derived from one basic meaning, property anaphora (type  $\langle e, t \rangle$ ) and that their differences are the result of two independently needed semantic operations: Existential Closure and Type Shifting to an individual. He argues that the semantic tools used to interpret full NPs are used to interpret *pro* in Japanese and proposes that what underlies discourse *pro*-drop is the fact that languages (almost) universally allow phonologically null NP anaphora. In a language that lacks determiners, this operation will give rise to phonologically unrealized arguments. In languages in which DPs are necessarily projected, a remnant D will always show up and so this process will never give rise to a silent argument.

Barbosa (2010) proposes to extend this approach to Type 2 NSLs. In effect, Finnish, Russian and Marathi lack articles, and BP as well as Hebrew allow bare nouns in argument position (cf. Doron 2003, Schmidt & Munn 1999). These languages have (definite) object drop. Rodrigues (2004), Holmberg (2005) observe that in Finnish as well as BP the generic NS stays *in situ*; the definite interpretation is available just in case the NS raises to a high position. Holmberg and Nikane (2002) show that the same position that hosts the definite NS can host other categories besides subjects and is associated with topics (Finnish being a Topic Prominent Language). Similarly Modesto (2008) argues that the definite NS in BP is a null topic. On the assumption that the NS is a minimally specified NP then the different interpretations available would follow from the configurations that serve as input to semantics: the impersonal/generic interpretation arises when the null NP within VP is interpreted by Existential Closure (falling under the scope of a Gen operator in generic sentences); the anaphoric, definite interpretation arises when the null NP is a Topic (see Portner and Yabushita 1998 for the claim that topics denote individuals that the sentence as a whole is 'about').

In Hebrew, present tense inflection lacks person marking and a definite NS is never allowed in this tense whereas the impersonal/generic NS is. Incidentally, Borer and Roy (2007) observe that a bare singular noun can only have a specific (non-generic) interpretation in Hebrew iff marked by a specificity marker. Ritter (1995) suggests that person agreement in past and future tenses is a definiteness marker, i.e., belongs to the category D. Building up on these findings, we suggest that Type Shifting to an individual is only available to the null NP in Hebrew when D-agreement is present. Curiously, the pattern of subject drop found in Hebrew present tense is that of Type 4 languages, such as Cape-Verdian creole or Papiamentu. These languages have bare nouns (cf. Baptista and Guéron 2009) as arguments. Icelandic lacks an indefinite article. We propose that Semi *pro*-drop should be viewed as an instance of a null NP that can only be interpreted under Existential Closure.

Coming back to the consistent NSLs, one issue raised by the claim that T hosts a D feature and an interpretable set of  $\phi$ -features is the status of the argument (first merge) position of the silent subject. We argue that it is conceivable that the thematic position is filled by the very same phonologically null NP that has been posited to occur as a complement of D in pronouns (cf. Elbourne 2005), in which case *pro* is a null NP in the four different types of NSL.