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# Is There a Little Pro? Evidence from Finnish

*Anders Holmberg*

The traditional view of the null subject as *pro* identified by Agr (the  $\phi$ -features of I) cannot be maintained in a theory where Agr is uninterpretable. Two hypotheses are compared with regard to the predictions they make for Finnish null subject constructions: (A) Agr is interpretable in null subject languages, and *pro* is therefore redundant; (B) null subjects are specified but unpronounced pronouns that assign values to the uninterpretable features of Agr. Since Finnish observes the Extended Projection Principle and has an expletive pronoun, Hypothesis A predicts that null subjects should cooccur with expletives. The prediction is false, favoring B over A. A typology of null subjects is proposed: Null bound pronouns and null generic pronouns in partial null subject languages, including Finnish, are D-less  $\phi$ Ps, and so are null subjects in consistent null subject languages with Agr, such as Spanish and Greek. Null 1st and 2nd person subjects in Finnish are DPs that are deleted. Null pronouns in languages without Agr, such as Chinese and Japanese, are the only true instances of *pro*, a minimally specified null noun.

*Keywords:* null subject, empty category,  $\phi$ -feature, expletive, pronoun

(1) is an example of a so-called null subject sentence.

(1) Olen väsynyt. (Finnish)  
be-PRES.1SG tired  
'I'm tired.'

The sentence has no overt subject; yet, according to standard Principles-and-Parameters theory, it has a subject that is an underspecified, phonetically empty subject pronoun, so-called (little) *pro*, formally licensed and interpreted by virtue of the agreement on the finite verb or auxiliary.

In this article, I scrutinize this hypothesis, which goes back to works such as Chomsky 1982 and Rizzi 1986, in the light of more recent developments in syntactic theory, particularly the feature theory of Chomsky 1995:chap. 4 and subsequent work by Chomsky and others. I argue

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The following is a list of unusual abbreviations used in the article: ABL: ablative, ADE: adessive, ALL: allative, CON: conditional, ELA: elative, ESS: essive, ILL: illative, INE: inessive, POSS.RFL: possessive reflexive, PAR: partitive, PRC: participle.

that there is a null (unpronounced) pronoun in the subject position in (1), but with properties different from those of *pro* in standard Principles-and-Parameters theory. I thereby disagree with claims made in Manzini and Roussou 1999, Manzini and Savoia 2002, Platzack 2003, 2004, and (with some reservations) Alexiadou and Anagnostopoulou 1998, according to which constructions such as (1) do not have a subject at any level of representation other than the nominal features realized on the verb or auxiliary. Crucial evidence for my hypothesis comes from null subject constructions in Finnish. This evidence leads me to conclude that there are several types of syntactically projected null subjects. One commonly occurring type is a null weak pronoun, roughly as characterized in Cardinaletti and Starke 1999: a pronoun specified for  $\phi$ -features but lacking D and therefore incapable of (co)referring, without the help of a D-feature in I, in a manner detailed below. Another type of null subject is a DP that is deleted under usual conditions of recoverability. A third type is the classical *pro*, in the sense of a minimally specified nominal category, a bare,  $\phi$ -featureless noun. This type is found only in languages without unvalued  $\phi$ -features in I—that is, without Agr. In languages with Agr, the subject must have inherently valued  $\phi$ -features, in order to value Agr, thus excluding *pro* as subject.

### 1 The Government-Binding Theory of Empty Categories

*Pro* was introduced in Chomsky 1982 as part of a theory of empty NPs, which in turn formed part of the theory of NP types and binding, one of the cornerstones of Government-Binding (GB) Theory. According to this theory, the different types of empty nominal categories that had been identified and whose properties had been intensely investigated—namely, NP-trace, *wh*-trace, PRO, and now also *pro*—were really special cases of the same category, an empty nominal category with no inherent properties apart from (presumably) nominal categorial features and maximal X-bar level:  $[_{NP} e]$ . The grammatical properties of  $[_{NP} e]$  were ‘functionally determined’; that is, they were determined by the syntactic relations that it entered into, particularly the binding relation (see Chomsky 1982).

- (2)  $[_{NP} e]$  is
- a. *wh*-trace if it is locally  $\bar{A}$ -bound,
  - b. NP-trace if it is locally A-bound from a non- $\theta$ -position,
  - c. PRO if it is locally A-bound from a  $\theta$ -position,
  - d. *pro* if it is governed by strong enough I(nfl) or by a clitic.

The four types of empty categories corresponded to three types of overt NP (namely, anaphors, pronouns, and R-expressions), defined by the two binary features [ $+/-$  pronominal,  $+/-$  anaphor], plus one type that for principled reasons could only be empty (namely, PRO). The result was a theory of almost unparalleled elegance within formal linguistic theorizing: various phenomena (the different empty categories), each with its distinctive properties, were seen to be special cases of a single phenomenon (the featureless empty NP), their distinctive properties derived from other independent properties, primarily the binding relation they entered into. This phenomenon was then further unified with another set of phenomena, namely, different forms of overt

NPs, their distinctive properties being ultimately derived from variation with regard to the value of two primitive binary features. Together with certain other axioms of the theory, especially the  $\theta$ -Criterion, the Case Filter, and the Empty Category Principle, this theory could explain an impressive range of phenomena regarding the syntactic distribution of NPs, across a wide range of languages, potentially including all natural languages.

Impressive though it was, the theory of empty categories soon began to crumble. The main problems in the 1980s and early 1990s had to do with the binding theory, which the theory of empty categories was inextricably linked with. In particular, various NP types were discovered that did not fit into the restrictive framework of the classical binding theory, including long-distance reflexives, logophoric pronouns (see Huang 2000 for an overview), SE- versus SELF-type anaphors (Reinhart and Reuland 1993), and dependent pronouns (Fiengo and May 1994); see Safir 2004 for discussion.

An even greater challenge for the theory of empty categories was the emergence of the Minimalist Program. The GB theory of empty categories is incompatible with the Minimalist Program as characterized in Chomsky 1995 and subsequent works. Perhaps most strikingly this is the case for traces. In GB (Chomsky 1981, 1982), a moved category and its trace are two distinct categories. They form a chain, which means that they share a  $\theta$ -role and a Case, but they are nevertheless two distinct categories, which may belong to distinct NP types; in (3), for example, *John* is an R-expression and the trace an anaphor.

(3) *John*<sub>i</sub> was arrested [<sub>NP</sub> *e*]<sub>i</sub>.

In minimalist derivational theory, *John was arrested* is derived by (a) merging the lexical item *John* with *arrest*, forming the VP [*arrest John*]; (b) expanding the tree by merging more categories one by one with the derived tree; (c) merging *John* a second time, to satisfy the EPP-feature of T; and (d) spelling the structure out without spelling out the lower copy (or occurrence) of *John* (see Chomsky 1995, Nunes 1999). That is to say, there is no trace, in the sense of an empty category with its own distinct properties, present at any stage of the derivation. *Wh*-movement follows the same principles: a *whP* is first merged as an object, subject, adverbial, or the like, and subsequently remerged with CP—potentially several times, in the case of long-distance extraction. There are several copies (or occurrences) of the *whP*, but no traces/empty categories.

The two types of traces gone, all that remains of the theory of empty categories in (2) is PRO and pro. I will put PRO aside, returning to it briefly at the end of the article, and consider the position of pro in the Minimalist Program in some detail.

## 2 Little Pro and Uninterpretable Features

The most authoritative theory of pro within GB is the one articulated by Rizzi (1986), building on earlier work by Chomsky (1981, 1982), Rizzi (1982), and Bouchard (1984), among others. In this theory, pro is inherently unspecified for  $\phi$ -feature values. Its distribution is regulated by a licensing condition and a recovery (or identification) condition, as follows (see Rizzi 1986: 518–523):

(4) a. *Licensing*

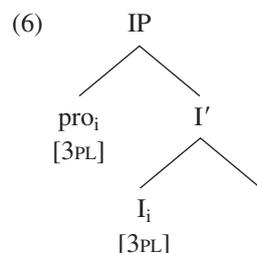
Pro is Case-marked by  $X_y^0$ , where  $y$  is parameterized.

b. *Identification*

Pro inherits the  $\phi$ -feature values of  $X_y^0$  (if it has  $\phi$ -features; if not, pro gets a default interpretation, typically *arb*).<sup>1</sup>

In the case of null subjects, pro is Case-marked by I(nfl), which qualifies as a pro-licensing  $X_y^0$  in some languages but not others, the standard assumption being that this correlates with richness of agreement. Identification is then ensured because pro inherits the  $\phi$ -feature values of I. In (6), representing the (relevant part of) the structure of (5), pro is licensed because it is governed and assigned Case by I, which in Spanish qualifies as  $X_y^0$ .

- (5) Están cansadas. (Spanish)  
 be-3PL tired-F.PL  
 'They are tired.'



The content of pro is identified because pro inherits the  $\phi$ -feature values of I.

The theory of pro outlined above cannot be maintained in a theory making the distinction between interpretable and uninterpretable features that plays a crucial role in Chomsky 1995: chap. 4 and subsequent work by Chomsky and others. Chomsky argues that there are two varieties of  $\phi$ -features: interpretable and uninterpretable. The person, number, and gender features of an NP (or DP) are interpretable, restricting the denotation of the NP. The person, number, or gender features that appear on a verb, auxiliary, or adjective are uninterpretable, as they do not restrict the denotation of these categories.

- (7) Las chicas están cansadas.  
 the girls be-F.3PL tired-F.PL

(7) asserts that a group of female individuals excluding the speaker and the addressee (the denotation of the NP *las chicas*) each have (some degree of) the same indivisible and genderless property of being tired (the denotation of the predicate *están cansadas*). The sentence does not, for example, ascribe to the girls a particular female way of being tired, or, at least not necessarily, repeated

<sup>1</sup> The focus in Rizzi 1986 is on a form of pro that is not licensed and identified by I(nfl), namely, object pro in Italian—hence the very general formulation of the licensing condition. In Italian, transitive V is an  $X_y^0$  Case-marking and licensing an object pro, which, as Italian V does not have  $\phi$ -features, is interpreted with arbitrary reference.

occurrences of being tired.<sup>2</sup> By definition, uninterpretable features cannot survive until LF, so they must be eliminated in the course of the derivation of LF. However, they may be, and typically are, visible in PF. According to Chomsky (2000, 2001a,b), their role in the grammar is to drive syntactic operations, particularly movement.

Chomsky (2001b) furthermore proposes that the formal difference between the interpretable features and their uninterpretable counterparts is that the latter enter the derivation unspecified, being assigned values as part of the process of derivation by virtue of entering into the relation Agree with an interpretable counterpart. (See Zwart 1997:189 for an early version of the same idea.) This proposal gives formal expression to the intuition that agreement is directional. In (7), for example, the auxiliary verb and the adjective agree with the subject NP, not vice versa. Once the uninterpretable features are assigned values, they are removed from the syntactic derivation, being handed over to morphology/phonology, the derivation of PF.

### 3 Two Hypotheses

Within this theory of agreement, it is obviously not possible for an inherently unspecified pronoun to be specified by the  $\phi$ -features of I, as those features are themselves inherently unspecified. Let us consider two hypotheses consistent with the feature theory sketched above.

#### *Hypothesis A*

There is no pro at all in null subject constructions. Instead, Agr (the set of  $\phi$ -features of I) is itself interpretable; Agr is a referential, definite pronoun, albeit a pronoun phonologically expressed as an affix. As such, Agr is also assigned a subject  $\theta$ -role, possibly by virtue of heading a chain whose foot is in vP, receiving the relevant  $\theta$ -role.

Versions of this hypothesis are articulated in Jelinek 1984, Barbosa 1995, Alexiadou and Anagnostopoulou 1998, Manzini and Roussou 1999, Manzini and Savoia 2002, and Platzack 2003, 2004. If Agr is interpretable, it could specify the features of pro. But if Agr is interpretable, there is no need for pro. The role of (subject) pro in Chomsky 1982, Rizzi 1986, and related work is to carry the subject  $\theta$ -role, possibly bear nominative Case, and satisfy the EPP. But if Agr is interpretable, hence referential, then Agr may itself carry the subject  $\theta$ -role. This means there could at most be an expletive pro in Spec,IP. If Agr absorbs nominative Case as well, as seems most plausible if it is referential and heads a chain, then it would be a Caseless expletive pro. Expletive pro is a dubious category, particularly in a minimalist framework, as it has no

<sup>2</sup> The predicate in (7) *can* denote a plurality of distinct occurrences of being tired, but crucially it need not do so. Correspondingly, a verb with singular morphology can denote a plurality of events or states, as in (i).

(i) La chica se cansaba todos los días.  
'The girl became tired every day.'

There are languages that have an interpretable plural form of the verb (see Newman 1990, Schmidt, Odden, and Holmberg 2002). This verb form is "used primarily to indicate plural action, either on the part of several agents . . . or applied to several objects on one or several occasions, or an event that is taking place on several occasions" (Schmidt, Odden, and Holmberg 2002:10). In these languages, the plural (or "pluractional") form of the predicate can only denote a plurality of events or states.

interface properties at all, either at LF or at PF. But even granting the theoretical possibility, the only condition that could conceivably require an expletive *pro* in Spec,IP would be the EPP. Alexiadou and Anagnostopoulou (1998) and Manzini and Savoia (2002) exclude this possibility by stipulating that the EPP is (effectively) satisfied by Agr in null subject languages. We may, however, for the sake of argument, retain as a theoretical possibility that a covert expletive *pro* can satisfy the EPP in a null subject language.

#### *Hypothesis B*

The null subject is specified for interpretable  $\phi$ -features, values the uninterpretable features of Agr, and moves to Spec,IP, just like any other subject. This implies that the nullness is a phonological matter: the null subject is a pronoun that is not pronounced.

In what follows I will, for argument's sake, ignore the logical possibility that some languages do not have an EPP requirement. With this proviso, the following is an empirical difference between Hypotheses A and B: according to Hypothesis A, in finite null subject constructions the subject position Spec,IP is either not projected or filled with expletive *pro*, the former if Agr on the finite verb can check (satisfy) the EPP, the latter if it cannot. According to Hypothesis B, the position is occupied by a pronoun checking the EPP and is hence not available for another category.

Now assume a language that allows null subjects, but has an *overt* expletive. Hypothesis A is consistent with the following three alternatives: the overt expletive is (a) excluded, (b) allowed, or (c) compulsory in finite null subject constructions. Alternative (a) would hold if interpretable Agr necessarily checks the EPP. Alternative (b) would hold if interpretable Agr may, but need not, check the EPP. Finally, alternative (c) would hold if Agr, interpretable or not, cannot check the EPP. Hypothesis B, on the other hand, categorically excludes the overt expletive from occurring in null subject constructions.

Null subject languages are generally assumed not to have an overt expletive pronoun, especially not a ‘‘pure,’’ nominal expletive such as English *there*.<sup>3</sup> There is at least one null subject language that has an overt pure, nominal expletive, though—namely, Finnish, as discussed by Holmberg and Nikanne (2002).

I will initially put aside the alternative that interpretable Agr itself checks the EPP and thereby excludes the overt expletive in null subject constructions, coming back to this version of Hypothesis A in section 6. With this proviso, we can use Finnish to decide between the competing hypotheses: Hypothesis A allows the overt expletive to occur in null subject constructions, Hypothesis B excludes it. As I will demonstrate, Hypothesis B makes the right prediction for Finnish.

#### **4 Null Subjects and Agreement in Finnish**

Finnish is a partial null subject language in that 1st and 2nd person pronouns are optionally null, in any environment.

<sup>3</sup> A pure expletive does not trigger agreement and appears not to be assigned Case. Its only function is to satisfy the EPP (see Chomsky 1995:288).

- (8) a. (Minä) puhun englantia. d. (Me) puhumme englantia.  
 I speak-1SG English we speak-1PL English  
 b. (Sinä) puhut englantia. e. (Te) puhutte englantia.  
 you speak-2SG English you speak-2PL English  
 c. \*(Hän) puhuu englantia. f. \*(He) puhuvat englantia.  
 he/she speak-3SG English they speak-3PL English

A 3rd person definite subject pronoun can be null when it is bound by a higher argument, under conditions that are rather poorly understood.

- (9) a. Pekka<sub>i</sub> väittää [että hän<sub>i,j</sub>/Ø<sub>i/\*j</sub> puhuu englantia hyvin].  
 Pekka claims that he speaks English well  
 b. Anu<sub>i</sub> sanoi Jarille<sub>j</sub> että hän<sub>i,j</sub>/Ø<sub>i/j/\*k</sub> ottaa kitaran mukaan.  
 Anu said Jari-ALL that he takes guitar along  
 ‘Anu told Jari to bring along his guitar.’  
 c. Se oli Tarjalle<sub>i</sub> pettymys [ettei hän<sub>i,j</sub>/Ø<sub>i/\*j</sub> saanut lukea latinaa  
 it was Tarja-ALL disappointment that-not she could study Latin  
 koulussa].  
 school-INE  
 ‘It was a disappointment for Tarja that she couldn’t study Latin at school.’  
 d. Poikien<sub>i</sub> mielestä oli noloa kun he<sub>i,j</sub>/Ø<sub>i/\*j</sub> jäivät kilpailussa  
 boys-GEN opinion-ABL was embarrassing when they came race-INE  
 viimeiseksi.  
 last  
 ‘The boys found it embarrassing when they came last in the race.’  
 e. Jokaisen pojan<sub>i</sub> mielestä on noloa kun hän<sub>i,j</sub>/Ø<sub>i/\*j</sub> jää  
 every boy-GEN opinion-ABL is embarrassing when he comes  
 kilpailussa viimeiseksi.  
 race-INE last  
 ‘Every boy finds it embarrassing when he comes last in a race.’  
 f. Se oli Tarjan<sub>i</sub> äidille<sub>j</sub> pettymys [ettei hän<sub>i,j</sub>/Ø<sub>i/\*j</sub> saanut  
 it was Tarja-GEN mother-ALL disappointment that-not she could  
 lukea latinaa koulussa].  
 study Latin school-INE  
 ‘It was a disappointment to Tarja’s mother that she could not study Latin  
 at school.’  
 g. Kun hän<sub>i,j</sub>/Ø<sub>i/\*j</sub> tuli kotiin, Jari<sub>i</sub> oli pahalla tuulella.  
 when he came home Jari was bad-ADE mood-ADE  
 ‘When he came home, Jari was in a bad mood.’

Vainikka and Levy (1999) assert that the embedded null 3rd person must be coreferential with an argument in the next clause up. This is echoed by Gutman (2004), who discusses conditions

on the null subject–antecedent relation on the basis of examples with subject, object, and indirect object antecedents. Examples such as (9c–d) show that the structural conditions on the relation are quite lax: in (9c), the antecedent is an adjunct, while in (9d), it is embedded in an NP (which is embedded in a PP, if, following Nikanne (1993), we take the Finnish locative cases, including ablative, to be assigned by a covert adposition), hence does not c-command the null subject. (9e) indicates that the relation between a quantified argument and a null variable in the subject position of an embedded finite clause is subject to similar lax structural conditions. Finally, (9f–g) show that the relation is nonetheless subject to stricter conditions than that between an overt pronoun and its antecedent: the null subject cannot support coreference, in the manner of a Principle B pronoun. Comparison of (9d–e) suggests that the relation between the null subject and the higher referential DP in the examples in (9) is a special case of variable binding, where the variable may be null. I will henceforth refer to the relation as *binding*, with the understanding that the structural conditions on the relation are not as strict as in Chomsky’s (1981, 1982) binding theory.<sup>4</sup>

Generic pronouns can, and must, be null.

- (10) Täällä ei saa polttaa.  
 here not may smoke  
 ‘One can’t smoke here.’

Quasi-referential subjects in construction with extraposed clauses can also be null, and, with certain exceptions, must be null in construction with weather predicates (see Holmberg and Nikanne 2002).

- (11) a. (Se) oli hauskaa että tulit käymään.  
 it was nice that came-2SG visiting  
 ‘It was nice that you came to visit.’  
 b. Sataa vettä.  
 rains water-PAR  
 ‘It’s raining.’

As shown by (8), Finnish has rich agreement morphology. Third person agreement is less rich than 1st and 2nd person agreement in that 3rd person singular is null in the past tense and in the conditional mood, where tense is neutralized (see Holmberg and Nikanne 1993, Holmberg et al. 1993). Many varieties of colloquial Finnish make no distinction between 3rd person singular and plural. In these varieties, 3rd person plural is also null in the past tense and the conditional mood. In the present indicative, however, 3rd person singular is phonologically visible in the form of vowel lengthening, and 3rd person plural has a suffix *-vat/-vät* (subject to vowel harmony)

<sup>4</sup> It seems that the antecedent can have any syntactic function as long as it is the only possible antecedent in the next clause up, as in (9c–d). If there are several arguments in that clause, then a hierarchy of accessibility applies, as discussed in Gutman 2004, where the subject is the favored antecedent. (i) shows that the antecedent must be in the next clause up.

- (i) Se oli Tarjalle pettymys [kun tuli selväksi [ettei hän/\*Ø saanut lukea latinaa koulussa.  
 it was Tarja-ALL disappointment when became clear that-not she could study Latin school-INE  
 ‘It was a disappointment to Tarja when it became clear that she couldn’t study Latin at school.’

in all tenses and moods, except in those colloquial varieties where it is the same as 3rd person singular.

The use of 1st and 2nd person null subjects is largely restricted to formal varieties of Finnish, including standard written Finnish. It is nonetheless clear that these null subjects are part and parcel of Finnish ‘‘core grammar,’’ since Finnish speakers have largely uniform intuitions about null subject constructions (see Holmberg and Nikanne 2002 for discussion). The use of 3rd person null subjects in cases like (9) is not restricted by such stylistic considerations.

### 5 The Finnish Expletive *Sitä*

Finnish has an expletive pronoun that is obligatory in certain contexts. In general, Finnish does not tolerate verb-initial declarative sentences; hence, (12a) is ungrammatical. Either a referential category (an argument or a referential adverbial) has to move and remerge with IP, or the expletive *sitä* has to merge.

- (12) a. \*Sattui minulle onnettomuus.  
happened me-ALL accident  
b. *Minulle* sattui onnettomuus.  
me-ALL happened accident  
c. *Sitä* sattui minulle onnettomuus.  
EXP happened me-ALL accident  
‘I had an accident.’

The same pattern is illustrated in (13) and (14).

- (13) a. \*Meni nyt hullusti.  
went now wrong  
b. *Nyt* meni hullusti.  
now went wrong  
c. *Sitä* meni nyt hullusti.  
EXP went now wrong  
‘Now things went wrong.’
- (14) a. \*Viihtyy saunassa.  
feels-good sauna-INE  
b. *Saunassa* viihtyy.  
sauna-INE feels-good  
c. *Sitä* viihtyy saunassa.  
EXP feels-good sauna-INE  
‘One feels good in the sauna.’

The expletive *sitä* is the partitive form of the pronoun *se* ‘it’. As shown in Holmberg and Nikanne 2002, it is a *there*-type, pure expletive, merged in the position where the subject is found in unmarked sentences. As also shown by Holmberg and Nikanne, this is not a subject position per

se, as it can be filled by other referential categories. Holmberg and Nikanne characterize it as a topic position, though this is not quite correct (see Holmberg, to appear, and section 7 below). I will continue to refer to it as Spec,IP. It is not Spec,CP, as shown, for instance, by the fact that it can invert with the finite verb in questions, where the finite auxiliary or verb moves to C and is affixed with a question particle.

- (15) Menikö sitä taas hullusti?  
 went-Q EXP again wrong  
 ‘Did things go wrong again?’

There is not necessarily any interpretive difference between the (b) and (c) sentences in (12)–(14). Fronting the argument or temporal or locative adjunct satisfies a formal condition, the Finnish version of the EPP, as does merger of the expletive. The fronted argument or adjunct can have more specific information-structural implications, but need not have any. In fact, in written Finnish the use of the expletive is proscribed, leaving fronting as the only acceptable means to satisfy the EPP.

Two caveats are in order. First, a verb-initial sentence is acceptable with ‘‘verb focus,’’ or rather polarity focus, as in (16), where the verb tends to have focus stress and possibly a suffixed focus particle.

- (16) SATTUI(-pas) minulle onnettomuus.  
 happened (FOC) me-ALL accident  
 ‘I did have an accident.’

In this case, the finite auxiliary or verb (or, more precisely, the functional head that incorporates the finite auxiliary or verb and encodes polarity) is moved to C (see Holmberg 2001).

Second, verb-initial impersonal sentences are allowed if the sentence contains no category that can move to Spec,IP to check the EPP. A category can check the EPP (a) if it is a subject or (b) if it is referential, in the sense that DPs and certain adverbials (locative, temporal, instrumental, but not for instance manner or reason) are referential (see Holmberg, to appear). Adapting a proposal from Holmberg and Nikanne 2002, let us say a nonsubject must be a ‘‘potential topic’’ to check the EPP. For instance, (16) is therefore acceptable. Compare (13a) and (17).

- (17) Meni hullusti.  
 went wrong  
 ‘Things went wrong.’

The manner adverb *hullusti* is not a potential topic, while the time adverb *nyt* ‘now’ in (13a) is, hence the difference: the time adverb must move to Spec,IP in the absence of an expletive. See Holmberg and Nikanne 2002 for discussion of verb-initial clauses and the EPP in Finnish.

The following is thus a viable formulation of the Finnish version of the EPP:<sup>5</sup>

<sup>5</sup> Here, as elsewhere in this article, *EPP* refers to the EPP-feature of I, not the generalized EPP-feature of Chomsky 2000. The discussion here presupposes that there is variation across languages regarding which categories can satisfy the EPP. See Holmberg 2000.

(18) *EPP in Finnish*

If the sentence contains one or more categories that can check the EPP, then one of them must remerge with IP, or an expletive must be merged with IP.

It is important to note that the expletive is not restricted to impersonal and generic sentences, but also occurs in construction with, for instance, 1st and 2nd person finite verbs and subjects, if the latter are not remerged with IP, as in (19).<sup>6</sup>

## (19) a. Sitä olen minäkin käynyt Pariisissa.

EXP be-1SG I-too visited Paris-INE

‘I have been to Paris, too (actually).’

## b. Minä sitä olen käynyt Pariisissa.

I EXP be-1SG visited Paris-INE

‘I’ve been to Paris (would you believe it).’/‘I’m the one who has been to Paris.’

In (19a), the subject pronoun is in a sentence-medial focus position and the expletive occupies Spec,IP, checking the EPP. In (19b), the subject pronoun has moved to the sentence-initial focus position (Spec,CP; see Vilkuna 1995, Holmberg and Nikanne 2002), and again the expletive can check the EPP. Note also that in the absence of a referential category that can check the EPP, the expletive is optional; compare (17) and (20).

## (20) Sitä meni hullusti.

EXP went wrong

‘Things went wrong.’

**6 Testing Hypotheses A and B**

The stage is now set for testing the two hypotheses presented in section 3. According to Hypothesis A, Finnish 1st and 2nd person Agr is made up of interpretable features, and so is essentially an affixed definite pronoun. An overt 1st or 2nd person subject pronoun is therefore not required, and if included, it (presumably) occupies a higher,  $\bar{A}$ -type position. The prediction is, then, that Spec,IP, the position immediately preceding the finite verb or auxiliary in a declarative sentence, or immediately following it in a yes/no question, could or even should be filled with an expletive pronoun. The prediction is false, as first observed in Hakulinen 1975; see also Holmberg and Nikanne 2002.

## (21) a. \*Sitä puhun englantia.

EXP speak-1SG English

## b. Oletteko (\*sitä) käyneet Pariisissa?

be-2PL-Q EXP visited Paris-INE

‘Have you been to Paris?’

<sup>6</sup> Vainikka and Levy (1999:636) seem to say that a 1st or 2nd person subject will always raise to Spec,IP (Spec,Agr<sub>S</sub>P in their framework). This is not the case, however.

This is predicted by Hypothesis B, according to which a null pronoun checks the EPP. (21a–b), with the expletive, are ill formed for the same reason that (22a–b) are: the subject pronoun checks the EPP, thus leaving no function for the expletive to fulfill.

- (22) a. \*Sitä minä puhun englantia.  
 EXP I speak-1SG English  
 b. Oletteko te (\*sitä) käyneet Pariisissa?  
 be-2PL-Q you EXP visited Paris-INE

Compared with (19a–b), (22a–b) show that a subject pronoun cannot be combined with an expletive in preverbal position in either order (pronoun-expletive or expletive-pronoun) unless the pronoun is focused, in which case it may occupy a position other than Spec,IP, leaving it up to the expletive to satisfy the EPP.<sup>7</sup>

On the basis of pairs such as (23a–b), Vainikka and Levy (1999) make the same point, that null 1st and 2nd person subjects in Finnish are syntactically represented in Spec,IP (in their terms, Spec,Agr<sub>S</sub>P).

- (23) a. Jos kaupalta soittaa asiakas, Marjan on lähettävä sinne.  
 if store-ABL calls customer-NOM Marja is leave-PRC there  
 ‘If a customer calls from the store, Marja has to go there.’  
 b. \*Kun soititte, kaupassa olimme juuri ostamassa takkia.  
 when called-2PL store-INE be-1PL just buying coat  
 ‘When you called, we were just at the store buying a coat.’

<sup>7</sup> An *LJ* reviewer questions whether constructions such as (19a–b) have any implications for the distribution of *sitä* in (21). The reviewer points out that Icelandic has two homonymous expletives *það*, according to Thráinsson (1979). One, which Thráinsson calls the “central” expletive, is used in standard presentational/impersonal sentences. The other, called the “demonstrative” expletive, is used in clefts, such as (i), and certain special expletive constructions.

- (i) Það er ég sem hef farið til Parísar.  
 EXP is I that has gone to Paris  
 ‘It’s me who has been in Paris.’

The reviewer suggests that *sitä* in (19a–b) is a demonstrative expletive, like *það* in (i). In that case, it has no implications for the distribution of purportedly central *sitä* in (21)–(22), just as (i) has no implications for (ii).

- (ii) \*Það tala ég ensku.  
 EXP speak I English

The reviewer then suggests that the expletives in (21)–(22) and (ii) might be excluded because a central expletive can never take scope over a referential subject, whether it is an XP in Spec,IP or Agr in I. Consequently, (21) provides no evidence that there is a null XP in Spec,IP blocking the expletive.

Finnish has two expletives, too, but they are morphologically distinct. The demonstrative expletive is *se*, the nominative form of ‘it’ (see (9c,f) and (11b)); the central one is *sitä*, the partitive form of ‘it’.

- (iii) Se/\*Sitä olen minä joka on käynyt Pariisissa.  
 SE/SITÄ be-1SG I who be-3SG visited Paris-INE  
 (iv) Minä se/\*sitä olen joka on käynyt Pariisissa.  
 I SE/SITÄ be-1SG who be-3SG visited Paris-INE  
 ‘It’s me who has been to Paris.’

The argument in the text therefore stands: the central expletive *sitä* can take scope over a referential subject, when that subject does not occupy Spec,IP. Thus, the best explanation of the ill-formedness of (21a–b) is that in those constructions, the null subject checks the EPP.

(23a) shows that a locative phrase can satisfy the EPP (in present terms), when the subject is postverbal. (23b) shows that this is not possible in construction with a null 1st person plural subject. The examples are selected so as to exclude analyzing the locative as having been fronted to Spec,CP. The conclusion is that the null subject in (23b) occupies the EPP position—that is, Spec,IP in the terms used here.

## 7 A Counterproposal

There is another interpretation of the facts, particularly of (21a–b), that is compatible with Hypothesis A: the subject agreement category Agr in a null subject language—in Finnish, particularly 1st and 2nd person Agr—is a referential, definite pronoun that is incorporated in I but is nevertheless capable of checking the EPP. Therefore, merger of an expletive is precluded in (21), since the only function of an expletive is to check the EPP. This would accord with Alexiadou and Anagnostopoulou's (1998) and Platzack's (2003, 2004) theories of null subjects.

There are good reasons to reject this account of (21a–b). To begin with, it would wrongly exclude sentences like (19a–b), repeated here.

- (19) a. Sitä olen minäkin käynyt Pariisissa.  
 EXP be-1SG I-too visited Paris-INE  
 'I have been to Paris, too (actually).'
- b. Minä sitä olen käynyt Pariisissa.  
 I EXP be-1SG visited Paris-INE  
 'I've been to Paris (would you believe it).'/I'm the one who has been to Paris.'

If 1st person singular Agr checks the EPP, then what is the expletive doing in (19a–b)? On the other hand, if the EPP needs a category in Spec,IP, then the role of the expletive in (19a–b) is to check the EPP when the thematic subject is not checking it because it is in a focus position elsewhere.

The expletive is optional in (19a–b), in the sense that the sentences are well formed without it, even with preserved focus on the subject.

- (24) a. Olen minäkin käynyt Pariisissa.  
 be-1SG I-too visited Paris-INE  
 'I have been to Paris, too.'
- b. MINÄ olen käynyt Pariisissa.  
 I be-1SG visited Paris-INE  
 'I have been to Paris.'/I'm the one who has been to Paris.'

This suggests that Agr checks the EPP optionally. But in that case, sentences like (21a–b) are wrongly predicted to be well formed when the option not to have Agr check the EPP is taken. Instead, I claim, the difference between (24a–b) and (19a–b) is that the subject pronoun itself checks the EPP in (24a–b). This is straightforward in (24b): in the absence of an expletive, the subject merges with IP, checking the EPP on its way to Spec,CP. (24a), I propose, is derived by

merging the subject with IP, checking the EPP, and moving the auxiliary, incorporated in finite I, to C; see (16).<sup>8</sup>

Furthermore, if the only reason for subject movement to Spec,IP is the EPP (following Chomsky 2000, 2001a,b), and if Agr checks the EPP-feature of I, then a subject preceding finite I must be in an  $\bar{A}$ -position, the movement triggered by a feature in the C domain, typically a feature with information-structural import. This prediction is argued by Alexiadou and Anagnostopoulou (1998) and Platzack (2003, 2004) to be correct for the null subject languages they discuss. The prediction is incorrect for Finnish, even aside from the fact that an expletive may precede finite I in this language.<sup>9</sup>

As discussed by Vilkuna (1989, 1995), there are strictly two positions in the left periphery preceding the finite verb or auxiliary in Finnish: a contrastive position that is also the landing site for a fronted *wh*-phrase, and a position that in the unmarked case is occupied by the subject, but may be occupied by any category capable of a topic interpretation. Vilkuna (1989) terms the positions *K*, suggesting *contrast*, and *T*, suggesting *topic*. For example, (25a) (adapted from Vilkuna 1995) can only be interpreted with *Annalle* ‘to Anna’ as contrastive focus. (25b) can only be interpreted with the fronted object *kukkia* ‘flowers’ as contrastive focus and *Annalle* as topic (the postverbal subject in that case being information focus or ‘Main News’ in Vilkuna’s (1995) terms). (25c) is ill formed, having one argument too many preceding the finite verb (see Vilkuna 1995).

- (25) a. Annalle Mikko antoi kukkia.  
 Anna-ALL Mikko gave flowers  
 ‘It was to Anna that Mikko gave flowers.’  
 b. Kukkia Annalle antoi Mikko.  
 flowers Anna-ALL gave Mikko  
 ‘Flowers, Anna received from Mikko.’

<sup>8</sup> See Holmberg 2001 for a detailed account of polarity focusing in Finnish. (24a) is a possible reply to the question in (i), optionally retaining just the finite verb.

- (i) A: Oletko sinäkin käynyt Pariisissa?  
 be-2SG-Q you-too visited Paris-INE  
 ‘Have you been to Paris, too?’  
 B: Olen (minäkin käynyt Pariisissa).  
 be-1SG I-too visited Paris-INE  
 ‘Yes, I have.’

As discussed in Holmberg 2001, the reply is derived by movement of the finite verb/auxiliary to C, followed by optional IP-deletion. A corresponding deletion is impossible in (ii), as expected if it is not derived by movement of the auxiliary to C.

- (ii) Sitä olen \*(minäkin käynyt Pariisissa).

<sup>9</sup> The correctness of the prediction has been questioned for Spanish (Suñer 2003) and for European Portuguese (Costa and Duarte 2002). See also Cardinaletti 2004.

- c. \*Kukkia Annalle Mikko antoi.<sup>10</sup>  
flowers Anna-ALL Mikko gave

It does not matter whether the arguments are pronouns or lexical NPs; the information-structural interpretation is the same. Vilkuna (1989, 1995) and also Holmberg and Nikanne (2002) assume that a preverbal argument that is not contrastive is always a topic, in terms of information structure. This cannot be right, since the subject can be for instance an indeterminate pronoun, not a possible topic; see (26) (the negation is a finite auxiliary in Finnish). It still holds true that only one constituent can precede the subject, and it must be contrastive (or a *whP*).

- (26) a. Annalle kukaan ei antaisi kukkia.  
Anna-ALL anybody not-3SG give-CON flowers  
'Nobody would give flowers to ANNA.'  
b. \*Annalle kukkia kukaan ei antaisi.

The generalization can be stated as follows:

- (27) The finite verb or auxiliary (including the negation) can be preceded by at most two sentence constituents: the one closest to the finite verb or auxiliary checks the EPP, the other is contrastive (or a *whP*).

If 1st and 2nd person Agr check the EPP in Finnish, the prediction is that an overt pronoun preceding Agr should have a contrastive interpretation.

- (28) Minä olen käynyt Pariisissa.  
I be-1SG visited Paris-INE  
'I have been to Paris.'

The prediction is false. The initial pronoun can, but certainly need not, occupy the Spec,CP contrast position. Thus, it can be preceded by a contrastive category, and it can be the subject of a conditional clause.

- (29) a. Pariisissa minä olen käynyt (mutten Roomassa).<sup>11</sup>  
Paris-INE I be-1SG visited but-not Rome-INE  
'I've been to PARIS (but not Rome).'

<sup>10</sup> Matters are complicated by the fact that an object or adverbial may scramble to preverbal position when (a) the sentence is introduced by a focused category, and (b) the object or adverbial is not Main News. If the focused category is then not the subject, the result will be a sentence with three or more categories preceding finite I. Thus, for instance, (i) is well formed.

- (i) Kukkia Mikko Annalle antoi.  
flowers Mikko Anna-ALL gave  
'It was flowers that Mikko gave to Anna.'

See Vilkuna 1995 and Holmberg 2001. In the latter article, I argue that the finite verb is, in fact, preceded by only two constituents even in this case: the category checking the EPP is a remnant VP containing the subject and (in this case) the indirect object.

<sup>11</sup> The subject can be null in (29a). As predicted, the fronted locative is then necessarily contrastive and cannot be embedded in a conditional sentence; see (i) and (ii) on page 548.

- b. Jos minä olisin käynyt Pariisissa, . . .  
 if I be-CON-1SG visited Paris-INE  
 ‘If I had been to Paris, . . .’

We may conclude that a finite 1st or 2nd person verb or auxiliary in Finnish does not check the EPP. Instead, it takes a category merged with IP to check the EPP, either by movement or by merging an expletive. In the Finnish null subject construction, therefore, there is a null subject pronoun in Spec,IP. Following the Chomskyan approach to agreement, the null pronoun has interpretable  $\phi$ -features and assigns values to the inherently unvalued features of Agr. In other words, the null subject pronoun identifies Agr (i.e., the finite verb or auxiliary agrees with the null pronoun), not vice versa.

In the rest of the article, I will argue for a typology of null subjects. In sections 8 and 9, I will present the basic properties of the Finnish generic null subject and the Finnish null bound subject, respectively. I will show that, while both are syntactically projected, they occupy different structural positions. In section 10, I will deal with null subjects in consistent null subject languages such as Spanish; in section 11, with non-null subject languages; and in section 12, with null subjects in Agr-less languages such as Japanese.

## 8 The Null Generic Pronoun in Partial Null Subject Languages

As mentioned, Finnish has a null generic pronoun.

- (30) a. Tässä istuu mukavasti.  
 here sit-3SG comfortably  
 ‘One can sit comfortably here.’  
 b. Opettajana odottaisi vähän kunnioitusta.  
 teacher-ESS expect-CON-3SG some respect  
 ‘As a teacher one would expect a bit of respect.’  
 (Laitinen 1995)

Unlike definite null pronouns, the generic null pronoun does not count for the EPP. Consequently, fronting of the locative in (30a) and the essive adjunct in (30b) is compulsory, required to check the EPP. Alternatively, the expletive *sitä* can be merged to check the EPP. The corresponding sentences in (30) and (31) are synonymous.

- (31) a. Sitä istuu mukavasti tässä.  
 EXP sit-3SG comfortably here

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(i) Pariisissa olen käynyt (mutten Roomassa).  
 Paris-INE be-1SG visited but-not Rome-INE  
 \*‘I have been to PARIS, but not Rome.’

(ii) \*Jos Pariisissa olisin käynyt, . . .  
 if Paris-INE be-CON-1SG visited

- b. Sitä odottaisi opettajana vähän kunnioitusta.  
 EXP expect-CON-3SG teacher-ESS some respect

This suggests that the generic subject might not be syntactically projected. However, scholars who have investigated the Finnish generic subject construction, including Hakulinen and Karttunen (1973), Vainikka (1989), Laitinen (1995), Vainikka and Levy (1999), and myself (Holmberg, to appear), agree that it contains a syntactically represented subject. One often-mentioned piece of evidence is that it can be the antecedent of an anaphor.

- (32) Shelliasemalla voi pestä autonsa.  
 Shell-station-ADE can-3SG wash car-POSS.RFL  
 'You can wash your car at the Shell station.'

The Finnish possessive reflexive is a Principle A anaphor (see Kanerva 1987, Vainikka 1989, Trosterud 1993). In (34), its antecedent is apparently the generic null subject.

Important in this connection is the insight, first discussed by Vainikka (1989), that the 3rd person singular value of the finite verb/auxiliary in the examples above is not default 3rd person singular, but is assigned by a nominative subject. The evidence is that the object in, for example, (33) is assigned accusative Case, marked by *-n* in the singular.

- (33) Täällä voi ostaa auton/\*auto.  
 here can-3SG buy car-ACC/car-NOM  
 'You can buy a car here.'

Simplifying somewhat, the rule in Finnish is that the object of a transitive verb gets assigned accusative if and only if the first finite clause dominating the object has a subject with which the finite verb or auxiliary agrees, which is to say the subject must have nominative Case (see Timberlake 1975, Maling 1993, Reime 1993, Nelson 1998, Kiparsky 2001).<sup>12</sup> In (34), the subject is assigned genitive, a lexical Case assigned by necessary verbs to their subject (see Laitinen and Vilkkuna 1993). Consequently, the verb does not agree with the subject, but has default 3rd person singular form, and consequently the object of the main verb has nominative Case.<sup>13</sup>

<sup>12</sup> As one reviewer notes, this looks like a special case of Burzio's Generalization. Its relation to Burzio's Generalization is, in fact, rather complicated, as discussed in particular by Nelson (1998). One complication is that the subject assigning values to Agr and the object assigned accusative may be in different clauses, as long as no finite clause-boundary separates them. Compare (i) and (ii). The object of the embedded clause is accusative in (i) because the main clause contains Agr agreeing with a nominative subject, while it is nominative in (ii) because the main clause does not contain an agreeing Agr.

- (i) Minä menin Saksaan ostamaan auton/\*auto.  
 I went-1SG Germany-ILL buy-INF car-ACC/car-NOM  
 'I went to Germany to buy a car.'
- (ii) Minun täytyy mennä Saksaan ostamaan auto/\*auton.  
 I-GEN must go Germany-ILL buy-INF car-NOM/car-ACC  
 'I must go to Germany to buy a car.'

<sup>13</sup> Crucial evidence that presence of a nominative subject alone is not a sufficient condition for accusative Case, in the absence of an agreeing Agr, is provided by (i) on page 550.

- (34) Meidän täytyy ostaa \*auton/auto.  
 we-GEN must-3SG buy car-ACC/car-NOM  
 ‘We must buy a car.’

Now consider (35a–b).

- (35) a. Täällä voi ostaa auton/\*auto.  
 here can-3SG buy car-ACC/car-NOM  
 ‘One can buy a car here.’  
 b. Nyt täytyy ostaa auto/\*auton.  
 now must-3SG buy car-NOM/car-ACC  
 ‘One must buy a car now.’

In (35a), the object has accusative Case, which presupposes that the sentence contains a nominative subject assigning values to Agr. This will be the case if the sentence contains a null generic subject pronoun assigned nominative by T. In (35b), the object has nominative Case, which presupposes that the sentence does not contain a nominative subject assigning values to Agr. This will be the case if the sentence contains a null generic pronoun to which the necessary verb assigns genitive Case. The 3rd person singular form of the verb *täytyy* is the default finite indicative form.

Alternative accounts may be considered. One, compatible with Hypothesis A, is that 3rd person singular Agr is an interpretable incorporated pronoun, which in Finnish is not a referential but a generic pronoun (or an impersonal pronoun interpretable as generic). If so, there is no null generic pronoun. But this theory will have a problem accounting for the facts in (35a–b). Within that theory, it would appear, there is no interpretable 3rd person singular Agr in I in a case like (34), as there is no agreement (the verb just has its default finite form). But in that case there is no subject at all in (35b), which ought to cause a  $\theta$ -Criterion violation, and which is also contradicted by the observation that the object may be an anaphor.

- (36) Nyt täytyy pestä autonsa.  
 now must wash car-POSS.RFL  
 ‘One must wash one’s car now.’

See Holmberg, to appear, for more arguments against this alternative theory.

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(i) Me voidaan ostaa auto/\*auton.  
 we-NOM can-PASS buy car-NOM/car-ACC  
 ‘We can buy a car.’

In colloquial Finnish, a 1st person plural active meaning is normally rendered by the passive/impersonal form of the verb in construction with a 1st person plural nominative pronoun. The passive/impersonal verb is inflected for tense and mood but not for agreement. As shown in (i), the object has nominative, not accusative, Case (see Timberlake 1975, Reime 1993).

### 9 The Null Bound Third Person Pronoun

Why does the null generic subject not check the EPP? The fact that it is an impersonal, indefinite category, similar to although not synonymous with the quantifier *anyone*, is not a sufficient explanation, since, as mentioned in section 7, any subject, whatever its semantic properties, can check the EPP.

In this connection, consider (37), first observed by Hakulinen (1976), also discussed by Vainikka and Levy (1999:648).

- (37) a. Oppilas tietää ettei pysty ratkaisemaan tehtävää.  
 student knows that-not can solve assignment  
 'The student knows that he can't solve the assignment.'  
 b. Oppilas tietää ettei tehtävää pysty ratkaisemaan.  
 student knows that-not assignment can solve  
 'The student knows that the assignment can't be solved.'

Recall that, although Finnish does not have a null definite 3rd person subject in main clauses, it does in embedded (finite) clauses if the null subject is bound by an argument in the next clause up (where, as discussed in section 4, the precise structural conditions on the binding relation are less strict than is usually taken to be characteristic of binding, yet stricter than the conditions required for pronominal coreference).<sup>14</sup> The bound reading of the null subject requires, however, that no argumental category such as an object or a locative adverbial precede the embedded finite verb/auxiliary. If that is the case, the only possible reading is that the subject of the embedded clause is generic.<sup>15</sup>

<sup>14</sup> A possibility worth considering is that the embedded null pronoun is logophoric, as seems most natural when its antecedent is someone "whose speech, thoughts, feelings or general state of consciousness is reported" (Clements 1975) in the embedded clause, as is characteristic of logophoric pronouns; see Sells 1987.

- (i) Jarille selvisi ettei (hän) saisi ikinä palkintoa.  
 Jari-ALL became-clear that-not he get-CON ever prize  
 'It became clear to Jari that he wouldn't ever get a prize.'  
 (ii) Kirjasta selvisi ettei \*(se) saisi ikinä palkintoa.  
 book-ELA became-clear that-not it get-CON ever prize  
 'It was clear from the book that it wouldn't ever get a prize.'

They are structurally very similar, but in (ii) the embedded clause does not report the thoughts of the antecedent of the embedded subject, and a null subject is completely impossible. However, the null bound pronoun is also found in contexts that are not conducive to logophoricity, such as factive complements.

- (iii) Tarja unohti että (hän) oli jo käynyt kellarissa.  
 Tarja forgot that she was already been cellar-INE  
 'Tarja forgot that she had already been in the cellar.'  
 (iv) Se oli Jariin oma vika että (hän) sai potkut.  
 it was Jari-GEN own fault that he got kicks  
 'It was Jari's own fault that he was sacked.'

<sup>15</sup> The facts are the same if the argument in the higher clause is quantified: preposing an object or adverbial precludes binding of an embedded subject, leaving the generic reading as the only alternative. Thus, (i) can only mean 'Every student knows that the assignment can't be solved', not 'Every student knows that he can't solve the assignment'.

- (i) Jokainen oppilas tietää ettei tehtävää pysty ratkaisemaan.  
 every student knows that-not assignment can solve

I propose that the bound null pronoun and the generic null pronoun are the same category. I propose, furthermore, that it is a  $\phi$ P. Since it values Agr, as shown in the preceding section, it must have inherently valued (hence interpretable)  $\phi$ -features. Crucially, though, it lacks the substructure required for a definite, referential category. In the spirit of Longobardi 1994, I take the lacking property to be the head D, in the absence of which the pronoun cannot refer to an individual or group, either independently/deictically or under coreference with an independently referring DP. However, it can be a variable bound by a QP or a DP in a higher clause. As a last resort, it can be interpreted as generic.

The label  $\phi$ P for a subcategory of pronouns comes from Déchaine and Wiltschko (2002), who propose a typology whereby pronouns are either DPs,  $\phi$ Ps, or NPs.<sup>16</sup> Their  $\phi$ P is similar to the one assumed here, but not identical. It can both support coreference and function as a bound variable. This makes, for example, the English 3rd person pronouns, and also the Finnish 3rd person *overt* pronouns,  $\phi$ Ps.<sup>17</sup> The Finnish 3rd person *null* pronoun does not, however, qualify as a  $\phi$ P in Déchaine and Wiltschko's account as it cannot support "ordinary" coreference. The  $\phi$ P assumed here has less structure than Déchaine and Wiltschko's. As will be discussed below, the missing structure (or feature) is provided by I in some languages, but not in Finnish.<sup>18</sup>

The null  $\phi$ P in Finnish is accessible for binding by a higher DP if and only if it moves to Spec,IP. If it remains in Spec,vP, it is inaccessible, and the generic interpretation is the only option. See Vainikka 1989:234–235 and Holmberg, to appear, for arguments that it does remain in Spec,vP. The reason why the  $\phi$ P is accessible when moved out of vP is clear in principle: it moves to a position closer to the root of the sentence, and therefore closer to the antecedent. The precise implementation of this idea is not so straightforward, though. Ideally, it ought to follow from phase theory (Chomsky 2000, 2001a,b): the  $\phi$ P has to move to the edge of a phase to be accessible for a DP in the next higher phase. However, no current version of phase theory takes IP (TP) to be a phase. I will leave the precise formal account for future research, confident that the generalization that the bound reading is possible only when the null  $\phi$ P subject occurs higher up in the structure can receive a satisfactory explanation in terms of a theory of locality, perhaps a version of phase theory.

Why  $\phi$ P cannot be interpreted as generic unless it stays in Spec,vP is rather less obvious. The following is a possibility. The generic interpretation is the result of an indefinite expression (the  $\phi$ P) being bound by an abstract generic operator (see Krifka et al. 1995). If the generic operator is located no higher than I, then movement of  $\phi$ P to Spec,IP or higher will move it out

<sup>16</sup> Their typology is very similar to that of Cardinaletti and Starke (1999), discussed below.

<sup>17</sup> The other criteria distinguishing a  $\phi$ P from a DP or NP in Déchaine and Wiltschko 2002 are that (a) a  $\phi$ P does not have the internal structure of either an NP or a DP, and (b) it can be a predicate as well as an argument. Criterion (a) is inapplicable to a null pronoun. Criterion (b) is also inapplicable since in order to function as a predicate, a pronoun must be focused (as in *The one who did it was HIM*), and a null pronoun cannot be focused.

<sup>18</sup> The difference between the  $\phi$ Ps assumed here and in Déchaine and Wiltschko 2002 could be that the former is a NumberP while the latter is a PersonP. However, in the absence of a theory that would explain why person rather than number is crucial for a pronoun to support coreference, I prefer to leave it open which feature it is that distinguishes the two  $\phi$ Ps.

of the c-command domain of the operator, ruling out a generic interpretation and leaving the bound interpretation as the only option. A problem for this hypothesis is that nonpronominal generic subjects are not as a rule confined to Spec,vP. Instead, as discussed by Diesing (1992), generic arguments, even when they are bare  $\phi$ Ps (bare plurals in the case of Germanic) have a syntactic distribution similar to that of definite arguments, typically occurring in higher positions than indefinite arguments. In Finnish, too, there is no indication that a nonpronominal generic subject would, in general, have to be lower than I. For example, in (38) the generic subject, on the face of it a bare noun, occupies Spec,IP, the usual subject position preceding the negation.

- (38) Tiikeri ei kiive puihin.  
 tiger not climb trees-ILL  
 'The tiger doesn't climb trees.'

It seems to be the case, then, that the null bare  $\phi$ P has other properties than overt generic arguments.

The hypothesis that the generic null subject and the bound null subject in Finnish are instances of the same category is supported by the fact that a number of other languages, unrelated to Finnish, exhibit the same array of properties. Consider first Brazilian Portuguese.<sup>19</sup>

- (39) a. Ele/\* $\emptyset$  ganhou na loto. (Brazilian Portuguese)  
 he won on-the lottery  
 b. Pedro<sub>i</sub> disse que ele<sub>i/j</sub>/ $\emptyset$ <sub>i/\*j</sub> ganhou na loto.  
 Pedro said that he won on-the lottery  
 c. Aqui não pode nadar.  
 here not can swim  
 'One can't swim here.'

(39a) exemplifies the fact that Brazilian Portuguese does not allow a 3rd person null subject in a main clause. (39b) shows that it does allow one in a finite embedded clause, when the null subject is bound by the subject in the next higher clause. (39c), finally, shows that Brazilian Portuguese has a generic null subject.

Next, consider Marathi.

- (40) a. To/\* $\emptyset$  lotteri jinkla.  
 he lottery win-PAST-3M.SG  
 'He won the lottery.'  
 b. Ram<sub>i</sub> mhanala ki to<sub>i/j</sub>/ $\emptyset$ <sub>i/\*j</sub> lotteri jinkla.  
 Ram say-PAST-3M.SG that he lottery win-PAST-3M.SG  
 'Ram said that he won the lottery.'  
 c. Hya khurchiwar aaramani bushushakto.  
 this chair-on comfort-with sit-PRES-3SG  
 'One can sit comfortably in this chair.'

<sup>19</sup> I am indebted to Michelle Sheehan and Marc Modesto for the Brazilian Portuguese data, Aarti Nayudu for the Marathi data, and Ur Shlonsky for the Hebrew data.

Again, (40a) shows that Marathi does not allow a 3rd person null subject in a main clause. (40b) shows that it does allow a null subject bound by the subject in the next clause up. (40c), finally, shows that Marathi has a generic null subject.

Finally, (41) exemplifies the same array of properties in Hebrew.

- (41) a. Hu/\* $\emptyset$  'axal 'et ha-tapu'ax.  
 he ate-3SG ACC the-apple  
 'He ate the apple.'  
 (adapted from Borer 1986)
- b. Talila<sub>i</sub> 'amra le-Itamar<sub>j</sub> še hi<sub>i</sub>/hu<sub>j</sub>/ $\emptyset$ <sub>i/j/\*k</sub> tavo.  
 Talila said to-Itamar that she/he will-come-F.SG  
 (adapted from Borer 1986)
- c. Yxolim la-ševet be-noxiout ba-kise ha-ze.  
 can-3PL to-sit in-comfort in-the-chair the-this  
 'One can sit comfortably in this chair.'

There are certain differences among these languages regarding null subjects in main clauses: for instance, Finnish and Hebrew allow 1st and 2nd person null subjects, Marathi only 2nd person null subjects, and Brazilian Portuguese none. In Hebrew, the agreement in the generic constructions is 3rd person plural, in the other languages 3rd person singular. There are also differences regarding the required structural relation between the embedded null subject and the antecedent (see Sigurðsson 1993). Nevertheless, the similarities among these partial null subject languages are more striking than the differences, when they are compared with consistent null subject languages. As discussed in Holmberg, to appear, languages that allow a definite 3rd person null subject in main as well as embedded clauses do not have a generic 3rd person null subject corresponding to English 'one'.<sup>20</sup> Instead, to express the meaning of generic 'one' they resort to some form of overt morphology, such as (cognates of) the reflexive *se* in Romance and (most varieties of) Slavic, as in the following European Portuguese example:

- (42) Aqui não se pode nadar. (European Portuguese)  
 here not SE can swim  
 'One can't swim here.'

Alternatively, they resort to generic 'you' (which may be null, but with 2nd person singular agreement on the finite verb), overt quantifiers such as 'anyone', or a variety of other strategies to avoid the use of a null, generic 3rd person pronoun. See Holmberg, to appear, for examples and discussion.

<sup>20</sup> They do have a 3rd person plural null subject corresponding to arbitrary *they* in English, as in (i).

(i) In France they eat snails.

See Cabredo Hofherr, to appear. See Holmberg, to appear, and Egerland 2003 for discussion of different types of generic/arbitrary pronouns.

The clustering of the three properties exemplified in (39)–(41) across languages is consistent with the hypothesis that the null generic pronoun and the null bound pronoun are the same category—a category that is furthermore incompatible with a definite 3rd person null subject. A formal explanation of this clustering of properties is proposed in the next section.<sup>21</sup>

## 10 The Null Subject in Consistent Null Subject Languages

Why do languages have to choose between a definite 3rd person null subject and a generic 3rd person null subject?

I propose that consistent null subject languages such as Spanish have a D-feature in I, which is lacking in Finnish and the other partial null subject languages listed in the previous section. The idea that finiteness involves a sentential D-feature recurs in various forms in recent literature; see especially Chomsky 1995:282 and Alexiadou and Anagnostopoulou 1998. I propose that the D-feature is parameterized in the following way: presence of a D-feature in I means that a null  $\phi$ P that enters into an Agree relation with I can be interpreted as definite, referring to an individual or a group. Furthermore, I assume it means that a null subject *cannot* be interpreted as generic (see Holmberg, to appear). Absence of D in I, on the other hand, means that a null  $\phi$ P subject must be either bound by a higher DP or else interpreted as generic.

In this connection, consider Cardinaletti and Starke's (1999) theory of pronouns. According to Cardinaletti and Starke, Universal Grammar provides for three types of pronouns: strong, weak, and clitic. Strong pronouns are full CPs, the pronominal equivalent of sentential CPs, which means that they have the structure required for independent reference. The property of C that makes this possible is the feature K (short for *functional Case*), which is the syntactic counterpart of a referential index ('index is the interpretation of K'; Cardinaletti and Starke 1999:190). Weak and clitic pronouns are both deficient in that they lack C, hence K. As a result, they have

<sup>21</sup> What about the putative null expletives or quasi-arguments in cases like Finnish (i) and (ii) (compare (11a–b))?

- (i) Oli hauskaa että tulit käymään.  
was nice that came-2SG visiting  
'It was nice that you came by.'
- (ii) Sataa vettä.  
rains water-PAR  
'It's raining.'

Recall that the EPP in Finnish is activated only if there is a category in IP that can check it. In (i) and (ii), there is no such category. A clause cannot check the EPP in Finnish, nor can the partitive complement in (ii) do so.

- (iii) \*[Että tulit käymään] oli hauskaa.  
(iv) \*Vettä sataa.

As mentioned in Holmberg and Nikanne 2002, (iv) is considerably improved if another predicate is added.

- (v) Vettä sataa kaatamalla.  
water rains pouring-ADE  
'It's pouring down.'

Ignoring this complication, we may conclude that I in (i) and (ii) does not have an active EPP, and therefore the constructions have no null subject. As mentioned in section 6, an overt expletive is sometimes optional in such cases, which explains the optional pronoun in (11a).

to move from their original  $\theta$ -position to the specifier of a Case-assigning head—that is,  $\text{Agr}_O$  for objects,  $\text{Agr}_S$  for subjects. Clitic pronouns have even less functional structure than weak pronouns and therefore have to undergo further movement, with adjunction to a head.<sup>22</sup> Their lack of  $K$  then explains why weak and clitic pronouns, as opposed to strong pronouns, appear to always undergo movement. Entering a specifier-head relation with  $\text{Agr}$  compensates for the lack of  $K$  in weak and clitic pronouns. Cardinaletti and Starke's theory is not couched in terms of (un)interpretable features, but the implicit assumption is that  $\text{Agr}$  is interpretable, providing the deficient pronouns with the  $K$ -feature required for (co)referential interpretation.

Furthermore, and importantly for the present theory, Cardinaletti and Starke argue convincingly that null arguments are weak pronouns.

I will modify their theory slightly. Focusing on subject pronouns,  $\text{Agr}$ , the set of  $\phi$ -features realized as subject agreement, is not the category that compensates for the lack of  $K$  in deficient pronouns, assigning them referential capacity. It cannot be, if  $\text{Agr}$  is uninterpretable and assigned its values by a nominal argument, be it a (pronominal) CP or a deficient pronoun. Instead, the crucial feature is a feature independent of  $\text{Agr}$  that some languages but not others have, coexisting with  $\text{Agr}$  as a component of  $I$ . Remaining agnostic regarding the precise functional structure of nominal arguments, and the relation of Case to referentiality, I will continue to use the more traditional label  $D$  for the feature that distinguishes arguments inherently capable of reference from referentially deficient arguments.

Consistent null subject languages such as Spanish, European Portuguese, Greek, and Turkish have a  $D$ -feature in  $I$ . A definite null subject is a  $\phi P$ , a deficient pronoun that receives the ability to refer to an individual or a group from  $I$  containing  $D$ .

We may assume that the relation between  $\phi P$  and  $D$  is an Agree relation:  $\phi P$  has a feature  $[\text{uD}]$  (unvalued  $D$ ) that is valued either by merging  $D$  with  $\phi P$ , which yields  $[\text{DP } D \phi P]$ , or by merging  $D$  as a component of  $I$  in a local  $c$ -commanding relation to  $\phi P$  merged with  $vP$  (where  $\phi P$  usually ends up remerged with  $IP$ ). If  $\phi P$  with its  $[\text{uD}]$  feature is not locally  $c$ -commanded by  $D$ , it can still be licit if it is bound by a  $DP$  (subject to parametric variation), or interpreted as generic. Valuing  $[\text{uD}]$  precludes a generic interpretation of the null subject. Therefore, consistent null subject languages have to resort to a variety of ‘‘overt strategies’’ to express the meaning of a generic subject pronoun (see Holmberg, to appear).<sup>23</sup>

<sup>22</sup> The distinction between strong and deficient pronouns in Cardinaletti and Starke 1999 appears almost identical to that between  $DP$  and  $\phi P$  in Déchaine and Wiltschko 2002. But Déchaine and Wiltschko's NP pronoun type is not necessarily a clitic.

<sup>23</sup> Two observations are in order here. First, an interesting possibility is that Finnish and the other partial null subject languages have a counterpart to  $D$  in  $I$  that functions as a generic operator binding the null  $\phi P$ . This could explain why the generic null pronoun must remain  $c$ -commanded by  $I$ .

Second, since  $K$  in the form of  $\text{Agr}$  in Cardinaletti and Starke's (1999) account licenses not just null pronouns but weak pronouns in general, their theory would seem to predict that partial null subject languages should lack not just null weak pronouns, but overt weak pronouns as well. More research is needed to establish whether the prediction is right. It could be noted that none of the partial null subject languages discussed in Holmberg, to appear, have sentential clitic pronouns (the other type of deficient pronoun discussed in Cardinaletti and Starke 1999).

Where does this leave 1st and 2nd person null subjects in Finnish? As they assign person and number feature values to Agr, they must encode person and number. As they are interpreted as definite, and the definiteness cannot be ascribed to a feature in I, since Finnish, by hypothesis, lacks such a feature, they must be DPs. We are led to conclude that the 1st and 2nd person null subjects are fully specified DP pronouns that are deleted, presumably by essentially the same process that applies in other well-known cases of ellipsis, such as VP-ellipsis and NP-ellipsis. Recoverability is ensured by the agreement marking on I.

If this is correct, there are two types of definite null subjects. One is an inherently null deficient pronoun that must enter an Agree relation with I containing D to be interpreted as a definite argument (lacking descriptive content, it will still usually be dependent on an antecedent to have its reference fixed). It can also be interpreted as a bound variable pronoun. In the absence of D in I, it can still be interpreted as a bound pronoun, or, in the absence of a binder, as a generic pronoun. The other type is a fully specified DP that is deleted.

In Spanish (Greek, Turkish, etc.), all null subjects are of the former, deficient type, while in Finnish, only 3rd person null subjects are; 1st and 2nd person null subjects are fully specified DPs.

### 11 Non-Null Subject Languages

We can distinguish three types of languages:

- (43) A. Consistent null subject languages
- B. Partial null subject languages
- C. Non-null subject languages

The difference between languages A and B is that languages A have a D-feature in I, absent in languages B. What about languages C? Since, like languages B, they do not allow deletion of referential 3rd person subjects, we should conclude that they, too, lack a D-feature in I. However, the prohibition against deleting referential 3rd person subjects seems to be but a special case of a more general condition prohibiting null subjects under almost any circumstances in these languages. In (44a), for example, the conditions seem right for deleting the embedded subject, as it has an antecedent in the next clause up, and furthermore the embedded I has the right features; yet a null subject here is sharply ungrammatical. In (44b), the subject is generic, yet it cannot be null.

- (44) a. Vous pensez [que \*(vous) parlez bien anglais]. (French)  
           you-PL think-2PL that you-PL speak-2PL well English  
           ‘You think that you speak English well.’
- b. These days \*(one) doesn’t ever need cash except on the bus.

Why are (44a–b) ungrammatical? A simple answer is that these languages have a stricter, ‘‘phonological’’ EPP condition that requires not only a filled Spec,IP, but also a pronounced Spec,IP. Various objections can be raised against this hypothesis. For one thing, null subjects actually do occur in these languages, although under more restricted circumstances than in, for example,

Finnish. A well-known case, found in many non–null subject languages, is the 1st person singular null subject typical of personal letters and diaries (see Haegeman 1990), but also not infrequently heard in spoken language.

(45) Can't tell you how happy I am to see you.

Another case is ‘conjunction reduction.’

(46) John witnessed the accident, but (he) doesn't want to talk about it.

That this may be correctly regarded as a case of a null subject (rather than, say, coordination of constituents smaller than IP) is suggested by the observation that there are non–null subject languages that do not allow subject-drop even in this context; see Schmidt, Odden, and Holmberg 2002:13 for an example.

I will leave the proper account of non–null subject languages in this unresolved state. See Holmberg 2003 for a discussion of Swedish.

## 12 Discourse Pro-Drop

A well-known division among null subject languages is between those that rely on rich agreement and those that have no agreement but rely exclusively on the wider discourse context for recovering the null subject's features. Examples of the latter type are Chinese, Japanese, Korean, Malayalam, and Thai.<sup>24</sup>

- (47) a. Nǚhái líkāi-le, yīnwéi [*e*] lèi-le. (Mandarin Chinese)  
 girl leave-ASP because tire-ASP  
 ‘The girl(s) left, because she was (they were) tired.’  
 b. [*e*] méi chī zǎofān.  
 no eat breakfast  
 ‘(I/You/He/etc.) have not had breakfast.’

I have argued that languages with subject agreement (Agr) cannot have a pro subject of the classical type—that is, a nominal category inherently unspecified for number, person, and gender/class. Those languages need a specified subject to assign values to Agr. The Agr-less languages do not have that problem and may, on that account, have a subject that is inherently unspecified. As long as the subject has features sufficient to support a  $\theta$ -role and a Case, and possibly check the EPP (insofar as the EPP is active in the language and some other category does not check it), it meets the needs of narrow syntax.

That is to say, pro exists, but (somewhat paradoxically, given the traditional view of pro) only in languages that do not have agreement. In a way, this echoes Rizzi's (1986) suggestion that discourse pro-drop languages like Chinese and Japanese are exempted from the licensing

<sup>24</sup> Thanks to Nianling Yang for the Chinese examples.

and identification conditions he proposed because their grammar does not employ  $\phi$ -features at all. I do not need to make a claim as strong as that; instead, the crucial property of those languages would be that they have no *unvalued*  $\phi$ -features.<sup>25</sup>

Another property that seems to be shared by the Agr-less discourse pro-drop languages is that they allow bare N arguments (see Tomioka 2003, Jayaseelan 1999). Tomioka (2003) argues that null arguments in Japanese are (or at least can be) bare Ns. Since pro is by definition a bare N, a minimally specified nominal category, Tomioka's arguments can be taken to support the claim that null arguments in Japanese are instances of pro.<sup>26</sup>

### 13 Conclusions and Some Residual Issues

The starting point was the incompatibility of the classical theory of pro, according to which pro is inherently unvalued and assigned feature values by Agr, with the feature theory of Chomsky 2000, 2001a,b, in which Agr is inherently unvalued and assigned feature values by the subject. Taking the latter to be right, I formulated two competing hypotheses:

#### *Hypothesis A*

There is no pro in null subject constructions. Instead, Agr (the  $\phi$ -features of I) is itself an interpretable category—a referential, definite pronoun phonologically expressed as an affix.

#### *Hypothesis B*

There is a null subject in Spec,IP in null subject constructions. The null subject is specified for interpretable  $\phi$ -features and values the uninterpretable features of Agr just as any other subject does.

The discussion showed that Hypothesis B is right, at least in the case of definite and bound null subjects in Finnish: in definite or bound null subject constructions, a pronominal subject checks the EPP and thereby excludes merger of an expletive, or movement of another category to Spec,IP for EPP reasons. The answer to the title question is thus that there is a proper null subject in Spec,IP in finite null subject sentences in Finnish. However, it is not pro as defined in Chomsky 1982 or Rizzi 1986; instead, it is either a null pronoun that is specified for  $\phi$ -features but lacks D (the 3rd person null subject), or a fully specified pronoun with D, which is deleted in the phonology (the 1st and 2nd person null subjects).

<sup>25</sup> Compare also Huang's (1984, 1989) theory, according to which only Agr-less languages allow a null subject in a finite clause to be controlled from a higher clause. Finnish and other partial null subject languages are obvious counterexamples to this generalization, though. There are also well-known counterexamples to the generalization that Agr-less languages allow discourse pro-drop. The Mainland Scandinavian languages, for example, have no subject-verb agreement, yet do not allow discourse pro-drop (with exceptions noted in section 11). In present terms, the question is, why do Danish, Norwegian, and Swedish not allow a pro subject, identified by a discourse antecedent, like Japanese, Korean, and so on? The simple answer (possibly simplistic, given the exceptions mentioned) is that Danish, Norwegian, and Swedish have a phonological EPP condition that rules out any kind of null subject.

<sup>26</sup> See also Kim 1999. Kim reaches essentially the same conclusion, aside from terminology, on the basis of other facts.

In Finnish, the null  $\phi$ P pronoun must either be bound by a QP or a DP in the matrix clause or else be interpreted as generic. In the former case, it must occupy Spec,IP; in the latter case, Spec,vP. It cannot be interpreted as definite. This cluster of properties is found in a number of otherwise unrelated languages, called partial null subject languages. These languages are distinguished from consistent null subject languages (Spanish, Greek, Turkish, etc.) in that they lack a D-feature in I. Presence of D in I means that a D-less subject pronoun can be interpreted as definite. Absence of D in I means it must be bound or interpreted as generic.

Where does this leave the correlation between rich agreement and null subjects, which undoubtedly exists, although there are counterexamples both ways (see Cole 2000, Huang 2000)? Clearly, in cases like (1) or (5) the subject's feature values are identified by virtue of the agreement on the finite verb. However, this identification is due not to a rule or condition of (narrow) syntax, as in Rizzi 1986 and related work, but to sentence processing. Narrow syntax is oblivious to whether pronouns or inflectional affixes do or do not end up being pronounced. Sentence processing, by contrast, is obviously highly dependent on phonological features: if the subject is null, and the agreement on the finite verb is also null or not sufficiently distinct, then recovery of the subject's features will fail, or will have to rely on information from the discourse.

How are the null subjects discussed above related to PRO, the null subject of nonfinite clauses? With respect to obligatorily controlled PRO, there is an ongoing debate whether it is derived by movement (see Hornstein 1999, 2000, 2003, Landau 2003, Boeckx and Hornstein 2004). If it is, obligatorily controlled PRO is not a null pronoun but a copy. However, nonobligatorily controlled (NOC) PRO, as in (48), for example, is a null pronoun (see Hornstein 1999, 2000, 2003).

(48) John thinks that [PRO shaving himself] is important.

As nonfinite clauses generally do not have Agr in I, PRO may, on that account, be a bare N, like pro in discourse pro-drop languages. Alternatively, if bare N arguments are not tolerated outside the discourse pro-drop languages even in the form of pro, then PRO may be a null  $\phi$ P. In that case, and since nonfinite clauses do not have a D-feature in I, we expect PRO to have properties similar to those of the null 3rd person subject in Finnish. This seems, indeed, to be the case. NOC PRO is interpreted as bound if there is a suitable DP binder. If there is none, it is interpreted as generic. The structural conditions on the binding relation are broadly similar to the ones that obtain for the null 3rd person subject in finite clauses in Finnish in that c-command is not a requirement (cf. (49a) and (9c), repeated here as (50a)), but the structural relation is not unrestricted, either (cf. (49b) and (9f), repeated here as (50b)). In (49–b), the bound reading is forced by the reflexive; hence, (49b) is ill formed. Without the reflexive, the generic reading of PRO is available.

- (49) a. To John's disappointment, [PRO shaving himself] was impossible.  
 b. \*John's mother thinks that [PRO shaving himself] is important.

(50) a. Se oli Tarjalle<sub>i</sub> pettymys [ettei hän<sub>i/j</sub>/Ø<sub>i/\*j</sub> saanut lukea latinaa koulussa].  
 it was Tarja-ALL disappointment that-not she could study Latin school-INE  
 'It was a disappointment for Tarja that she couldn't study Latin at school.'

- b. Se oli Tarjan<sub>i</sub> äidille<sub>j</sub> pettymys [ettei hän<sub>i,j</sub>/Ø<sub>\*i/j</sub> saanut lukea  
it was Tarja-GEN mother-ALL disappointment that-not she could study  
latinaa koulussa].  
Latin school-INE  
'It was a disappointment to Tarja's mother that she could not study Latin at school.'

A more detailed comparison of the conditions on the bound reading of the Finnish 3rd person null subject and that of PRO is left for future research.

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