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Chapter 2 Null Subject Parameters

Anders Holmberg

1. Introduction: Rizzi's (1982) null subject parameters

The Null Subject Parameter (NSP) is often talked about in the singular, even though it is widely recognized that null subjects can be derived in more than one way, and that, therefore, more than one parameter is involved determining whether subject pronouns can be null or not in a given language. In fact, the earliest formulation of the NSP, that in Rizzi (1982: 142), acknowledged two parameters.

- (1) a. INFL can be specified [+pronoun].
- b. INFL which is [+pronoun] can be referential.

Parameter (1a) is meant to distinguish between null-subject languages (NSLs) and non-null-subject languages (non-NSLs), while (1b) distinguishes between those NSLs which allow all kinds of null-subjects, referential and non-referential, and those which only allow non-referential ones. Other formulations have been proposed over the years (see Huang 2000 for an overview), the most influential one being Rizzi's own reformulation in Rizzi (1986). In the present paper I will argue that the 'original NSP' (1) was not so far off the mark.

I will argue that a version of (1b) distinguishes what I shall call *consistent NSLs* from other languages. The crucial notion is not referentiality, though, but definiteness: There is a parameter, a version of (1b), which distinguishes languages that allow definite null subjects (null 'he/she'), as in (3), from all other languages.

(2) Verrà. [Italian]

come-FUT-3SG

‘He will come.’

Among the other language there are those which allow indefinite null subjects (null ‘one’) and expletive null subjects (null ‘it’), for example Brazilian Portuguese and Finnish, and those which do not allow null subjects at all, for example Swedish and English. The former make up the class of *partial NSLs* (on which see in particular Holmberg and Sheehan (Chapter 3)), the latter the class of non-NSLs. I will show that a version of Rizzi’s (1982) parameter (1a) is involved in distinguishing among languages of these two types. However, this is not sufficient to account for all the variation found. There are other parameters affecting the spell-out of subject pronouns that complicate the picture. This will be demonstrated in part by means of a comparison of Icelandic, a partial NSL, and Mainland Scandinavian, a non-NSL. One of the additional parameters is an independent parameter which triggers obligatory pronunciation of specTP in some languages, that is the non-NSLs. It is also not the case that consistent NSLs would allow all kinds of null subjects allowed in partial NSLs. There is a type of null subject which is consistently absent from consistent NSLs in active, finite clauses, namely, null generic pronouns. This means that the relation between the null-subject parameters is not quite as proposed in Rizzi (1982).

One of the theses argued for in this paper is that there are two ways to derive null subjects: One is by means of incorporation of a subject pronoun in T. In this case the null subject is a deleted copy in a chain headed by T. Definite null subjects can be derived in this way in consistent NSLs only. The other is by deletion of a pronoun in specTP, subject to control from a higher clause. This is the only way that definite null subjects can be derived in partial NSLs.

The idea that null subjects are derived by incorporation is familiar from the literature (Fassi Fehri 1993, Platzack 2004). In this paper the mechanism will be in part different from that found in these references. Applying Roberts's (2007) theory of pronominal clitics to null subjects, it will be a direct result of Agree, involving no movement.

2. Null subjects not taken up

There are other varieties of null subjects that I will not deal with in this paper. One is found in replies to yes/no questions in those many languages where an affirmative reply to a yes/no-question typically consists of just the finite verb of the question. (4a) is an example from Finnish, (4b) from Marathi.

(3) a. – Luki-ko Tarja sen kirjan?
read-Q Tarja that book
'Did Tarja read that book?'

b. – Luki.
read
'Yes.'

(4) a. – Tara-ni pustak vaache-li? [Marathi]
Tara-ERG book read-Q
'Did Tara read the book?'

b. – ho, vaache.
yes read
'Yes.'

As discussed in Holmberg (2001, 2007) these expressions are derived by movement of the finite verb (more precisely, a remnant verb-headed projection) to the C-domain with ellipsis of the entire IP containing the subject, object, and other sentential constituents (see also Holmberg, Nayudu, & Sheehan, to appear). One piece of evidence is that the object must be deleted along with the subject, which would be quite unexpected if they are deleted by separate operations, but expected if the subject and object are deleted along with IP.

(5) a. -- *Luki sen.

read it

b. *– ho, tila vaache.

yes it read

The parameters in (1) are thus not implicated at all in this construction. Another, related apparent null-subject construction is exemplified in (5), from Swedish, a notorious non-NSL.

(6) -- Vad gör Johan?

what does Johan

‘What’s Johan doing?’

-- Sover.

sleeps

As discussed in Holmberg (2003), the subjectless reply is derived by VP-fronting to the CP-domain, with deletion of IP; the syntactic structure of the elliptical reply in (6) is roughly the

structure of ‘Sleep (is what Johan is doing)’. Again, the null subject parameters in (1) are not involved.

I will also not deal with overtly subjectless, elliptical root clauses found in certain registers in many languages which do not in general allow pro-drop, including English. One particularly well-studied case is that of diary-drop, where a first person subject pronoun is omitted in a narrative style typical of diaries and personal letters (Haegeman 1990, 1999, 2000). Another one is expletive drop (as in *Can’t be many players like that*). These are, I assume, derived by a mechanism different from the one which derives null subjects in consistent and partial NSLs. A characteristic property of null-subjects derived by diary-drop or expletive drop which sets them off from the classical null subjects in NSL-languages, is that they have to be strictly sentence-initial (**I think that can’t be many players like that.*), suggesting that they are derived by a highly constrained special deletion rule.¹

3. Consistent and partial NSLs: the facts

Impressionistically speaking, null subjects are used more in consistent NSLs than in partial NSLs. There are contexts where null subjects are optional in partial NSLs but obligatory in consistent NSLs, and contexts where they are excluded in partial NSLs but allowed in consistent NSLs. The following is an illustration: Consider (7), where John is talking about himself, as indicated by the indexing.

(7) John₁ said that he₁ wanted to buy a car.

a. Johan₁ sa att *(han₁) ville köpa en bil. [Swedish]

John said that he wanted buy a car

- b. Gianni₁ dice che (*lui₁) vuole comprare una macchina. [Italian]
 Gianni says that he wants buy a car
- c. Ram₁ mhanala ki (tyani₁) ghar ghetla [Marathi]
 Ram said that he house bought
 ‘Ram said that he bought a house’.

In a non-NSL such as English, Swedish, French, etc. the pronoun has to be overt. In a consistent NSL such as Arabic, Greek, Spanish, Turkish, Italian, etc., the pronoun has to be null, assuming for the sake of argument that there is no contrast or topic-shift involved. In partial NSLs, such as Brazilian Portuguese, Finnish, or Marathi, the pronoun can optionally be null.

Now imagine a context where another person, call him Bill, is being discussed. One of the interlocutors utters (8) as a contribution to the discussion, where the embedded pronoun refers to Bill, as indicated by the index 2.

(8) John₁ said that he₂ bought a house.

In a non-null subject language such as English the pronoun obviously has to be overt. In a consistent null-subject language the pronoun would still typically be null, assuming no contrast or topic-shift. In our partial null-subject languages the pronoun has to be overt in this case. The following is an illustration of this difference, contrasting Finnish, a partial NSL, and Italian, a consistent NSL.

(9) Finnish:

- a. Juha₁ei ole sanonut mitään, mutta Pauli₂ sanoo että *Ø₁ haluaa ostaa

uuden auton.

‘Juha₁ hasn’t said anything, but Pauli₂ says that he₁ wants to buy a new house.’

Italian:

- b. Gianni₁ non ha detto niente, ma Paolo₂ ha detto che Ø₁ vuole comprare una macchina nuova.

‘Gianni₁ hasn’t said anything, but Paolo₂ says that he_{1/2} wants to buy a new house.’

The problem in (9a) is that the intended antecedent *Juha* does not c-command the null subject. The only possible antecedent of the null subject is the c-commanding DP *Pauli*. In Italian c-command is not a requirement, as long as the antecedent is a topic (as will be discussed in section 5.1 below).

This is true only so long as we consider definite null subjects. For indefinite null subjects the situation is, in a sense, reversed: They are common in partial NSLs, but found under more restricted conditions in non-NSLs. In particular, what we do not find in any consistent NSL is a null 3rd person singular indefinite subject, a null ‘one’, in an active finite clause. I illustrate this here by contrasting European Portuguese (EP), a consistent NSL, with Brazilian Portuguese (BP), a partial NSL.

- (10) a. É assim que faz o doce. [BP]

is thus that makes the sweet

‘This is how one makes the dessert.’

- b. É assim que se faz o doce. [EP]

is thus that SE makes the sweet

‘This is how one makes the dessert.’

In BP the subject corresponding to the English generic pronoun ‘one’ is null. In EP the overt pronoun *se* must be present.

It is important to make a distinction here between generic inclusive and generic exclusive reading. Characteristic of the generic inclusive reading is that it denotes people in general including the speaker and the addressee. This is the reading of the English impersonal pronoun *one* (see Moltmann 2006) and typically also of generic *you*, the 2nd person singular pronoun used as a generic pronoun, common in many languages. Characteristic of the generic exclusive reading is that it denotes people in general in some domain which does not include the speaker or addressee. This reading is typically expressed by generic *they* in English (as in *They speak many different languages in India*). Consistent NSLs can express generic exclusive reading with a null 3PL subject (null ‘they’), but seem to always resort to other strategies than a null 3SG pronoun to express inclusive generic reading for the subject of a finite clause, typically an overt pronoun, a null 2nd person pronoun (null ‘you’), or some form of passive with a null subject; See Holmberg (Chapter 5).² The following is another example of the null generic pronoun in Finnish and two Indo-Aryan languages, Marathi and Assamese (thanks to Modhumita Bora; CLS = classifier); See Holmberg (Chapter 5) for detailed discussion of the generic subject pronoun.

(11)a. Tässä tuolissa istuu mukavasti. (Finnish)

this-IN chair-IN sits comfortably

‘One can sit comfortably in this chair.’

b. Hya khurchi-war aaramani bushushakto. (Marathi)

this chair -on comfort-with sit-PRS.3SG

‘One can sit comfortably in this chair.’

c. Ei-khon soki-t aramkori boh-ibo par-i (Assamese)

this-CLS chair-LOC comfortably sit-MOD can-3SG

‘One can sit comfortably on this chair.’

I will continue to refer to this pronoun as ‘indefinite’ even though its reading is generic, not a prototypical indefinite reading. Null existential indefinites do not exist in active clauses in any language that I have encountered, and there is some reason to believe that they may not exist at all.³ That is to say, in no language can a sentence such as (2) be interpreted as ‘Someone will come.’ This will, in fact, fall out of the theory developed here, as will be discussed in section 5.2. Of the partial null-subject languages some accept null exclusive as well as inclusive generic pronouns (BP), other just inclusive (Finnish).

If this is correct we have two types of NSLs characterised by the following properties:

(12) *Consistent NSLs:*

Null definite subject pronouns (null *he/she*);

No null indefinite pronoun (null ‘one’).

Partial NSLs:

Null definite pronouns only if locally c-commanded by an antecedent;

Null indefinite subject pronoun.

This is assuming that the crucial factor in (9a) and (7c) is c-command by the antecedent (see Holmberg & Sheehan, Chapter 3, on the conditions on the antecedence relation). In addition, definite subject pronouns are typically not obligatorily null in partial null-subject languages, while they are, in some contexts, in consistent null-subject languages.⁴

Both types have null non-thematic pronouns in weather-expressions, extraposition sentences, and existential/presentational sentences.⁵

(12) is a first attempt to characterise the two types of system. In fact, things are not quite as clear-cut as indicated here. I will come back to this point after discussing the formal analysis of the differences between the two types of NSLs.

4. The topic antecedent of null subjects

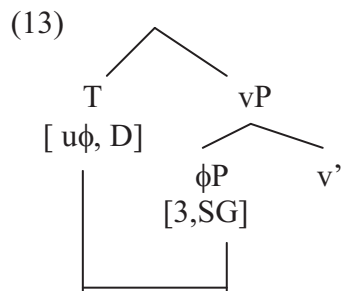
In Holmberg (2005) I proposed that the property which consistent NSLs have, that partial NSLs don't have, is a D(efinite)-feature as part of the ϕ -feature make-up of finite T (see also Roberts, Chapter 1).. This is only a slight reformulation of Rizzi's (1982) parameter (1b).

Two other assumptions were also crucial:

(a) Pronouns are either DPs, with the structure $[_{DP} D [_{\phi P} \phi [_{NP} N]]$, or ϕ Ps;

(b) Null pronouns are ϕ Ps.

These assumptions, particularly assumption (b), are in line with Cardinaletti & Starke (1998), and also reminiscent of, although actually quite different from Déchaine & Wiltschko (2002; see also Roberts (Chapter 1). Now when T probes a ϕ P subject, and has its unvalued ϕ -features valued by the subject, the resulting union of the ϕ -features of T and the subject yields a definite pronoun.⁶



Now consider a language without D in T. The probe-goal relation between T and a null ϕ P subject does not supply a definiteness value. The result is a D-less, thus indefinite, subject pronoun. If the ϕ -features are 3SG, the interpretation is that of an inclusive generic pronoun, corresponding to *one* in English.

This explains the absence of an indefinite null pronoun in finite, active clauses in consistent NSLs, and why partial NSLs have null subjects with definite interpretation only when they are controlled by a higher definite DP.

A problem with the assumption that finite clauses in consistent NSLs have a valued definiteness feature in finite T is that at least some of these languages have indefinite overt subjects which enter an Agree-relation with T. The prediction is that this should be impossible, due to feature conflict. An *unvalued* D-feature in T would allow Agree with indefinite as well as a definite subjects, though; The D-feature would inherit the value of the subject it probes. But this would fail to explain the absence of a null indefinite subject pronoun.

There is also a fact which is not taken into account in Holmberg (2005), or in the scenario outlined in the previous section: Null subjects, particularly 3rd person null subjects, are dependent on an antecedent in consistent NSLs, too. This has been demonstrated by Samek-Lodovici (1996) for a number of NSLs, and, more recently, by Frascarelli (2007) for Italian. As shown by (6), the conditions on the pronoun-antecedent relation are less strict in Italian, representing consistent NSLs, than in Finnish, representing partial NSLs.

Nevertheless, there are conditions, the most important one being that the antecedent should be

a topic, in fact, according to Frascarelli, a particular type of topic, viz, an Aboutness-shift topic; see Frascarelli & Hinterhölzl (2007). Consider the following example, from Samek-Lodovici (1996):

- (14) a. Questa mattina, la mostra è stata visitata di Gianni. Più tardi *Ø/egli/lui
 this morning the exhibition was visited by Gianni. Later he/he
 ha visitato l'università.
 visited the university
 'This morning the exhibition was visited by Gianni. Later he visited the university.'
- b. Questa mattina, Gianni ha visitato la mostra. Più tardi Ø ha visitato
 this morning Gianni visited the exhibition. Later visited
 l'università.
 the university
 'This morning Gianni visited the exhibition. Later he visited the university.'

In (9a) a null pronoun is impossible in spite of the (seemingly) unambiguous antecedent in the preceding sentence. Instead an overt pronoun (either the more literary *egli* or the more colloquial *lui*) must be used, because the pronoun introduces an Aboutness-shift topic, in Frascarelli's (2007) terms, which it does because the topic of the preceding sentence is 'the exhibition'.

This insight can provide a solution to the problem faced by the D-in-T hypothesis, as follows: First, following Frascarelli (2007), I assume (a) that an Aboutness-shift topic (henceforth A-topic) is always syntactically represented in a designated A-topic position in the articulated C-domain, either overtly (for instance in the Italian Clitic Left-Dislocation

construction) or covertly, and (b) that the antecedent of a null subject is a null A-topic base-generated in the C-domain of the clause immediately containing the null subject. This null A-topic is a copy of an A-topic, which may or may not be null, in the locally preceding discourse. This is represented schematically in (15), where the antecedent sentence also has a null topic (derived by covert movement).

(15) [_{CP} <Gianni₁> [questa mattina Gianni₁ ha visitato la mostra]].

[_{CP} <∅₂> [più tardi ha φP₂ visitato la mostra]]

1 = 2

The referential index of the null subject then ultimately comes from, or is identified with, the index of a spelled out DP in the preceding discourse, via a chain of A-topics. Frascarelli (2007) denies the existence of a topic-chain: “/.../ this account does not postulate a Topic chain across sentences, but a copying of referential features in different C-domains (through Merge of silent copies), till a new Aboutness-shift Topic is proposed.” (fn. 28). This seems like a rhetorical manoeuvre: If the null A-topics are copies, then there is a chain-like relation between them, and this relation is established by an operation across sentences in a discourse. In (10) I have represented this, quite simply, as an index-identifying operation, obviously falling outside of sentence-grammar but still crucially involved in the interpretation of the sentence, including the null subject, and no doubt subject to locality and other conditions which I will ignore here.

What is important for our purposes is that, as a discourse-grammatical operation, it is not subject to narrow-syntactic structural conditions such as c-command. This explains, in part, the facts exemplified by (7) and (9) above.

The reason why consistent NSLs cannot have a null ‘one’ is that this pronoun is a bare ϕ P which cannot value [uD], which consequently remains unvalued, causing a crash of the derivation.

5. Incorporation: the role of T

5.1 Consistent null-subject languages

The index-sharing relation between the null A-topic and the null subject in the second line in (15) crucially involves T in the following way: The A-topic values the uD-feature of T, where the valuation consists of uD copying the referential index of the A-topic.

I restrict the discussion to 3rd person pronouns, coming back to 1st and 2nd person pronouns below. A defective 3rd person pronoun (labelled ‘ ϕ P’, even though it is not strictly speaking a phrase, in terms of Chomsky’s (1995) Bare Phrase Structure) on its own cannot be definite, as it has no D which could have a referential index. Restricting the discussion to subjects, in a language without uD in T such a pronoun can only be interpreted as impersonal, that is either as generic (inclusive or exclusive) or non-thematic. In a language with uD in T the defective 3rd person pronoun can be, and must be, interpreted as definite if it is merged in the domain of a T whose uD-feature is valued by an A-topic, and from there is incorporated in T, in the following manner:

Adopting the theory in Roberts (in press) (with some modifications, discussed below) I take incorporation of a ϕ P in T to be a direct effect of Agree, in the sense of Chomsky (2001). This works as follows: Finite T has a set of unvalued ϕ -features, and therefore probes for a category with matching valued features (step 1 in (16)). The defective subject pronoun has the required valued ϕ -features, and therefore values T’s u ϕ -features, which is to say that the ϕ -feature values of the subject pronoun are copied by T. At the same time T values the subject’s

unvalued case feature (step 2 in (21)). I assume that NOM(inative) is encoded as a valued feature of T (not an entirely uncontroversial assumption; see Holmberg (Chapter 5)).

(16)

- 1 [T, D₂, u ϕ , NOM] [_{VP} [3SG, uCase] v ...] →
- 2 [T, D₂, 3SG, NOM] [_{VP} [3SG, NOM] v ...] →
- 3 [T, D₂, 3SG, NOM] [_{VP} ~~[3SG, NOM]~~ v ...]

As a result, T shares all of ϕ 's feature values. More precisely, T's feature values are a superset of ϕ 's values, since T also has uD (valued '2' by the A-topic) and a tense feature. Effectively, the result is the same as if ϕ had moved, by head-movement, incorporating into T, but without the well-known formal problem which classical head-movement has, namely lack of c-command between the links of the head-chain; see e.g. Matushansky (2006). Roberts (2007) proposes that the probe and the goal in this situation form a chain. As such it is subject to chain reduction. The principal rules of chain reduction are (17a,b):⁷

- (17) a. Pronounce the highest chain copy.
- b. Pronounce only one chain copy.

Consequently the subject ϕ P is not pronounced (indicated by the strikethrough under step 3 in (16)) As the chain includes the feature [D], by virtue of T's D-feature, and since [D] is valued by the A-topic in specCP, the result is a definite null subject construction, with the referential index of the A-topic. The chain is pronounced only in the form of an affix on the finite verb or auxiliary (following incorporation of V+v into T; see Roberts (in press), Biberauer and Roberts (Chapter 7) for details).

As for 1st and 2nd person null subjects, Frascarelli (2007) adopts Sigurðsson's (2004) hypothesis that every clause has features representing the speaker and the addressee in the C-domain (in a modern version of Ross's (1970) performative hypothesis). In this way, the speaker and the addressee are always available as local antecedents. I also adopt this hypothesis.

If the subject is a lexical DP or a D-pronoun, T's uD-feature will be valued by the subject's D as either definite or indefinite, as the case may be. This will preclude the assignment of a referential index to T by a null A-topic in specCP. Instead the subject, if specific-indefinite or definite, will typically be an A-topic.

A lexical DP or a D-pronoun cannot be incorporated in T as they have features whose values cannot be copied by T as T lacks the requisite unvalued features. Most obviously, a lexical DP has a root, which is not copied by T under Agree. Consequently, even though T and the lexical subject DP in specvP share ϕ -feature values through Agree, they do not form a chain, and consequently the lexical subject, being the highest member of a chain, is spelled out and pronounced (unless it undergoes movement to a higher position). It is less clear what features pronouns such as *egli* and *lui* in (14) have that prevent their incorporation in T, perhaps particularly *egli*, which is a deficient pronoun in terms of Cardinaletti & Starke's (1998) typology of pronouns. In our terms even *egli* has a valued D feature, as it can introduce a new A-topic, but since T, by hypothesis, has an unvalued D-feature which gets valued by the subject, T and the subject pronoun will share that feature value, too, in addition to sharing ϕ -feature values.

Roberts (Chapter 1, note 14) proposes that pronouns which do not incorporate have a case feature blocking incorporation. I do not want to adopt this hypothesis here, though, since the null generic subject pronoun in Finnish has been shown to have case; see Holmberg (Chapter 5), Vainikka (1989) and Roberts (Chapter 1, Note 22). Since the generic pronoun is

incorporated in T (see below section 5.2), case must be compatible with incorporation. It will be, if case-assignment is copying of a case-value from the assigner (in this case finite T) to the assignee.⁸

The result is that the only pronouns that remain null are the ones that are linked to a null A-topic in specCP. The generalisations that 3rd person null subjects in consistent null-subject languages are always definite, and always refer to a person or object already introduced as a topic are thereby explained. A fact which complicates the situation is that there is cross-linguistic variation regarding the syntactic and information-structural role of the discourse-antecedent (the DP whose index is ultimately picked up by the null subject), as noted by Samek-Lodovici (1996) and demonstrated by Cole (forthcoming). I return to this complication below.

If the subject is incorporated, in (18), for example, how is the EPP checked?

(18) Verrà. [Italian]

‘He will come.’

A possible hypothesis is that T in consistent NSLs has no EPP-feature. Another is that the EPP can be checked by V-movement to T, as advocated by Barbosa (1996), Alexiadou & Anagnostopoulou (1998). Yet another one is that the EPP can be satisfied by the incorporation itself, as advocated by Platzack (2004). See, however, Sheehan (Chapter 6) for arguments that at least the Romance Consistent NSLs have an EPP condition of the ‘traditional type’ which requires specTP to be filled.

Maintaining that the subject itself is incorporated in T in (18), and specTP therefore is not projected, I propose that the EPP in (18) is *checked by the null A-topic* which also values [uD] in T. The argument is that a specTP-less structure is allowed only in the case of definite

null subjects, that it when there is (and must be, if Samek-Lodovici (1996) and Frascarelli (2007) are right) an antecedent. The other cases, when specTP must be filled to check the EPP, include

- (a) when the subject is a null indefinite pronoun;
- (b) when the subject is a lexical DP or a spelled out, non-incorporated pronoun, and
- (c) existential and otherthetic sentences, which lack an A-topic.

Case (a) will be discussed in the next section, which is about incorporation in partial NSLs.

As for case (b), the prediction is that a spelled out subject, whether lexical or pronominal in the unmarked case, that is when it is not focused, or topicalised, or wh-moved, is preverbal, in a consistent NSL of the SVO type (such as the Romance consistent NSLs). Spelled-out subjects are indeed typically preverbal in these languages. However, there is a long-standing debate whether they are in specTP, an A-position, or in an A-bar position in the CP-domain (see Alexiadou & Anagnostopoulou 1998, Barbosa 1995, to appear, Costa 2001, 2004). I will not review this debate here, but see Sheehan (Chapter 6). Suffice it to point out that the theory sketched here predicts that if a subject pronoun in such a language is for some reason spelled out even though it is not focused, that pronoun will be preverbal. At least for the Romance NSLs this prediction is correct. Consider again (14), repeated here in a slightly simplified form as (19):

- (19) Questa mattina, la mostra è stata visitata di Gianni. Più tardi **lui**
this morning the exhibition was visited by Gianni. Later he
ha visitato l'università.
visited the university
'This morning the exhibition was visited by Gianni. Later he visited the university.'

The bolded pronoun is not overt because it is focused or emphatic, but because its antecedent is not an A-topic (in Frascarelli's (2007) terms).⁹

As forthetic sentences, which in NSLs may be V-initial with a postverbal subject, and thus seemingly lack specTP, Sheehan (Chapter 6) argues, for the case of Romance languages, that they either have a null locative or a null expletive in specTP, checking the EPP.

- (20) a. Ha telefonato Gianni. [Italian]
has telephoned Gianni
'Gianni phoned.'
- b. Chegou alguém ao colégio. [EP]
arrived someone to-the school
'Someone arrived at school.'

Pinto (1994, 1997) argued that (14a) has a null locative 'here' in specTP. It is therefore a case of covert locative inversion, triggered by the EPP. This, Pinto argued, is the case for a large class of sentences with so called 'free inversion' in Italian. As Sheehan (2006, chapter 6) shows, this is the case in Spanish and Portuguese as well. All other V-initial, seemingly specTP-less sentences in the Romance consistent NSLs have an indefinite subject; (14b) is an example. Sheehan argues that they have a null expletive in specTP checking the EPP. This analysis is consistent with the theory articulated here. I will come back to the issue of null expletives and locatives in section 7 below.

I conclude that the hypothesis that the EPP in finite sentences with a definite null subject is checked by the null A-topic is consistent with the facts considered so far. More support is offered in the next section.

5.2 *Partial null-subject languages*

So far we have accounted for consistent null-subject languages. In other languages finite T does not have a uD-feature. In a subset of these languages, viz. the partial null-subject languages, the subject can still be null essentially by the same derivation as in the consistent null-subject languages: T probes for ϕ -feature values. The subject's ϕ -feature values are copied by T, and the subject has its Case-feature valued in return. In the case where the subject is a bare ϕ P, T will copy all the feature values of the subject. As a result T and ϕ P form a chain, and the subject remains null, by chain reduction. However, in the absence of uD in T, valued by an A-topic, the interpretation of the subject chain cannot be that of a definite pronoun. But it can be indefinite, and that is what we find in partial NSLs.

It would be interesting if absence of uD(efinite) on the probe T correlated with absence of definiteness marking on the goal, the nominal argument. The languages which are investigated as exemplars of partial null-subject languages in Holmberg and Sheehan (Chapter 3) are Finnish, Marathi, and BP. As it happens, Finnish does not have articles, Marathi, like most or all other Indo-Aryan languages, does not have a definite article, and BP, interestingly, makes more use of bare NP as an argument than EP.¹⁰ However, BP still has definite and indefinite articles which are widely used. Furthermore, Icelandic, another partial null subject language, has a definite article (usually suffixed to the noun), and Hebrew, which is probably another partial null-subject language, also has a definite article. If there is a correlation between definiteness marking on the noun phrase and partial null-subjecthood, it is not a straightforward one, and more research is needed to establish the nature of the correlation, if indeed there is one.

When the subject is a DP (lexical or pronominal), it cannot be incorporated, and when the subject is incorporated in the partial null-subject languages it can only be interpreted as

indefinite. Yet BP, Finnish, and Marathi have null subjects that are interpreted as definite, as shown in section 1, so there must be an alternative derivation of null subjects. As indicated in section 1, these null subjects must have a locally c-commanding antecedent; they must be controlled (in some sense; see Holmberg and Sheehan, chapter 3 for discussion of the control-relation).

We have also said that a subject which is not incorporated is attracted by the EPP to specTP. The prediction is, then, that the definite null subject in partial null-subject languages is in specTP and checks the EPP, while the generic null subject is in specvP and does not check the EPP. Furthermore, since the indefinite, generic null subject does not have an A-topic antecedent, the EPP must be checked by some other category in these sentences. This prediction can be shown to be right. Consider (21a,b):

- (21) a. Jari sanoo että tässä istuu mukavasti. (Finnish)
 Jari says that here sits comfortably
 ‘Jari says that one can sit comfortably here.’
 ≠ ‘Jari says that he sits comfortably here.’
- b. Jari sanoo että Ø istuu mukavasti tässä
 Jari says that sits comfortably here
 ‘Jari says that he sits comfortably here.’
 ≠ ‘Jari says that one can sit comfortably here.’

Finnish has an EPP condition which is mostly satisfied by the subject, but can be satisfied by certain other categories, too, including circumstantial adverbials (see Holmberg & Nikanne 2002, Holmberg 2005, Chapter 2). In (21a) the 3SG subject has not undergone movement to specTP; instead the place adverbial has. The subject is null, by hypothesis due to

incorporation by Agree with subsequent chain reduction. In the absence of uD in T, it cannot have definite interpretation, though, but only generic interpretation. In (21b) the subject has moved to specTP, satisfying the EPP. In this position the subject pronoun cannot be null by virtue of incorporation in T, but only by virtue of having a local antecedent, hence the interpretation; see Holmberg, chapter 2.

A similar situation is found in BP, another partial NSL:

- (22) a. João me contou que na praia vende cachorro quente
 João me told that at.the beach sell-3Sg dog hot
 ‘João told me that hot dogs are sold at the beach’
 ≠ ‘João told me that he sells hot dogs at the beach’
- b. João me contou que Ø vende cachorro quente na praia.
 João me told that sells dog hot at.the beach
 ‘João told me that he sells hot dog at the beach’
 ≠ ‘João told me that hot dogs are sold at the beach’

[BP, based on Rodrigues (2004:142)]

In Marathi the prediction cannot be so easily tested since due to its SOV syntax all arguments and adjuncts precede the finite verb anyway.

In the preceding section I proposed that subject pronoun in consistent NSLs are incorporated in T and interpreted as definite by virtue of a D-feature valued by a null A-topic (in the case of 3rd person) or by a speaker/addressee feature (in the case of 1st and 2nd person, following Sigurdsson (2004)), and that the EPP is then also checked by the A-topic or the speaker/addressee feature. This is consistent with the observations in this section: when a subject pronoun is incorporated in T in a language which has no uD feature in T which can be

valued by an A-topic, then, and only then the EPP must be satisfied by other means, namely movement of a category to specTP.

It appears, then, that while definite null subjects in consistent NSLs are incorporated ϕ Ps which are interpreted as definite by virtue of a valued D-feature in T, definite null subjects in BP, Finnish, and, I assume, Marathi are DPs which have been second-merged with specTP. See Barbosa (to appear), who reaches essentially the same conclusion regarding BP (and other partial null-subject languages), and a similar, though not identical conclusion regarding consistent null-subject languages.

If all this is right, the relation between the null subject and its antecedent in consistent null-subject languages is indirect: In a clause CL which has a 3rd person null subject NU, the ‘ultimate antecedent’ of NU is a DP which is the A-topic of a clause preceding NU. The intermediate antecedent is a null copy of this A-topic in the C-domain of CL. This A-topic values the uD-feature of T, where valuation means that uD copies the referential index of the A-topic. The immediate antecedent of NU is then the valued uD-feature of T which probes NU. There is thus no c-command relation, or indeed any structural relation, between NU and the DP in a higher sentence or a separate sentence, whose referential index NU will ultimately share.

In partial null-subject languages, by hypothesis, inheriting a referential index by this indirect route is impossible due to absence of a uD-feature in T which, once valued, could provide the null subject chain with an index.¹¹

If NU is 1st or 2nd person, the ultimate and also intermediate antecedent is the speaker or addressee ‘speech feature’, which, following Sigurðsson (2004) are properties of the C-domain in every finite clause. The speech feature values uD of T, T probes the subject ϕ P. and the subject ϕ P incorporated in T.¹²

What features does the fronted null pronoun have in partial null-subject languages? It seems reasonable to assume that a nominal argument which must enter a structurally determined relation with another argument to be interpretable must be somehow deficient; see Shlonsky (to appear), discussing control into finite clauses in Hebrew, for a similar conclusion. I suggest, therefore, that it lacks a D-feature value, and therefore must enter a structurally defined control relation with a valued DP antecedent. That is to say, either the D-pronoun comes with an inherent D-feature value (a referential index), in which case it will be spelled out in specTP, being the head of an A-chain, or it has an unvalued D-feature, and must enter a control relation with a valued DP. In that case it remains null by virtue of an extended version of chain reduction. It is an ‘extended version of chain reduction’ since the control relation does not qualify as a chain in the strict sense; see Holmberg & Sheehan (Chapter 3).¹³ A third possibility, irrelevant here, is that it undergoes A-bar movement to some higher position.

5.3 Summary

In Italian and other NSLs the subject pronoun, if it is a ϕ P, a deficient, D-less pronoun, is incorporated in T as a result of Agree. T is thus the highest member of the subject chain, and as such is pronounced, albeit only as an affix on the finite verb, while the copy in specvP is not pronounced. The chain has a uD-feature provided by T. This feature receives a value, that is a referential index from the null, indexed A-topic in the C-domain. This also has the effect of checking the EPP. The result is a definite null-subject construction.

- (23) Ha comprato una macchina nuova. [Italian]
 has bought a car new

[_{CP} < DP₁ > [_{TP} ha+T_[D1, 3SG, EPP] [_{VP} < φP_[3SG, NOM] > comprato ...]]

If there is no A-topic in the C-domain, then a subject pronoun has to be a DP with its own index, which will not be incorporated, and therefore will (normally) be attracted by the EPP to specTP, where it will be pronounced.

In Finnish, BP, and other partial NSLs, the subject cannot be incorporated in T and be interpreted as definite, since T lacks the requisite uD-feature. Instead, a definite subject pronoun must have its own valued D-feature, thereby its own index. Probed by T, it will be forced by the EPP of T to merge again with TP. The second-merged copy will be pronounced, being the highest copy of the chain.

(24) Hän on ostanut uuden auton. [Finnish]

he has bought new car

[_{TP} hän_[D1, 3SG, NOM] [_{T'} on+T_[3SG, EPP] [_{VP} <hän_[D1, 3SG, NOM] > ostanut ...]]

A φP subject can be incorporated, though, as a result of Agree, but in the absence of uD in T, it can only have a generic interpretation (in Finnish only inclusive generic). (25) is the structure of (21a).

(25) [_{CP} että [_{TP} tässä [_{T'} istuu+T_{3SG, EPP]} [_{VP} φP_{3SG} <istuu> mukavasti <tässä>]]]]

A third alternative is that a pronoun has a D, but a deficient, unvalued D (labelled uDP). This will still prevent incorporation, so the pronoun, if it is a subject, will move to specTP, where it can be interpreted if it is controlled by an argument in a higher clause. (26) is the structure of

the embedded clause in (21b) prior to control, which will assign the value/index 1 to the unvalued, null subject pronoun.

(26) Jari₁ ... [CP että [TP uDP [T' istuu+T_{3SG, EPP} [VP <uDP_{3SG}> <istuu> mukavasti tässä]]]]

In English, Swedish, etc. incorporation is never an option, nor is a controlled uDP, for reasons discussed in the next two sections.

In section 1 the question was raised why there is no null existential indefinite pronoun, a null ‘someone’. We might not expect it in consistent NSLs, which only allow definite null subjects, but why not in partial NSLs?¹⁴ We now have an answer: As indicated by the morphology of the English indefinite pronoun, existential indefinites are structurally complex, a quantifier plus a pronoun (some+one). I assume that is the case, universally, also in languages where they are not morphologically complex in the transparent manner of English *someone*. As such they cannot be incorporated. Universal quantifiers are likewise complex, and, indeed, there are no null universal quantifiers either. Generic ‘one’ is semantically closer to a universal than an existential pronoun, but, as discussed by Moltmann (2006), it is not a universal quantifier.

An existential or universal indefinite also cannot be a controlled null subject, quite simply because an indefinite cannot be controlled or bound. Only a deficient definite pronoun (a uD-pronoun in present terms) can be controlled; this seems to be the right result.

6. Non-null-subject languages 1: Scandinavian

In order to unravel the formal properties which make a language a non-NSL it will be useful to compare Icelandic, a partial NSL, with its Mainland Scandinavian (MSc) relatives Swedish, Danish, and Norwegian, a group of very closely related non-NSLs.

Icelandic is a partial NSL as seen from the fact that it has a null ‘one’ (see Sigurðsson & Egerland, in press). MSc, here represented by Swedish, has an overt ‘one’.

- (27) a. Nú má ___ fara að dansa. [Icelandic]
now may go to dance
‘One may begin to dance now.’
- b.. Hér er ___ ekki deyjandi á mannsæmandi hátt.
here is ___ not dying in decent manner
‘One cannot die here in a decent manner.’
- (28) a. Nu får **man** börja dansa. [Swedish]
now may one begin dance
‘One may begin to dance now.’
- b. Här kan **man** inte dö på ett värdigt sätt.
here can one not die in a dignified manner
‘One cannot die here in a dignified manner.’

That is to say, Icelandic lacks a uD-feature in T. The generic null subject has a somewhat restricted distribution though, and there is also an overt counterpart *maður* ‘one’ (lit. ‘man’); see Sigurðsson & Egerland (to appear) for details.

(29) Nú má maður fara að dansa. [Icelandic]

now may one go to dance

‘One may begin to dance now.’

Unlike the other partial NSLs listed earlier, Icelandic does not allow a controlled null subject in finite clauses. I will come back to these complications in the next section.

There are a number of other differences to do with the subject between Icelandic and MSc. In particular, Icelandic has

1. Oblique subjects, (30a);
2. Stylistic Fronting, (30b);
3. Null expletives, (30c);
3. Rich subject-verb agreement.

(30) a. Mér voru gefnar peninga. [Icelandic]

me were given money(PL)

b. [Þeir sem í Osló hafa búið] segja að það sé finn bær.

those that in Oslo have-3PL lived say that it is nice town

‘Those that have lived in Oslo say that it’s a nice town.’

c. Nú hafa (*það) komið margir stúdentar.

now have EXP come many students

‘Now many students have arrived.’

The position of the null expletive is due to the V2 condition; this will be discussed below.

Subject-verb agreement distinguishes two numbers and three persons, with only some 1/3

syncretism (past tense singular) or 2/3 syncretism (present indicative singular of most verbs). MSc does not have oblique subjects, stylistic fronting, or null expletives, and has no subject-verb agreement at all.

- (31) a. *Mej blev givet pengar. [Swedish]
me was given money
- b. *de som i Oslo har bott
those that in Oslo have lived
- c. Nu har *(det) kommit många studenter.
now have EXP come many students
'Now many students have arrived.'

In Platzack (1987), Platzack & Holmberg (1991), Holmberg & Platzack (1995) (hencefort collectively referred to as P&H) these differences between Icelandic and MSc are formally expressed in terms of a parameter closely related to Rizzi's (1982) null-subject parameter (1a). The following is a distillation of the different versions of the theory articulated in P&H.

(32)

- (a) Finite C must govern nominative case (assuming a lexicalist theory of case);
- (b) In Icelandic the AGR-component of INFL is a pronoun with inherent nominative case, therefore able to satisfy (a);
- (c) In MSc INFL contains no AGR (hence no subject-verb agreement), so a subject with nominative case has to move to specIP to satisfy (a).

(32a) is assumed to be connected with V2, and thus be parameterized (but the Scandinavian languages are all V2). (32b,c) looks like a version of Rizzi's (1982) parameter (1a) (INFL can be specified [+pronoun]). If P&H are on the right track, there is a place for (1a) in the parametric theory of UG, if not exactly as Rizzi (1982) saw it, at the time. See also Biberauer (Chapter 4) for a partly different approach.

Translating P&H's (32) into our present framework, broadly based on Chomsky (2000, 2001, 2008), let us assume that Icelandic has unvalued person and number [uPn, uNr] in T, while MSc has neither. As the theory requires postulating some unvalued, DP or ϕ P -probing feature in T, in order for nominative case to be assigned to the subject (see Chomsky 2000, 2001), I suggest that T in MSc has an unvalued, general noun-probing feature [uN]. Neither language has [uD] in T. This means that Icelandic can, but MSc cannot, incorporate a ϕ P, hence the difference between (27) and (28). The generic/arbitrary pronoun *man* is a spellout of 3SG ϕ P. In Icelandic this ϕ P is incorporated optionally (hence (29)). Given the absence of [uD] in T, the incorporation can yield only a generic or expletive null subject but not a definite null subject chain.

How does this theory account for the P&H effects? The idea that INFL/T is inherently pronominal in such a way that it can receive nominative case assigned by C is not easily accommodated in the present formal theory. It would mean postulating an unvalued case-feature in T, along with other $u\phi$ -features, which would satisfy C's need to discharge nominative case – while in MSc, the subject DP or pronoun would need to move to specTP to receive nominative from C.

Arguably, a more elegant account is that the crucial difference is the following: In MSc the EPP of T is linked with the probing $u\phi$ -feature in such a way that the only category that can satisfy/check the EPP is the goal of T's probing, i.e. the DP or pronoun which values T's uNr-feature and is assigned nominative. I will refer to this as a *ϕ -dependent EPP*. It may be

viewed as a special case of ‘bundling’ of features, in the sense of Boeckx (forthcoming); see Roberts and Holmberg, Introduction: Section 3.5). In Icelandic, too, EPP of T will often attract the goal of Ts probing features, but this is a coincidence, as it were, determined by the fact that Agree and the EPP are both subject to locality: $u\phi$ of T will probe the closest nominal category which is not already case-marked (see Chomsky 2000), and the EPP will attract the category closest to T. Plausibly there is also an economy condition involved which favours minimizing grammatical relations, and thus favours picking the same category as goal for $[u\phi, T]$ and $[EPP, T]$. However, if the goal of $[u\phi, T]$ is not available for movement to specTP, because it is too distant, or because it is marked for undergoing wh-movement, or because there is no goal (as in an impersonal passive, for example),¹⁵ then the EPP will attract another, more local category, in Icelandic. In that case $[EPP, T]$ is *ϕ -independent*. Ever since the inception of the EPP in Chomsky (1981) it has commonly been taken for granted that the EPP of T specifically attracts the subject (see Svenonius 2002). Chomsky (2000) proposed that this was an effect of Agree: the EPP attracts the category probed by T’s $u\phi$ -features. There are good reasons, though, to take this to be too narrow a view of the EPP, a result of considering too narrow a range of languages; see Holmberg (2000) Holmberg & Nikanne (2002), Sigurðsson (2004a) (see also Sheehan (Chapter 6) on Spanish, and work by Massam and others on VP-Fronting to SpecTP in various verb-initial Macronesian and Meso-American languages, summarized in Biberauer & Roberts (Chapter 7)).

This will account for (30, 31): In (30a) the highest DP (the experiencer) is assigned inherent dative case, so the next DP, the direct object, which does not have a lexical case, is the goal of Ts probing $u\phi$ -features, hence values T’s ϕ -features and is assigned nominative, but the EPP attracts the closer dative DP, regardless. In the Swedish (31a), on the other hand, the accusative-marked experiencer cannot check the EPP, even though it is the argument closest to T. The only category which can check the EPP is the nominal category probed and

assigned nominative case by [$u\phi$, T]. (33a,b) are two grammatical alternatives, one making use of the expletive, which is a case-marked and ϕ -feature-bearing category in Swedish (see Holmberg 2002), the other moving the nominative-marked direct object to specTP. For reasons which are irrelevant here, the latter construction is better in Norwegian than in Swedish.

- (33) a. Det blev gett mej pengar. [Swedish]
 EXP was given me money
 'I was given money.'
- b. Pengene/De ble gitt meg. [Norwegian]
 money-DEF/they was given me
 'The money was given to me.'

In (30b), the subject is a null operator marked for movement to specCP in a relative clause. Instead of attracting it to specTP, the EPP of T attracts the next category down the tree, in this case the verb complement; see Holmberg (2000).¹⁶ In the Swedish counterpart (31b) this is not an option: The EPP can only ever attract the nominative-marked category to specTP.

As for the Icelandic null expletives, they occur only in construction with T-to-C, that is only in main clauses, when a non-subject fills specCP.¹⁷

- (34) a. Nú hafa komið margir stúdentar.
 now have come many students
 'Now many students have arrived.'
- b. Það hafa komið margir stúdentar.
 EXP have come many students

c. Komið hafa margir stúdentar.

come have many students

‘Many students have come.’

In the absence of a filler of specCP the expletive must be overt, as in (34b). (34c) is a case of stylistic fronting in a main clause: a category, here the non-finite verb, is moved to specCP as an alternative to merging an expletive (see Holmberg 2000). In embedded clauses, the expletive must be overt.¹⁸

(35) það er greinilegt að ??(það) hafa ekki komið margir stúdentar í prófinu.

EXP is obvious that EXP have not come many students in the exam

‘It is obvious that not many students have come to the exam.’

The most straightforward account of this is that the EPP and V2 are, or can be, collapsed when T is in C. Thus, in (34a) the EPP is checked by the adverb *nú*, as permitted since the EPP is independent of $u\phi$. In (34b) it is checked by the expletive, and in (34c) by the stylistic-fronted verb, an option allowed by the dissociation of EPP and $u\phi$ of T. That is to say, there is, in fact, no null expletive in Icelandic.

In MSc, the overt expletive is required in constructions corresponding to (34a) because only a nominative-marked, nominal category can check the EPP in MSc. Stylistic fronting is not an option, for the same reason.

(36) a. Nu har *(det) kommit mǎnga studenter.

now has EXP come many students

‘Now many students have come.’

- b. *Kommit har många studenter.
come has many students

We now have two parameters distinguishing the partial NSL Icelandic from the non-NSL MSc:

- (37) 1. T has unvalued person and number features in Icelandic but not in MSc, and
2. [EPP,T] is ϕ -dependent in MSc, but ϕ -independent in Icelandic.

There is a connection between the two parameters: Poor ϕ -feature content in T and ϕ -dependent EPP are both incompatible with incorporation of a subject pronoun in T. In the case of (37.1) this follows since T will be specified for fewer ϕ -features than the probed subject pronoun. In the case of (37.2) it follows if a subject pronoun cannot both be incorporated and move to specTP. This, in turn, follows since, when a subject pronoun is incorporated in T as a result of T copying all of pronoun's ϕ -features, T and the subject form a chain headed by T. The EPP cannot attract the non-head (a 'trace') of a chain; In fact no syntactic operation can operate directly on the non-head of a chain (Chomsky 1995: 304).¹⁹

The question is whether they are actually independent parameters. If they are, we expect to find languages that have a T with (a) rich agreement and a ϕ -independent EPP, (b) rich agreement and a ϕ -dependent EPP, (c) poor agreement and a ϕ -independent EPP, (d) poor agreement and a ϕ -dependent EPP, where we take 'rich' to mean an agreement system which distinguishes minimally number and person. We know that we have languages of type (a) (Icelandic, Finnish), and languages of type (d) (Mainland Scandinavian, English). As for type (b), Italian and also EP may belong to this type, while Spanish would be type (a): see Sheehan (Chapter 6).²⁰ French is another candidate for type (b): The subject-verb agreement paradigm

is highly reduced in the singular, but distinguishes three persons in the plural (see Roberts, Chapter 1), so, if richness of ϕ -feature content was all that mattered, we might expect incorporation of plural subject pronouns in T, thus null subjects in the plural – which is not found. Instead, French is a non-null subject language (at the TP-level; Roberts (Chapter 1) argues that a certain common variety of French is, in fact, a null-subject language at the CP-level). This would follow if the EPP in T is strictly ϕ -dependent. As for type (c), it has no representatives, as far as I am aware, among European languages; It would be characterised by lacking or having only poor subject-verb agreement but have PPs and perhaps other non-nominative categories fronted to specTP. English has locative inversion, but arguably this is too marked a phenomenon to put English in type (c).

I conclude, tentatively, that (37.1,2) are distinct parameters. There may still be a relation between them such that if a language has poor ϕ -feature content in T, there is a preference for having a ϕ -dependent EPP. But the reverse (weak) implication does not hold.

This discussion raises the more general question of the role that the agreement system plays for null subjects. This is discussed in some detail in Roberts (Chapter 1 and 8). Roberts adopts Müller's (2005) theory of impoverishment, according to which an agreement system with "system-defining syncretism" will not license *pro*, predicting (in Roberts' adaptation) that consistent null-subject languages will not have any system-defining syncretism in the subject-verb agreement paradigm. One problem with this hypothesis is that it does not make a useful distinction between partial null-subject languages such as Icelandic, Marathi, and BP on the one hand, and non-null subject languages such as French and German on the other.²¹ All of them make number and person distinctions in the subject-verb agreement paradigm (Marathi also gender), and all of them have some amount of syncretism, as the following comparison of the present tense of the verb 'sing' illustrates (I give the French paradigm in quasi-phonological spelling; See Roberts (Chapter 8) for a detailed discussion of French).²²

	French	German	Finnish	Icelandic	Marathi
1SG	chât	singe	laulan	syng	gato/gate (M/F)
2SG	chât	singst	laulat	syngur	gatos
3SG	chât	singt	laulaa	syngur	gato/gate (M/F)
1PL	châtõ	singen	laulamme	syngjum	gato
2Pl	châté	singt	laulatte	syngið	gatat
3PL	chât	singen	laulavat	syngja	gatat

As shown, Finnish has no syncretism at all (except that many colloquial varieties make no number distinction in the 3rd person), yet it is a partial null-subject language with only restricted occurrences of 3rd person null subjects; See Holmberg, Nayudu, and Sheehan (in press). I take these facts to indicate that richness of $u\phi$ -feature content in T plays a role for the distribution of null subjects and also non-nominative subjects, but indirectly, by affecting the choice of value for certain parameters. I return to this question in section 10.

We have now explained the variation between the partial NSL Icelandic and the non-NSL MSc, in terms of an updated version of Rizzi's (1982) parameter (1a), that is (37.1) and a related, yet arguably independent parameter (37, 2).

Unfortunately this is not quite the whole story: Even the updated version of Rizzi's parameter (1a) cannot explain why MSc or English or Sindhi²³ or any other non-NSL cannot have a null subject controlled by a DP in a higher clause, in finite clauses, the way Finnish, BP, Marathi, Hebrew, Russian, and possibly many other partial NSLs can. In other words, why is (38a) not as well formed as (38b), featuring control into an infinitival clause in English, or (38c), featuring control into a finite clause, in Finnish?²⁴

(38) a. *John promised [that \emptyset would be quiet].

- b. John promised [\emptyset to be quiet].
- c. Juhani on luvannut [että \emptyset pysyy hiljaa]. [Finnish]

Juhani has promised that stays quiet

‘Juhani has promised that he will stay quiet.’

We also have the fact, so far unexplained, that Icelandic, a partial NSL with a null generic subject pronoun, differs from most other partial NSLs in not allowing control into finite embedded clauses.

In the next section I will propose a different, ‘brute force’ mechanism to account for why certain languages do not allow a null subject, even when there is a local controller.

7. Non-null-subject languages 2

Imagine a language which has a strict V2 rule, so that the finite verb in main clauses has to be preceded by one and only one spelled-out category, and which is a consistent NSL. The expected effect is that a definite subject pronoun can be null in any context (satisfying conditions on a topic antecedent discussed in section 5) except when it is the initial constituent of a main clause, since if it is null in that context the V2 rule will be violated. This is what we find in Kashmiri (Wali & Koul 1996: 83f.) and 12th century Old French (Roberts 1994).

(39) *Kashmiri* (based on Wali & Koul 1996: pp)

- a. bi chus kita:b para:n

I am book reading

‘I’m reading a book.’

- b. kita:b chus _ para:n
 book am (I) reading
- c. *chus kita:b para:n.
 am book reading

(40) *Old French* (based on Roberts 1994: 124, 134)

- a. Après conquest _ Orange la cite.
 afterwards conquered (he) Orange the city
 ‘Afterwards he conquered the city of Orange.’
- b. Je sui le sire a cui _ volez parler.
 I am the knight to whom (you) wanted speak
 ‘I am the knight to whom you want to speak.’

This is a case where pronunciation of a pronoun is clearly forced by a PF-condition. I take V2 to be the effect of the following grammatical property:

(41) V2: Declarative C has a feature [P] (a ‘PF EPP’) which triggers

pronunciation of a category merged with CP (by internal or external merge).

This is straightforward as an account of the distribution of null subjects in these two languages.²⁵ Once we recognize that this is a plausible account, it has an interesting theoretical consequence: It suggests that non-NSLs differ from NSLs simply in having a P-feature in finite T, forcing pronunciation of the category in finite specTP.

(42) T has a [P]-feature.

Other parameter settings conspire to force movement of the subject to specTP, as discussed above (the impossibility of incorporation and/or the dependence of EPP on $u\phi$ in T). The net effect is that a subject pronoun in a finite clause will always be pronounced, whether there is a potential controller or not. See Landau (2006) for a theory making extensive use of P-features as a mechanism regulating the pronunciation of chain copies. In fact, Landau rejects the idea that there is a general principle to the effect that the highest member of a chain is spelled out, in the unmarked case (see (17a) in section 5.1 above). Instead, he argues, the choice which copy to pronounce is always the effect of a P-feature, whose distribution is essentially a language-particular matter. I will not adopt this version of the P-feature hypothesis here, as that would predict that NSLs would never have a pronounced subject in specTP. There must be a principle which determines when a DP is pronounced even in the absence of a P-feature.

As for Icelandic, it too, has P in T, and therefore does not allow control of a null subject in finite clauses. It still allows a generic null subject, because this null subject is not in specTP, but in spec,vP, a deleted copy in a chain headed by T.

Consistent NSLs do not have P in T. Hence they can have null locatives and null expletives (see section 5.1), and definite null subject sentences without specTP. Partial NSLs other than Icelandic also have no P in T, hence allow (controlled) null subjects in specTP.²⁶

The parameter will also single out languages which allow only expletive null subjects (as many Creole languages do, according to Nicolis 2004, 2008) as a subtype of languages which allow no incorporation in T (either because of poor $u\phi$ -feature-content in T or because EPP of T is ϕ -dependent): Without P in T these languages will still allow non-thematic null subjects in T.

In a recent paper Belletti, Bennati, and Sorace (in press) show that near-native speakers of Italian with English L1 differ from native Italian speakers in their use of null subjects in

subtle ways. They produce and understand null subjects appropriately, but overuse overt subject pronouns in certain contexts, namely contexts such as (7b), repeated here:

(7b) Gianni₁ dice che (*lui₁) vuole comprare una macchina nuova..

‘Gianni says that he wants to buy a new car.’

In effect, null subjects are always optional in near-native speech where they are obligatory in native Italian (this is my interpretation of Belletti, Bennati and Sorace’s findings; they do not themselves express it exactly in these terms). According to them. “resetting of the null-subject parameter has taken place in the speakers’ L2 Italian grammar”, but they have not learnt to fully master the discourse conditions under which null subjects are used. Given the theory detailed here, Belletti, Bennati, and Sorace’s findings indicate that the near-natives have set P in T but not uD in T correctly, in their Italian grammar. Their Italian T has neither P nor uD. That is to say, the Italian of the near-native speakers is a partial null-subject language.

Definite null subjects are allowed, therefore, but they are not derived by means of incorporation with chain reduction. In embedded clauses they are derived by control (in the extended sense), always optional in partial null-subject languages. As for root clauses, I suspect that definite null subjects are derived in these by (a generalized version of) whatever mechanism derives null subjects in root clauses in spoken English (something I have not touched on here); See footnote 1.

8. A comparison with Holmberg (2005)

In Holmberg (2005) I argued that there are fundamentally two competing hypotheses regarding pro/null subjects in a theory which makes a distinction between interpretable/valued and uninterpretable/unvalued features, following Chomsky (1995: ch. 4, 2001):

Hypothesis A: The subject pronoun is incorporated in finite T, meaning that the inflection on the finite verb encodes interpretable nominal ϕ -features, and absorbs case and theta-role. In that case there is no pro, or at most an expletive pro to check the EPP.

Hypothesis B: The null subject is a fully specified pronoun which differs from overt pronouns only in that it is not spelled out/pronounced (see Roberts (Chapter 1) for discussion. What the theory does not allow is a pro which is inherently unspecified and receives values from AGR, as in Taraldsen (1979), Rizzi (1986), and much other work in the Principles & Parameters framework.

In Holmberg (2005) I showed that null subjects in Finnish are of type B. More precisely I argued that 3rd person null subjects are ϕ Ps that receive a definite interpretation by means of a binding or control relation with an antecedent in a higher clause, while 1st and 2nd person null subjects are fully specified DPs which are deleted. In the absence of a controller a 3rd person ϕ P could be interpreted as generic.

I then assumed that that was the case in consistent NSLs as well: Null subjects are ϕ Ps. The crucial difference was that consistent NSLs have a D-feature in T which ensures, and forces, a definite interpretation of the ϕ P even without an antecedent.

In Holmberg (Chapter 5) and Holmberg & Sheehan (Chapter 3) I/we argue that the generic null subject in partial NSLs is incorporated in T, while the controlled null subject moves to specTP. This immediately explains why the generic null subject does not check the EPP while the controlled one does.

In the present paper I am exploring the possibility that Holmberg (2005) was wrong in taking definite null subjects in consistent NSLs to be counterparts of controlled null subjects in partial NSLs. Instead they are counterparts of the indefinite, generic null subject in partial NSLs. Both are ϕ Ps incorporated in T, the different interpretation a consequence of the presence/absence of [uD] in T. If this is right there is no ‘pro’, of any kind, in specTP in null subject constructions in consistent NSLs or in the generic null subject construction in partial NSLs, but there is one in the controlled null subject construction in partial NSLs. The fact that definite subject pronouns in partial NSLs are always optionally null, regardless of context, is one consequence of this hypothesis (see Holmberg, Nayudu, and Sheehan, Holmberg & Sheehan Chapter 3). They are not the result of compulsory chain reduction.

Things are complicated by the observation that consistent NSLs do not always make use of the incorporation option. Consider again (9), repeated here as (43).

(43) Finnish:

- a. Juha₁ei ole sanonut mitään, mutta Pauli₂ sanoo että * \emptyset ₁/ haluaa ostaa uuden auton.

‘Juha₁ hasn’t said anything, but Pauli says that he₁ wants to buy a new car.’

Italian:

- b. Gianni₁ non ha detto niente, ma Paolo₂ ha detto che \emptyset ₁ vuole comprare una macchina nuova.

‘Gianni₁ hasn’t said anything, but Paolo says that he₁ wants to buy a new car.’

Here Finnish represents the partial NSL pattern: A null subject must be directly c-commanded by its antecedent, while Italian represents the consistent NSL pattern relying on a null topic strategy (following Frascarelli 2007), which makes direct c-command by an overt antecedent

unnecessary. Now consider European Portuguese, uncontroversially a consistent NSL (see (10b)).

- (44) O José₁ não disse nada, mas o João₂ disse que Ø*_{1/2}/ele_{1/2} não quer comprar
the Jose not said nothing, but the Joao said that he not wants buy
um carro novo.
a car new

Surprisingly, here Portuguese behaves like Finnish, not Italian. Now consider (45):

- (45) O carro₁ já foi arranjado, mas a Maria disse que Ø₁/***ele₁ ainda não anda
the car already was fixed, but the Maria said that he still not work
muito bem.
very well

The inanimate subject pronoun is, apparently, incorporated obligatorily, and assigned its index not by direct control but via a null topic. This should be compared with Finnish:

- (46) Auto on korjattu, mutta Maria sanoo ettei *(se) vieläkään kulje hyvin.
car is fixed but Maria says that-not it still go well
'The car is fixed, but Maria says that it still isn't running well'

- (47) Perämoottori on hyvä, jos (se) lähtee käyntiin ensi yrittämällä.
outboard-motor is good if it gets going first try-ADE
'An outboard motor is good if it starts up at the first try.'

An inanimate pronoun in Finnish can be null, but only when it is locally c-commanded by an antecedent, same as animate pronouns.

Why this difference between animate-referring (or human-referring) and inanimate-referring pronouns? Part of the answer may be that the overt pronoun *ele* in (44) is a strong pronoun, in spite of not being in any way emphatic. As discussed by Cardinaletti and Starke (1998) strong pronouns typically refer only to humans. That the overt pronoun in (44) is a strong pronoun follows if (a) it is a defining property of strong pronouns that they have D (cf. Cardinaletti and Starke, *ibid.*), and (b) only D-less pronouns can incorporate, from which it follows that subject pronouns with D have to move and remerge with TP, to satisfy EPP of T. Inanimate-referring pronouns would not have the DP option (in EP; Finnish does not make the same distinction between strong and weak pronouns as EP does), and would thus always be incorporated.

This does not explain the source of the c-command requirement on the null pronoun in (44), though. In BP, Finnish, and other partial NSLs the null pronouns which are dependent on c-command/control are, by hypothesis, derived by remerger of a [uD]-marked pronoun with TP (movement to specTP). Do we want to assume this in the case of the null, controlled pronoun in (44) as well? This is a question I leave open.

In as yet unpublished work Melvyn Cole shows that there is considerable variation also among null subject languages here classified as consistent, as regards the ‘accessibility’ of an antecedent. For instance, some languages allow the possessor of a subject DP to be the antecedent of a null subject in a subsequent sentence, other languages do not. This variation thus involves rules and parameters of discourse grammar and pragmatics, perhaps adequately described in terms of Ariel’s (1990) theory (as argued by Cole). If I am right, some variation,

including that between partial and consistent null subject languages, involves features and locality principles of sentence grammar, though.

9. Rizzi (1986) in a minimalist perspective

The formulation of the NSP in Rizzi (1986) has been very widely adopted throughout the nineties and up until today.

(48) **Licensing:** *pro* is Case-marked by X°_y , where *y* is parametrized.

Identification: *pro* inherits the ϕ -feature values of X°_y (if it has ϕ -features; if not, *pro* gets a default interpretation, typically *arb*).

In the case of subject *pro*, X°_y is finite INFL. (48) differs from the 1982 formulation in that

- (a) It generalises the parameter to other null arguments than subjects;
- (b) It leaves out the features [+referential] and [+pronoun], replacing them with an unspecified parameterised property ‘*y*’;
- (c) It includes arbitrary/generic *pro* in the picture.

The difference between consistent NSLs and semi- or partial NSLs is now ascribed to the features that *pro* can inherit from X°_y (as made clear in Rizzi 1986).

As discussed in Holmberg (2005), (48) is incompatible with a theory making a distinction between uninterpretable/unvalued features and interpretable/valued features, following Chomsky (1995: ch. 4, 2001): *pro* cannot inherit ϕ -feature values from finite INFL since the ϕ -features of finite INFL are themselves unvalued, in need of valuation. Apart from this obvious flaw (once the Chomskyan feature theory is adopted)²⁷, (b) is a step backwards, compared with the 1982 formulation of the NSP(s). I have endeavoured to show in this paper

that particularly the feature [+referential], appropriately remodelled as a [uD]-feature, respectively, does play a crucial role for null subjects.

Including pro_{arb} is a step forward, though. The reason for the generalised formulation of the licensing conditions in Rizzi (1986) is that the focus in that paper is on a form of pro which is not licensed and identified by INFL, namely object pro in Italian, as in

- (49) a. Il bel tempo induce **pro** a restare.
the nice weather induces to stay.
- b. La buona musica riconcilia **pro** con se stessi.
the good music reconciles with oneself.

In Italian, Rizzi argued, transitive V is an X^o_y , in terms of (48), Case-marking and licensing an object pro , which, as Italian V does not have ϕ -features, is interpreted with arbitrary/generic reference.

I have argued that, rather than being dependent on identifying ϕ -features, ‘ pro_{arb} ’, the generic or arbitrary null pronoun, is made possible by the absence of [uD] on the probing head. Assuming that the Italian null object is a counterpart of the generic null subject pronoun found in partial NSLs, and assuming that the head which probes for the object and assigns case to the object is v , then this head should have the following properties: It should have a $u\phi$ -feature set sufficiently articulated to incorporate an object ϕP pronoun, but it should not have [P] and it should not have [uD].

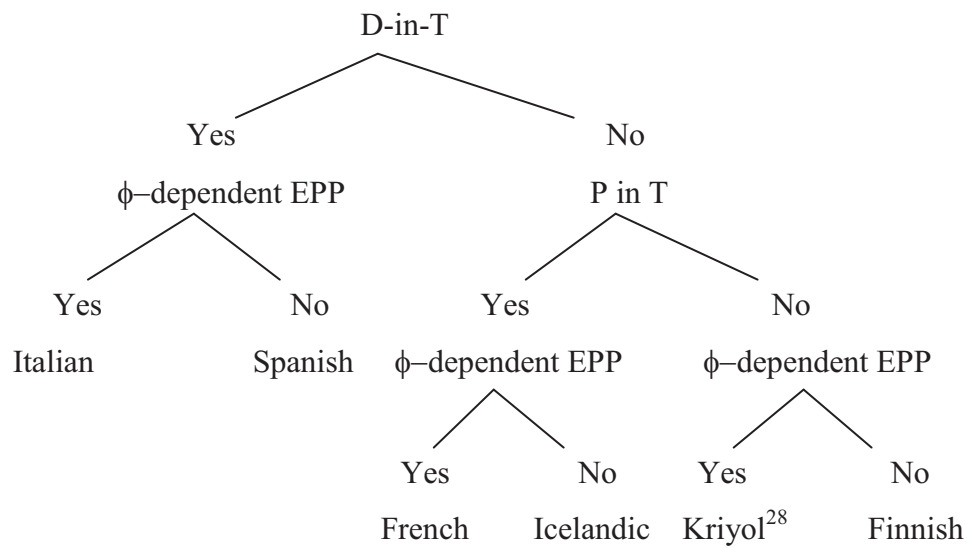
Assume that Roberts (in press, Chapter 1) is right that object clitics are the spellout of an object pronoun which is incorporated, but incorporated by Agree, without movement. Italian has object clitics, so clearly v in Italian has the $u\phi$ -features required to incorporate a pronoun. What is unexpected in the present theory is that Italian should allow both a referential 3rd

person incorporated pronoun *and* a generic/arbitrary one. An important component in the theory of null subjects articulated in this paper (and in Holmberg, chapter 5, and Holmberg & Sheehan (Chapter 3) is that languages, as it were, have to choose between either a definite null subject, derived by incorporation, or an indefinite (generic/arbitrary) one. Why should objects be different? This is another question, and potential challenge to the theory, which I will leave for future research. An idea in D'Alessandro and Roberts (in press) might be relevant, though. They suggest that a number of asymmetries between subjects and objects, including the nonexistence of “pure, consistent null-object” systems without null subjects also being allowed, can be derived from the fact that subjects but not objects are goals in the same phase as their probe.

10. The pro drop hierarchy

In Roberts and Holmberg (Introduction: Section 3.4) we argue in favour of hierarchic organisation of parameters. The argument is that the number of parameters that we have to assume is so large that it compromises the explanatory power of parametric theory as (a component of) a theory of language acquisition, unless parameters form hierarchies. The following is a proposal for how the null subject-related parameters discussed in this paper are arranged.

(50)



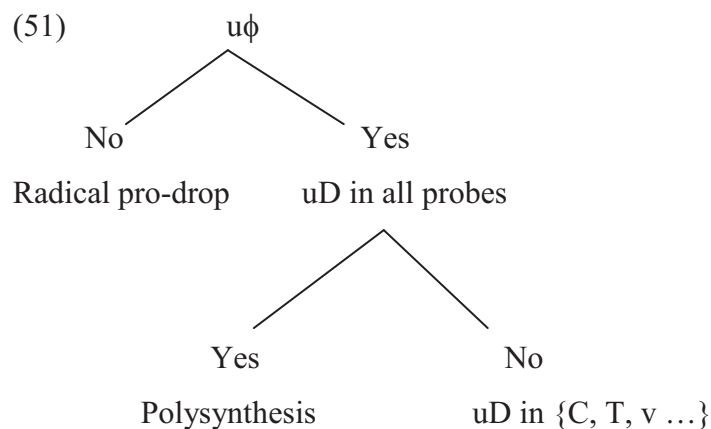
The hierarchy is represented here in the same yes/no format as in Roberts and Holmberg (Introduction: Section 5.3). I have mentioned a representative language at each terminal node. This tree embodies the hypothesis that *φ-dependent EPP (Yes/No)* is independent of the other parameters, and therefore can distinguish, in principle, between any type of languages which have $u\phi$ -features, while *D-in-T (Yes/No)* and *P-in-T(Yes/No)* are in a bleeding relation to each other.²⁹

The first split distinguishes between consistent null-subject languages (Yes) and ‘the rest’ (No). Note that what we have called partial null-subject languages do not make up a node in the tree, under this hypothesis: Icelandic and Finnish are on different branches. They have in common that they both allow incorporation of an indefinite pronoun in T. However, this is an effect of (a) having rich enough $u\phi$ -feature content but no D in T, and (b) having a ϕ -independent EPP in T. Kriyol in (50) is a representative of a language type which allows only expletive null subjects; Absence of P in T makes possible a null spec,TP, but a ϕ -dependent EPP rules out incorporation.

The $u\phi$ -feature content of T is not explicitly included as a parameter in (50). In this way (50) differs from the parameter hierarchy proposed in Roberts and Holmberg (Introduction:

pp ?). The $u\phi$ -features are, involved, though, but indirectly. A positive value for D-in-T is, plausibly, dependent on rich $u\phi$ -feature content (as Roberts argues, in Chapter 1). The case of Finnish (see Section 6) shows that this is not a two-way implication, though. Furthermore, as mentioned earlier, ϕ -dependent EPP is probably a typical property, perhaps even a necessary property, of languages with very poor $u\phi$ -feature content in T. But again, this is not a two-way implication, since a relatively richly specified language like French, not to mention Italian and many other consistent null-subject languages appear to have ϕ -dependent EPP.

The hierarchy (50) should be incorporated in the larger hierarchy proposed in Roberts and Holmberg (Introduction: pp ?). The following seems a natural way to do it.

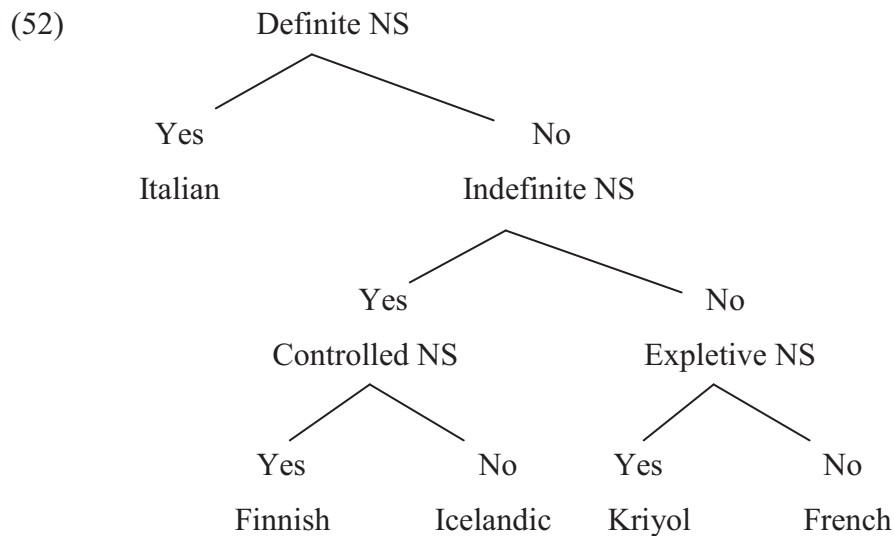


The first split of the complete pro-drop hierarchy is between languages which do and languages which do not have $u\phi$ -features in the grammar. For example Chinese, Japanese, and Korean do not. This is what allows these languages to have radical pro-drop; see Roberts and Holmberg: Introduction: Section 3.4.³⁰ The next parameter proposed by Roberts and Holmberg (though more speculatively) distinguishes polysynthetic languages (or consistently head-marking languages) from all other languages which have $u\phi$ -features. I have reformulated it here in terms of the unvalued definiteness feature uD (instead of rich $u\phi$ -feature content), the idea being that a language with a positive value for this parameter can

have a null pronoun with definite interpretation in any argument position. A typical sentence in such a language consists of a predicate and a configuration of null pronouns each assigned an index by a lexical DP merged in peripheral position, or else by a null topic; see Baker (1996). But the index-assignment is via a uD-feature on the relevant probe, according to the theory proposed here.³¹ The next node in the tree is a set of parameters, specifying which probes, if any, have a uD-feature. The one we have discussed concerns T.

The theory articulated here is fairly complex, postulating three parameters (D in T, P in T, ϕ -dependent EPP), with richness of u ϕ -feature content of T as a fourth variable property affecting the distribution of null subjects indirectly, by affecting (but not determining) the choice of value for the three parameters, in order to account for what may be described as a limited range of variation: whether a language has definite null subjects, indefinite null subjects, controlled null subjects (in finite clauses), expletive null subjects, or none at all, and in addition whether non-nominative subjects are allowed. One may legitimately wonder whether the theory is any simpler than the facts it is meant to explain. If not, it fails a fundamental criterion on an explanatory theory.

As a test, consider the effect of reformulating the parameters in observational rather than theoretical terms. Is anything lost under this reformulation? If not, the theory is on the wrong track (as before, ‘indefinite’ means ‘generic’, and as in (50) I list one representative language of each type).



One fact extensively discussed in this paper that does not fall out from this tree, but does fall out from the theory behind the tree in (50), is that having definite 3rd person null subjects *excludes* having indefinite null subjects (in active, finite clauses), and vice versa. In addition, the possibility of non-nominative subjects is not accounted for in (52), but would need to be added as an independent parameter. Another fact which does not fall out from (52), but is accounted for by the theory behind (50), is that an indefinite null subject does not satisfy the EPP, while a definite one does (see also Holmberg, Chapter 5). Another one is that indefinite null subjects can be generic but not existential or universal.

I feel reasonably confident, therefore, that the theory articulated in this paper has explanatory power, and is not just a technical reformulation of a set of observations.

¹ The following example is from a cartoon in *The Guardian* 05.11.06. The situation is a mother, a father, and a son with a plate of potato chips in front of him by the breakfast table. Mother utters (i), referring to her son:

(i) Won't eat his chips. Says they're made of potatoes. Covered in mud.

Father replies (ii):

(ii) Told you not to let him go on that farm trip.

(ii) is an example of 1st person drop, which, as mentioned is common. 3rd person drop is less common, but, as evidenced, occurs as well. The sentence *Covered in mud* exemplifies a different kind of ellipsis common in English, deleting the subject and the auxiliary of a main clause. Note that the subject *they* of the embedded clause in (i) cannot be deleted, testifying to the strict root character of this type of ellipsis.

² In forthcoming work Abdelkader Fassi Fehri argues for a qualification (or part-rebuttal) of these generalisations. He points out that consistent NSLs have an indefinite-generic null pronoun, too, but typically in construction with passive or impersonal voice (of which the Romance *se*-construction is a special case). So the crucial parameter involves voice, in a way which is not made explicit in the present theory.

³ This is the case in active clauses; In passives such as (i) or impersonal passives such as (ii) the null agent (insofar as it is syntactically represented) is an existential indefinite 'somebody'.

(i) My car has been vandalised.

(ii) Det har stekts bacon här. [Swedish]

EXP has fried-PASS bacon here

'Someone has fried bacon here.'

⁴ One exception found in BP is embedded subject pronouns bound by a robustly nonreferential quantifier such as 'nobody', which are obligatorily null.

⁵ It is not the case that overt non-thematic/expletive pronouns are only found in non-NSLs. Even notorious NSLs have expletive pronouns in some constructions (cf. Italian *C'è del vino sulla tavola* 'There is wine on the table'; see Burzio (1986), Kayne (2008)). Finnish has both

an *it*-type and a *there*-type expletive. The former is optionally overt, the latter is obligatorily overt in certain constructions; see Holmberg & Nikanne (2002). See also Freeze (1990).

⁶ Holmberg (2005) proposed that the subject ϕ P has an unvalued D-feature, valued by the feature of T. This may be an unnecessary formal complication. Instead, as will be detailed in the text below, the probe and the goal in a case like this form a chain defined by the union of the valued features of the probe and the goal, which in this case yields a definite pronoun.

⁷ (17a,b) are default rules; there are various situations where a low chain-copy is spelled out, and sometimes more than one chain-copy is spelled out. (17a,b) are also plausibly derived from more primitive conditions on spell-out and linearization; see Nunes (2000), Bobaljik (2002), Landau (2004).

⁸ See Roberts (Chapter N, note 22) for an argument that this conclusion is not warranted.

⁹ See Barbosa (to appear) for some cases with an unfocused postverbal subject pronoun.

¹⁰ BP has bare singular NPs functioning as generic subjects, which EP does not. BP also has bare singular NPs with an existential reading, which EP does not.

(i) **Gato** toma leite.

cat-SG drink-3SG milk

‘Cats drink milk.’

(ii) Criança gosta de **tomate**.

child like-3SG of tomato-SG

‘Children enjoy having tomatoes.’

¹¹ Why can a (null) A-topic in specCP not control a null subject directly, without involvement of T? Presumably T with its ϕ -features is a ‘defective intervener’ (Chomsky 2000) between the A-topic and the null subject when the subject is in spec,vP. But why can a null A-topic not control a fronted null subject directly? If it did, we would expect to have potentially the same

indirect relation between the null subject and the ‘ultimate antecedent’ in partial NSLs as in consistent NSLs. Modesto (in press) in a comparative study of BP and Finnish argues that the controlled null subject in finite clauses is itself in topic position, based on the notion that BP and Finnish are ‘topic-prominent’ languages which always move an argument, usually but not necessarily the subject, to a sentence-initial topic position (see Holmberg & Nikanne (2002) and Holmberg (Chapter N) on Finnish). If so, then this might exclude a separate null A-topic à la Frascarelli (2007). Consistent NSLs would not have this option because they are not topic prominent. This is an interesting idea. It would, however, add another parameter to an already rather complex theory. It would need to be established whether other partial NSLs which have controlled null subjects are topic prominent in the way BP and Finnish are, and whether they are different from consistent NSLs in this respect. It should be noted that 1st and 2nd person null pronouns *are* controlled directly in specTP in Finnish, by speaker and addressee speech features in the C+domain (following Sigurðsson 2004).

¹² See Vainikka & Levy (1996) for a different formal account of how 1st and 2nd person null subjects are recovered (in Finnish), differently from 3rd person null subjects.

¹³ If control is movement, as argued by Hornstein (1999, 2000), Boeckx and Hornstein (200?), then the controlled pronoun is null because of chain reduction in the strict sense. As shown by Holmberg, Nayudu & Sheehan (Chapter N) the control relation into finite clauses in the partial NSLs they investigate is not derived by movement, though. See also Landau (2003), Bobaljik and Landau (2007), and Sigurðsson (in press).

¹⁴ Apparently it does not occur in ‘radical pro-drop’ languages such as Chinese or Korean, either (thanks to Winnie Yiu and Kook-Hee Gill).

¹⁵ See Holmberg (2000) on Icelandic stylistic fronting, where the dissociation of [EPP,T] and [u ϕ ,T] is particularly striking.

¹⁶ The analysis in Holmberg (2000) is actually slightly more complicated, proposing that the null operator moves via specTP, but without checking the EPP. The analysis sketched in the text is more in line with Rizzi (1982), Rizzi and Shlonsky (2004), and also Holmberg & Hróarsdóttir (2004), Chomsky (2008). An alternative to (31b) is (i), as predicted if the the verb and the verb complement are sisters and thus are equally close to T.

(i) [Þeir sem búið hafa í Osló] segja að...

those that lived have in Oslo say that...

‘Those that have lived in Oslo say that...’

¹⁷ There is one important exception: Yes/no-questions.

(i) Hafa komið margir stúdentar?

have come many students

‘Have many students come?’

Plausibly specCP is filled in this case, too, with a null question operator. This would be the only case where the EPP and V2 are satisfied by a null category.

¹⁸ The two question marks for the null expletive version is the assessment of Halldór Sigurðsson (p.c.). I assume that the very marginal acceptability of the expletive-less version is a residue of an earlier grammar. There are embedded constructions where a null expletive (or no expletive) is more acceptable than in (35) (thanks to Halldór Sigurðsson (p.c.); see also Rögnvaldsson and Thráinsson 1990).

¹⁹ Under slightly different assumptions this would be possible, though. Assume that all operations within a phase are simultaneous, the combined result evaluated before the next phase is introduced (along the lines of Chomsky 2004). In that case Agree between T and a pronoun *p* and remerge of *p* with TP would both apply ‘blindly’. In the case of a language

with a rich enough system of $u\phi$ -features in T, the result would be a chain [p [$p+T$ [p]]] (where ‘ $p+T$ ’ means that T has copied all the features of p). In this chain $p+T$ would have to be spelled out, as it contains features in addition to those of p . It is not unreasonable to assume that, in that case, both of the other copies are deleted/are not spelled out, which yields a null subject construction. This is, in effect, what Roberts is arguing in Chapter N. One reason why I am not taking this line here or in Chapter N is that it does not offer any explanation of why the generic subject pronoun cannot move to specTP and be deleted. In other words, it offers no straightforward explanation of the facts in (21, 22).

²⁰ As discussed by Masullo (1993), in constructions such as (i) Spanish has an indirect object in specTP, satisfying the EPP, while T agrees with the source argument; see Sheehan (Chapter N, note 25). This puts Spanish in type (a). According to Zubizarreta (1998) Spanish differs from Italian in this respect.

(i) A Juan le gustan los chocolates.

to Juan CL like.3PL the chocolates.

‘Juan likes chocolates.’

(ii) ??Le gustan a Juan los chocolates.

²¹ German is arguably an expletive null-subject language; See Biberauer (Chapter N).

²² Note also that the French auxiliary verbs *avoir* ‘have’ and *être* ‘be’, which are extremely common as they are crucial for expressing past tense, have a fuller paradigm than regular main verbs.

²³ Sindhi is an Indo-Aryan non-NSL, spoken in India and Pakistan. As shown by (i) it does not have a null ‘one’, and as shown by (ii), it does not allow a null subject in a finite clause,

even when there is a potential, local, c-commanding controller for it (data thanks to Pinkey Nayanwani). In both respect it differs from Hindi, Bengali, Marathi, Assamese, and probably most other Indo-Aryan languages.

(i) hik/*Ø hini kursi te aaraam-sa vahi sokdo aaheN (Sindhi)

one this chair in comfort-P sit can be-PRES

‘One can sit comfortably in this chair.’

(ii) John-Khe pato aaheN Ki *(hun-Khe) pensat-me pensan mild-əs

John-DAT-M know-M be-PRES that he-DAT sixty-five-at pension get-FUT

‘John knows that he will get a pension at sixty-five.’

²⁴ The fact that (38a) looks like a *that*-trace construction is presumably irrelevant, as the grammatical Finnish counterpart is not derived by movement (see Holmberg, Nayudu and Sheehan (Chapter N). As confirmation, consider the fact that (i) is as bad as (38a), even though Fenno-Swedish allows *that*-trace. (see Roberts and Holmberg (Introduction: Section 2.2).

(i) *Johan lovade [att _ skulle hålla tyst]. [Fenno-Swedish]

Johan promised that would keep quiet

²⁵ At least some V2 languages have a restricted form of topic drop, for example Swedish:

(i) (Det) vet jag ingenting om.

that know I nothing about

‘I know nothing about that.’

I do not know how to accommodate that with (41). See also section 2.

²⁶ Matters are complicated by the observation that Finnish has an obligatory overt expletive checking the EPP in some constructions (see Holmberg & Nikanne 2002), unexpected if lack of P in T means a language can employ a null expletive in specTP. I will leave this complication for future research.

²⁷ Rizzi's (1986) *pro* is, however, potentially compatible with a feature theory such as the one proposed by Pesetsky and Torrego (2001, 2004), which makes a distinction between (un)valued and (un)interpretable features. In such a theory *pro* can be inherently interpretable but unvalued, and dependent on the uninterpretable but valued features of T for a value. See Johns (2007) for an implementation of Pesetsky and Torrego's theory to null arguments. See also Roberts (2008, note 9).

²⁸ See Nicolis (2004, 2008).

²⁹ With P in T the most important triggering experience required to postulate D in T as part of the acquisition of a language, namely definite null subjects, will be lacking. A Yes for D in T therefore excludes a Yes for P in T, and vice versa.

³⁰ It is not the case, apparently, that all languages with radical pro-drop lack $u\phi$ -features. The Dravidian languages have radical pro-drop (see Jayaseelan 1999), but some of them have subject-verb agreement, even rich agreement (as in Tamil). An alternative, logical given the discussion in the text, is that the parameter singling out radical pro-drop languages from the rest concerns specifically definiteness, rather than ϕ -features such as number and person. This is, in fact, what Jayaseelan (1999) proposes, observing that Dravidian and the familiar East Asian radical pro-drop languages lack articles. We could thus replace 'u ϕ ' at the root of (51) with 'uD'. However, this can, again, at best be a one-way implication, as there are languages which have no articles, yet do not have radical pro-drop, for example Finnish and many of the Slavic languages. See Roberts and Holmberg (Introduction: Section 1.2.3) for discussion of theories of radical pro-drop.

³¹ The prediction is that consistently head-marking languages will be like consistent null-subject languages with respect to definite and indefinite null arguments: The latter should either not occur at all, or require some special morphology. I have not seriously researched this question. Mark Baker (p.c.) informs me that Mohawk employs a special form of agreement, the ‘feminine impersonal’, so called because it is homophonous with the feminine-zoic agreement, or uses the 2nd person singular. He also notes that Mapudungun appears to use a passive as a generic/impersonal construction with transitive verbs when the subject is an indefinite pronoun, but 3rd person singular agreement with intransitive verbs. The latter case could be a real counterexample. Note the observation in the text above about null objects in Italian, that the complementarity between definite and indefinite null pronouns does not appear to hold for (direct) objects.