

The Syntax of Null Subjects

Abstract. Generative theories of the syntax of null subjects distinguish between (i) some form of the EPP, (ii) licensing conditions on null subjects, such as Case licensing, and (iii) identification of null subjects in the sense of recoverability of ϕ -features, regardless of whether the null subject is referential *pro*, *PRO*, or a bound variable. Typically, the EPP is irrelevant for the reasoning because it is assumed that it is satisfied by a null subject (*pro*). The goal of this paper is to shift the perspective and bring the EPP into the picture. I argue that *pro* is not in Spec,TP. Consequently, for a null-subject structure to be grammatical, the extension requirement must be satisfied by something. Grammatical licensing and identification are thus viewed as *necessary* but not *sufficient* conditions for a null subject to be grammatical.

1. Introduction

Generative theories of the syntax of null subjects distinguish between (i) some form of the EPP, (ii) licensing conditions on null subjects, such as Case licensing, and (iii) identification of null subjects in the sense of recoverability of ϕ -features, regardless of whether the null subject is referential *pro*, *PRO*, or a bound variable (Chomsky, 1981, 1982; Rizzi, 1986; Jaeggli and Safir, 1989; Borer, 1986; Landau, 2004; Holmberg, 2005, among others). Typically, the EPP is irrelevant for the reasoning because it is assumed that it is satisfied by a null subject (*pro*) being in Spec,TP. Consequently, the theories attempt to explain the distribution of null subjects only in terms of licensing and identification.

The goal of this paper is to shift the perspective and bring the EPP into the picture. I argue that we get a better empirical coverage that way. Specifically, I will argue that for a null-subject

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structure to be grammatical, the T(ense) head must be extended by something other than the subject because the subject is not available to do it. Consequently, grammatical licensing and identification are going to be viewed as *necessary* but not *sufficient* conditions for a clause with a null subject to be grammatical.

The argument will be as follows. I will first provide evidence that there is no *pro* in Spec,TP. Consequently, *pro* cannot satisfy the EPP or any EPP-like requirement. If we assume that there is some form of the EPP even in null-subject languages, then it follows that for a null subject to be grammatical, the structure must be extended by something other than *pro*.

1.1 *Puzzle*

English requires the specifier of the inflectional projection to be filled (the EPP of Chomsky 1981, 1982 and subsequent work), although other means, for example, merger of an expletive, are also possible.

- (1) a. *is a linguist in the garden.
- b. There is a linguist in the garden.
- c. A linguist is in the garden.

Other languages, such as Italian, do not require the specifier to be overtly filled (Perlmutter, 1971; Rizzi, 1980; Chomsky, 1981; Jaeggli, 1982; Borer, 1983; Safir, 1985, among many others).

- (2) a. Gianni é arrivato.
 Gianni is arrived
 ‘Gianni arrived.’
- b. é arrivato
 is arrived
 ‘He arrived.’
- c. é arrivato Gianni
 is arrived Gianni
 ‘Gianni arrived.’

This cross-linguistic variation prompts us to question of the universal validity of the EPP requirement. According to Chomsky (1982) and subsequent work, Italian does not differ from English with respect to the EPP.¹ Italian also requires a nominal element to be merged in the specifier of an inflectional projection. Italian, however, differs from English in that the element satisfying the EPP may be covert. Following Rizzi (1980), Chomsky argues that the EPP in Italian may be satisfied by *pro*, a covert pronominal element. I will call this hypothesis The *pro* Hypothesis.

(3) *The pro Hypothesis:*

If a language does not have an overt element in the specifier of the inflectional projection, the EPP requirement is satisfied by *pro* being merged in this position.

(3) makes the following prediction. If there is *pro* in the specifier of the inflectional projection, a null-subject sentence should be grammatical irrespective of whether or not it is further embedded²

(4) *A prediction made by (3):*

- a. $\checkmark [_{TP} \textit{pro} \textit{verb} \dots] \text{ iff } \checkmark [\dots [_{CP} \textit{that} [_{TP} \textit{pro} \textit{verb} \dots]]]$
- b. $*[_{TP} \textit{verb} \dots] \text{ iff } * [\dots [_{CP} \textit{that} [_{TP} \textit{verb} \dots]]]$

In order to test this prediction, we will turn to Old French. In Old French the basic word order in matrix clauses was verb-second (V2) but Old French licensed both verb-initial (V1) and V2 structures in non-bridge complements, similar to Modern Icelandic (Einhorn, 1974; Foulet, 1982; Vanelli and Benincà, 1986; Adams, 1987; Roberts, 1993, among many others).

The fact crucial for the present discussion is that even though Old French was a null-subject language, null subjects are not attested in V1 matrix clauses, as in approximated examples in (5).

(5) *Null subjects in V1 matrix clauses are unattested [approximation]:*

¹The original formulation of the EPP requirement in Chomsky (1981) was language-specific.

²I will put aside for now the question of identification dependent on the presence or the absence of a particular element in the higher structure (Borer, 1986, 1989, among others).

- a. *M'en aille en France
go to France
'I leave for France'
- b. *Vit le roi
sees the king
'He sees the king'

Interestingly, grammaticality of a null subject V1 clause can be improved by further embedding (Adams, 1987, 1988; Roberts, 1993; Hirschbuhler, 1995), as seen in (6).

(6) *In an embedded clause, a null subject is licensed in V1 (Roberts, 1993, p. 134, (88)):*

- a. Je sui le sire a cui volez parler
I am the lord to whom wish.2SG to-speak
'I am the lord to whom you wish to speak' (*Aymeri de Narbonne*, L. Demaison (ed.), Société des Anciens Textes Français, Paris 1887, 4041)
- b. L'espee dont s'estoit ocis
the-sword by-which himself-was killed
'The sword which he killed himself with' (*La Chastelaine de Vergi*, F. Whitehead (ed.), Manchester University Press 1944, 913)
- c. Ainz que m'en aille en France
before that go.1SG to France
'Before I leave for France' (*Aymeri de Narbonne*, L. Demaison (ed.), Société des Anciens Textes Français, Paris 1887, 204)
- d. Quant vit le roi
when sees the king
'When he sees the king' (*Aymeri de Narbonne*, L. Demaison (ed.), Société des Anciens Textes Français, Paris 1887, 702)

Old French is not unique in this respect. The same matrix-embedded asymmetry can be found, for example, in Czech (Ceplová, 2003), as witnessed by (7)–(8).³

(7) *In Czech, not every null-subject V1 string is grammatical in a matrix clause:*

³Czech is not a V2 language, however, there is a class of verbs that show a V2 behavior. See Kučerová (submitted) for discussion.

- a. *Jsem přišel domů pozdě
AUX.1SG come.PP home late
'I came home late.'
- b. *By rád přišel domů pozdě
would.1SG happy come.PP home late
'He would like to come home late.'
- (8) *There are no restrictions on null-subject V1 strings in an embedded clause:*
- a. Petr řekl mamince, že jsem přišel domů pozdě
Petr.NOM said mother.DAT that AUX.1SG come.PP home late
'Petr told his mother that I came home late.'
- b. Petr řekl mamince, že by rád přišel domů pozdě
Petr.NOM said mother.DAT that would.1SG happy come.PP home late
'Petr told his mother that he would like to come home late.'

This state of affairs is rather puzzling. If the embedded clause is grammatical because of *pro* being in Spec, TP, why does the same strategy not help in a matrix clause? In the next section, I will identify the source of the incorrect prediction made by The *pro* Hypothesis and suggest an alternative.

1.2 Proposal

The *pro* Hypothesis, (3), is based on two assumptions: (i) There is *pro* in the specifier of the inflectional projection, and (ii) some form of the EPP requirement is valid even in null-subject languages. I argue that the incorrect prediction made by (3) stems from (i). Thus I argue for replacing (i) with (9), while keeping assumption (ii).

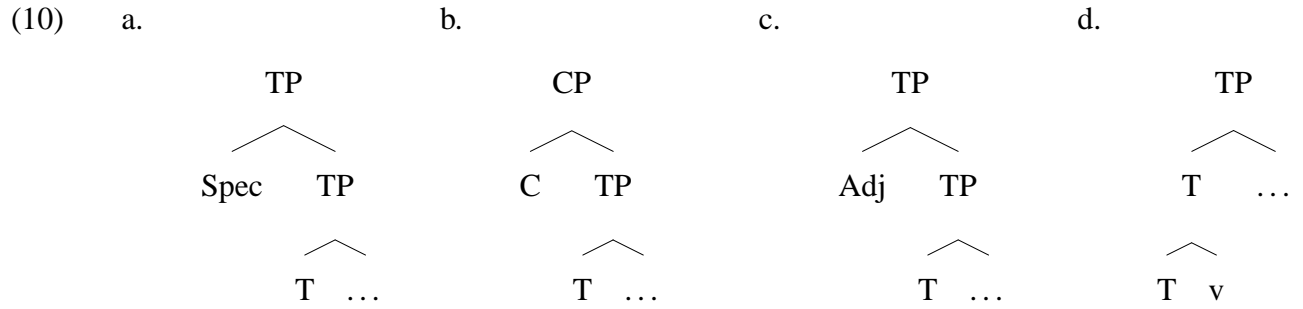
- (9) There is no *pro* in the specifier of the inflectional projection.

If we assume that assumption (ii) is valid, i.e., some form of the EPP is active even in null-subject languages,⁴ then it follows that something other than *pro* must extend the structure. If there is no extension, a null subject cannot be grammatical.

⁴In this respect I differ from proposals like that of Alexiadou (2006) according to who the EPP is active only in some languages and only in some syntactic environments.

Interestingly, the fact that embedding improves the structure suggests that the French and Czech extension requirement is more flexible than the English EPP. A cross-linguistic modification of the EPP is independently needed because some languages require the extension principle to be satisfied by an XP in Spec,TP and other languages by head movement to T (Alexiadou and Anagnostopoulou, 1998; Holmberg, 2000). Furthermore, some languages combine both extension strategies and some languages may even satisfy the extension requirement by merging C (Bury, 2003; Kučerová, 2005; Frascarelli, 2007; Jouitteau, 2007; Kučerová, submitted).

Notice that there is a generalization across all the cases, i.e., T is involved in at least two instances of merge. This generalization covers merge of a specifier, merge of a complement, phrasal adjunction, and head movement, as schematized in (10). I will call this generalization the *T-Extension Requirement* (TER), (11).



(11) *T-Extension Requirement (TER)*

If $\text{Merge}(T, \alpha)$ applies, $\text{Merge}(T', \beta)$ must be the next step of the derivation, where T' is a projection of T and β belongs to the same Spell-out domain as T .

It is possible that the TER needs further refinement to replace the EPP in general but it will do for purposes of this paper. The definition requires that after T is merged, another instance of merge must take place. Crucially, there is no further restriction on this merge. Any merge will suffice, be it merge of a head, a phrase, or external or internal merge. Notice also that the definition does not require T on its own to be extended. Hence, even external merge of C will do.

In addition, the TER requires the relevant merge to take place within the Spell-Out domain of T (Chomsky, 2001, 2004, 2005). The purpose of this clause is to ensure that the TER applies cyclically for each phase domain.⁵ The clause thus posits that merge of a higher structure, for instance, matrix V, wouldn't help.

The reader can easily verify that the TER as it stands is too general. I will assume throughout this paper that languages differ in what counts as the legitimate extension. For each language, there must be a specific formulation restricting the TER.⁶ I will not attempt to characterize these language-specific restrictions in this paper. Instead, I will use the TER as an overarching condition that will allow us to discuss different languages in a uniform way.⁷

Having to hand a concrete formulation of the extension requirement, we can now return to the issues of null subjects. As we have seen, The *pro* Hypothesis makes incorrect predictions. Thus, I argue to replace The *pro* Hypothesis with (12).

(12) *The TER Hypothesis:*

Irrespectively of what the language-specific TER is, a null subject may be grammatical only if the TER is independently satisfied.

If we put the burden of null subjects on the TER, the emerging picture is rather different from the more familiar mode of thinking about null subjects. Instead of asking why a null subject is possible, the TER asserts that any language can in principle have null subjects, as long as the licensing and identification conditions are satisfied. However, if there is a null subject, then the language-specific TER must be satisfied by other means.

Sometimes, for example, as in English, no extension other than an extension by a D-element will be good enough. Thus, even though English has various types of inversion, none of them is sufficient to license a null subject. Furthermore, Germanic V2 languages like German or Dutch

⁵See Kučerová (submitted) for empirical motivation of this restriction.

⁶In the current formulation, the TER is a well-formedness condition on Spell-out and it remains to be seen whether this is a desirable outcome. See recent discussion in Chomsky (2004) and Chomsky (2005) for theoretical arguments in favor of such a condition.

⁷I refer to T as the locus of the TER but languages may differ in this respect as well.

might not be different from English in this respect. In other words, under the current proposal, German and Dutch T has a very specific requirement that cannot be obviated by moving an XP to Spec,CP.

One must be careful when approaching a particular language because there may be differences in the TER specification even between closely related languages. For example, while Mainland Scandinavian languages (Danish, Norwegian, Swedish) pattern with German and English, Insular Scandinavian languages (Faroese, Icelandic) are more flexible in their TER specification (Platzack, 1987). Similarly, different historical stages of a language may have a differing TER specification (see for example, Axel 2008 for German and Platzack 1987 for Swedish). But no matter what the language-specific TER turns out to be, as long as the TER may be satisfied by something other than the subject (and the licensing and identification conditions are met), a null subject should be possible.

The rest of the current paper investigates in detail predictions made by the TER. We will start by looking at further predictions the TER makes for Old French and Czech, 2.1. Since the present proposal relies on the assumption that there is no *pro* in Spec,TP, it is important to see whether there is any additional evidence supporting this assumption. If the present proposal is on the right track, it follows that if *pro* acts as a binder, it must bind from a position lower than Spec,TP. Section 2.2 presents a case study confirming this prediction. Section 2.3 compares cross-linguistic predictions made by the TER with those made by the Null-Subject Parameter hypothesis as that of Rizzi (1982, 1986); Safir (1985), among others. Section 3 is devoted to Modern Hebrew. Since Modern Hebrew has a rather complex system of null-subject licensing (dependent on Tense, Person and other grammatical factors – some of them not previously reported), it offers itself as an interesting testing ground for the TER Hypothesis. Section 4 compares the TER Hypothesis to other existing theories of null subjects and section 5 concludes.

2. Predictions Made by the TER Hypothesis

2.1 Other Extensions

If grammaticality of null subjects is dependent on further extension, the TER Hypothesis predicts that null subjects should be grammatical in a matrix clause if something other than the subject extends the structure. Thus, if we find a syntactic operation that achieves the relevant extension, we expect a null subject in a matrix clause to be grammatical even in Old French and Czech.

Old French exhibits a syntactic operation in which various XPs may be fronted. For presentation purposes, I will refer to this type of fronting as Stylistic fronting (SF) (parallel to Stylistic fronting/Stylistic inversion in other Romance and Germanic languages; [Kayne and Pollock 1978](#); [Maling 1980/1990](#); [Holmberg 2000](#), among many others). The TER Hypothesis predicts that if SF takes place in a matrix clause, a null subject should be grammatical in that clause. This prediction is borne out, as witnessed by (13).

(13) *Stylistic fronting licenses null subjects* ([Roberts, 1993](#), p. 124, (74)):

- a. Tresqu'en la mer cunquist la tere altaigne
until the sea conquered.3M.SG the land high
'He conquered the high land all the way to the sea' (*Roland*, 1.3.)
- b. Après conquest Orenge la cité
after conquered.3M.SG Orenge the city
'Afterwards he conquered the city of Orange' (*Le Charroi de Nîmes*, 1.7)
- c. Or fait senblant con s'ele plore
now makes.3F.SG seem if-she cries
'Now she pretends to cry' (*Tristan*, 1.8)
- d. Por vos sui en prison misse
for you am.1SG in prison put
'I have been put in prison for you' (*Aucassin et Nicolette*, v, 1.20)

SF may take place in embedded clauses with null subjects as well, as seen in (14) from [Roberts \(1993, p. 135, \(89\)\)](#), thus providing further evidence for the matrix-embedded clause asymmetry with respect to licensing of null subjects.⁸

⁸For further discussion of embedded V1 sentences in the relation to licensing null subjects see [Adams 1988](#);

(14) *In embedded clauses, Stylistic fronting is optional:*

- a. Por l'esperance qu'an lui ont, ...
for the-hope which-in him have.3PL
'For the hope which they have in him,...' (*Ch. lyon* 4013, Tobler: T8, p. 10)
- b. Et si ne sait que faire puisse
and so not knows what to-do can.3M.SG
'And so he doesn't know what he can do' (*Guillaume* 528, cited in Moignet 1973: 228)

If the grammaticality of null subjects depends on the extension requirement and not on the V2 requirement, we expect merge of C to improve null subjects in matrix clauses as well. This is indeed correct. As can be seen in (15) from Adams (1987), yes-no questions formed by T-to-C movement may have a null subject despite them being V1 structures.

- (15) Oserai le vous demander?
dare.1SG it you ask
'Do I dare ask it of you?'

If we now turn to Czech, we expect to find the same pattern as in Old French. As the examples in (16) show, any fronting improves a null subject structure.⁹

(16) *Any extension licenses null subjects in a matrix clause in Czech:*

- a. Včera jsem přišel domů pozdě.
yesterday AUX.1SG come.PP home late
'I came home late yesterday.'
- b. Já jsem přišel domů pozdě.
I AUX.1SG come.PP home late
'It was me who came home late.'
- c. Přišel jsem domů pozdě.
come.PP AUX.1SG home late
'I came home late.'

Hirschbuhler 1990, 1995, among others.

⁹Unfortunately, we cannot test yes-no questions in Czech because the verbs that cannot be V1 in Czech do not undergo T-to-C movement in questions (Kučerová, submitted).

To conclude, the predictions made by the TER Hypothesis are borne out. Clearly, questions still remain regarding the identification of null subjects, however, I have limited my discussion of this issue to a few observations, in section 5. For related discussion see Taraldsen 1978; Rizzi 1980, 1986; Borer 1986; Jaeggli and Safir 1989; Vainikka and Levy 1999; Landau 2004; Holmberg 2005; Neeleman and Szendrői 2007; Holmberg et al. 2009, among others.

2.2 Binding Properties of *pro*

If there is any null subject at all, we expect it to be lower in the structure than in the Spec,TP.¹⁰ In particular, if *pro* behaves as a binder, it should bind from a lower structural position than Spec,TP (see also Cardinaletti 1995 for Italian).

In Czech, a non-reflexive possessive pronoun may be bound only by its closest antecedent.¹¹ The actual mechanism behind this type of binding is irrelevant for the present argument. It is included here purely for diagnostic purposes. A basic case of coreference can be seen in (17). As we see, the subject acts as a binder of the non-reflexive possessive pronoun. Interestingly, in raising constructions a Dative experiencer blocks the coreference, as witnessed by (18).

(17) *Coreference: the basic case (the subject acts as the binder):*

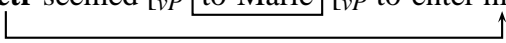
- a. Petr_i vešel do jeho_i pokoje.
Petr.NOM entered in his room
'Petr_i entered his_i room.'
- b. Marie_j vešla do jejího_j pokoje.
Marie.NOM entered in her room
'Marie_j entered her_j room.'

(18) *Coreference across an intervener:*¹²

¹⁰The discussion in this section has been previously reported in Kučerová (submitted).

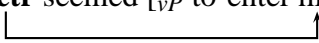
¹¹Note, in Czech, elements bound by a Nominative subject usually appear in the reflexive form. There is, however, the possibility to use non-reflexive pronouns as well. I use non-reflexive pronouns because reflexive pronouns have very different binding properties from non-reflexive pronouns. For example, reflexive pronouns do not require to be c-commanded by their antecedent. Thus they cannot be used for positional tests.

¹²The form *zdát se* is ambiguous between a raising verb 'seem' and a psych verb 'dream'. The coreference in (18a) is possible under the psych reading.

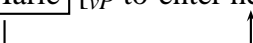
- a. Petr_i se zdál Marii vejít do jeho_{*i/✓j} pokoje.
 Petr.NOM REFL seemed Marie.DAT enter.INF in his room
 ‘Petr_i seemed to Marie to enter his_i room.’
- b. *_{[TP Petr seemed [_{vP} to-Marie [_{vP} to-enter his room]]]}
- 

Example (19) is here as a control. If there is no Dative experiencer in the matrix clause, the subject corefers with the non-reflexive pronoun in the infinitival complement. Furthermore, as seen in (20), the Dative experiencer may act as a binder as well.

(19) *Without the Dative DP, the subject is the binder:*

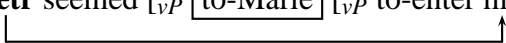

- a. Petr_i se zdál vejít do jeho_i pokoje.
 Petr.NOM REFL seemed enter in his room
 ‘Petr_i seemed to enter his_i room.’
- b. _{[TP Petr seemed [_{vP} to-enter his room]]}
- 

(20) *Dative DP may act as the binder:*

- a. Petr_i se zdál Marii_j vejít do jejího_j pokoje.
 Petr.NOM REFL seemed Marie.DAT enter in her room
 ‘Petr seemed to Marie_j to enter her_j room.’
- b. _{[TP Petr seemed [_{vP} to-Marie [_{vP} to-enter her room]]]}
- 

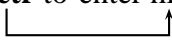
With the basic coreference pattern in place, we can proceed to predictions relevant for the distribution of *pro*. Firstly, if *pro* stays in its base position (presumably, Spec,vP), we would expect to find a contrast between a null subject and an overt subject in raising constructions with a Dative experiencer. The prediction is schematically given in (21). As can be seen in (22), this prediction is borne out.

(21) *Predictions for overt subjects versus null subjects:*

- a. $*[_{TP} \text{ Petr seemed } [_{vP} \text{ to-Marie } [_{vP} \text{ to-enter his room}]]]$

- b. $[_{TP} \text{ seemed } [_{vP} \text{ to-Marie } [_{vP} \text{ pro to-enter his room}]]]$

- (22) Zdál se Marii vejít do jeho pokoje.
 seemed-he REFL Marie.DAT enter.INF in his room
 ‘He_i seemed to Marie to enter his_i room.’

Secondly, if the difference in coreference is caused by the structural position of the subject, we would predict that if the subject does not move to Spec, TP and the TER is satisfied, for example, by an adverb – an option available in Czech, the overt subject should be able to bind the direct object. This prediction is schematically given in (23). As can be seen in (24), this prediction is borne out as well.

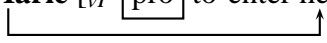
- (23) *If the overt subject stays low, the Dative does not intervene:*

$[_{TP} \text{ XP seemed } [_{vP} \text{ to-Marie } [_{vP} \text{ Petr to-enter his room}]]]$


- (24) Včera se zdál Marii Petr_i vejít do jeho_i pokoje.
 yesterday REFL seemed Marie.DAT Petr.NOM enter.INF in his room
 ‘Yesterday Petr_i seemed to Marie to enter his_i room.’

The evidence I have presented so far shows that *pro* may stay low but not that it *must* stay low. If the assumption behind the TER Hypothesis is correct, *pro* must stay low. In order to test this, we need to consider a case of coreference between a Dative experiencer and a non-reflexive pronoun within the infinitival complement. If *pro* must stay low, we would expect that it should block coreference of the Dative DP into the complement clause. This prediction is schematically given in (25). As can be seen in (26), this prediction is borne out as well.

- (25) *If pro must stay low, it will block coreference of the Dative DP into the complement clause:*

$[_{TP} \text{ seemed } [_{vP} \text{ to-Marie } [_{vP} \text{ pro to-enter her room}]]]$


- (26) *Zdál se Marii_i vejít do jejího_i pokoje.
 seemed-he REFL Marie.DAT enter.INF in her room
 ‘He seemed to Marie_i to enter his_i room.’

The reader might object that in the case of raising constructions, *pro* might still move to the specifier of the infinitival TP. Putting aside whether the infinitival complement is TP or a smaller structure,¹³ even if *pro* moved to the specifier of the infinitival TP, it would be irrelevant for the logic of the argument. If *pro* were indeed in Spec,TP of the infinitival clause, it would still be the case that the matrix clause has a null subject without *pro* occupying the specifier of the matrix TP.

To conclude, the Czech coreference pattern provides further evidence for the hypothesis that a null-subject clause does not have *pro* in Spec,TP. In turn, the coreference pattern gives further empirical support to the TER Hypothesis over the *pro* Hypothesis.

2.3 *Cross-Linguistic Predictions*

The syntax of null subjects has attracted a lot of theoretical attention because it appears to present a case of a strong parametric correlation between one grammatical aspect, i.e., \pm null subject, and several other, seemingly unrelated, grammatical properties, such as subject inversion, the That-Trace Effect, or a correlation with null non-thematic subjects (expletives) (Perlmutter, 1971; Taraldsen, 1978; Pesetsky, 1982b; Rizzi, 1982; Safir, 1985; Jaeggli and Safir, 1989, among many others). For example, the so called *pro*-drop or Null-Subject Parameter as presented in Rizzi (1982), Safir (1985), and Jaeggli and Safir (1989), predicts several bidirectional correlations for null subjects: (i) a correlation between null subjects and subject inversion, (ii) a correlation between null subjects and that-trace effect, (iii) a correlation between null thematic and null non-thematic subjects.

In contrast, the TER Hypothesis does not make any bidirectional predictions between null subjects and the structure. For example, if a language has subject inversion and the corresponding

¹³As far as I know, there is no evidence for infinitival complements of raising verbs in Czech to be larger than vP. For example, the infinitival complement can never have a temporal specification distinct from the matrix clause, (Wurmbrand, 2001; Dotlačil, 2004). Notice also that infinitival complements in Czech are not opaque for movement. For example, clitics can freely climb out of them (Rezac, 2005).

verb head movement satisfies the TER, then the language may have null subjects. However, it does not follow that if a language has null subjects, that it must have subject inversion. The only correlations that the TER makes are two one-directional correlations. The first correlation is that a structure can have a null subject only if the structure has been extended by something other than the subject. The second correlation concerns the relation between null subjects and lack of pure expletives (non-thematic subjects). If we assume that expletives (non-thematic subjects) are merged only in order to satisfy the EPP/TER, then the following follows:

(27) *Predictions about expletives made by the TER Hypothesis:*

- a. If the TER is satisfied by other means than by merging the subject in Spec,TP, for example, by subject inversion, the structure does not have a null expletive subject.
- b. If a structure has a null subject, then it cannot have a pure expletive because the structure has already been extended.

A natural question to ask is whether the TER Hypothesis is empirically correct or whether there are empirical reasons for a stronger condition.

To my knowledge, the most comprehensive typological work evaluating the *pro*-drop parameter predictions can be found in Gilligan (1987). Gilligan's thesis, based on a survey of one hundred typologically distinct languages, argues that there are only four statistically significant one-directional implications attested (Gilligan, 1987, p. 136–153).¹⁴ His empirically attested universals are summarized in (28).

(28) *Surface universal implications for null subjects:*

- a. If a language has null thematic subjects in a particular environment, then it also has null non-thematic subjects in that environment. (Gilligan, 1987, p. 137, (70))

¹⁴Unfortunately, Gilligan's thesis has not been published. For an easily accessible discussion of his results, see Croft (2003, p. 80–84) and Newmeyer (2008, p. 66–67). Notice, however, that both Croft and Newmeyer talks about Gilligan's implications as statements about a language. As far as I can tell from the thesis, Gilligan talks specifically about environments, not languages.

- b. If a language has subject inversion in a particular environment, then it also is likely to have null non-thematic subjects in that environment. (Gilligan, 1987, p. 140,(75))
- c. If a language has subject inversion in subordinate environments, then it also has That-Trace filter violations. (Gilligan, 1987, p. 142, (79))
- d. If a language has That-Trace filter violations, then it also has null expletives in subordinate contexts. (Gilligan, 1987, p. 144, (83))

As we can see, the TER Hypothesis thus correctly predicts two of the four surface universals, namely (28a) and (28b)¹⁵ As for the other two universals, the TER does not make a direct contribution to the relation between null subjects and the That-Trace Effect. However, an indirect relation has been made in other theories of That-Trace violations. In Pesetsky (1982a) and following work, the correlation was related to the assumption that *pro* is not anaphoric. Under the present account, there is no *pro* in Spec, TP. Consequently, the (non)anaphoric status of *pro* cannot be relevant. However, it is possible that there is an indirect correlation. As argued by Rizzi (1982, chpt. 4), Burzio (1986); Safir (1985, among others), a language does not have the That-Trace Effect violation if the subject may move from a lower position without passing through Spec, TP. If this is correct, such a structure has the option of satisfying the TER by means other than merging the subject in Spec,TP. Consequently, if the TER can be satisfied by something else than the subject, the language can have null subjects.

Furthermore, if we combine (28c) and (28d), it follows that if a language has subject-inversion in subordinate environments, then it may have null expletives in embedded environments. This combined correlation straightforwardly follows from the TER.¹⁶

To sum up, the structural correlations predicted by the *pro*-drop parameter are cross-linguistically

¹⁵Holmberg (2005) reports that Finnish has both non-thematic subjects and null thematic subjects even though they never coexist in the same clause. The pattern would be a counterexample to the TER only if it is the case that non-thematic subjects were present in structures that has been independently extended. It does not seem to be the case because non-thematic subjects are incompatible with null thematic subjects but more work needs to be done here.

¹⁶There is one more typologically strong correlation that is relevant for the current discussion. Dryer (2002) argues – based on a database of 557 languages – that V-initial languages have on average richer agreement than SOV languages so there might be a correlation between richer morphology and verbal head movement. Yet, this is only a tendency and it is not clear how relevant it is for the present discussion.

unattested. In contrast, the TER makes correct cross-linguistic predictions. Hence, there does not seem to be any empirical reason for the structural condition on null subjects to be stronger than the TER Hypothesis.

2.4 Interim Summary

To summarize, I have presented evidence that there is no *pro* in Spec,TP and I have argued that this fact has consequences for the syntactic distribution of null subjects. A successful theory of the syntactic distribution of null subjects thus cannot be based on the *pro* assumption.

An interesting question to ask at this point is whether there is *pro* at all and if there is one, why does it not move. I believe that the question of whether there is a null pronominal element in the structure is still open. Since we do not really understand the nature of the Czech pronominal coreference, we cannot safely conclude that it proves the existence of *pro*. But for the sake of the argument, let us assume that there is *pro* and that it cannot move in order to satisfy the TER. Clearly then the question arises of why this should be so.

Once we separate Merge and Agree, a null element is expected to move only if this operation affects one of the interfaces. Since null elements cannot affect PF, the only reason for them to move would be to affect LF. However, there are good reasons to assume that movement for the TER would have no LF consequence.¹⁷ Furthermore, there is empirical evidence that another null element, PRO, does not move (see the discussion in [Baltin 1995, 2001](#) for evidence from the distribution of floating quantifiers).¹⁸

One still needs to be careful how exactly to execute the idea because if we adopt a realizational view of morphology, for example that of [Halle and Marantz \(1993\)](#), syntax cannot see whether the subject is going to be overt or covert. A lexicalist needs to say that the system is sensitive to something like the p-feature/matrix of [Holmberg \(2000\)](#). The problem does not arise only under [Landau \(2007\)](#) where the EPP is viewed as a condition on the PF but [Landau's](#) formulation cannot

¹⁷Of course, this follows only if we assume that binding is not part of the LF ([Chomsky and Lasnik, 1993](#), among others).

¹⁸[Chomsky and Lasnik \(1993\)](#) argue that PRO does move but their argument is based on purely theory-internal grounds and as far as I can tell the argument does not hold for later version of the minimalist program.

be straightforwardly used in the presented theory. I will leave this question for future research.

3. Further Predictions

If the availability of null subjects depends on the TER being satisfied by means independent of the subject, we expect to find languages that have null subjects only in some syntactic environments but not in others, i.e., partial *pro*-drop languages to borrow the terminology of Holmberg (2005). The following section investigates this prediction.

3.1 Verb Movement Dependency

Alexiadou and Anagnostopoulou (1998) argued that in some languages verb movement to T is sufficient to satisfy the EPP. Consequently, if a language has *obligatory* verb movement to T and if this verb movement satisfies the language specific TER,¹⁹ the language should allow null subjects in *any* syntactic environment. This prediction is borne out, for instance, in some Romance languages, Turkish, or Japanese (Alexiadou and Anagnostopoulou, 1998; Kornfilt, 1984; Belletti, 1990; Barbosa, 1995; Koizumi, 1995, 2000; Vermeulen, 2008, among others).²⁰ I have nothing to add to this pattern beyond the analysis in Alexiadou and Anagnostopoulou (1998).

From the point of view of the TER Hypothesis, a more interesting case arises when a language employs head movement to T *only in some tense(s)* but not others. The TER Hypothesis predicts that a null subject should be possible *only in the tense that employs movement to T* (unless the TER

¹⁹Notice that obligatory verb movement is not always enough, as in French.

²⁰Japanese is a radical *pro*-drop language. As far as I can tell the fact that any argument may be dropped in Japanese is irrelevant for the present argument.

Notice also that the argument that there is V-to-T movement in OV languages is rather controversial and hard to test. For example, the argument that Japanese has verb movement to T, as presented in Koizumi (1995, 2000) and Vermeulen (2008), is based on nonconstituent coordinations, as in (i).

- (i) Mary-ga [[John-ni ringo-o 2-tu] -to [Bob-ni banana-o 3-bon]] ageta.
 Mary-NOM John-DAT apple-ACC 2-CL -and Bob-DAT banana-ACC 3-CL gave
 ‘Mary gave two apples to John and three bananas to Bob.’

According to Koizumi (1995, 2000) and Vermeulen (2008), (i) should be analyzed as remnant VP coordination with ATB V-to-T movement (the evidence comes from the position of adverbs, distribution of the coordinator *-to* and other diagnostics), as in (ii). If this analysis is correct, then it follows that Japanese has V-to-T movement.

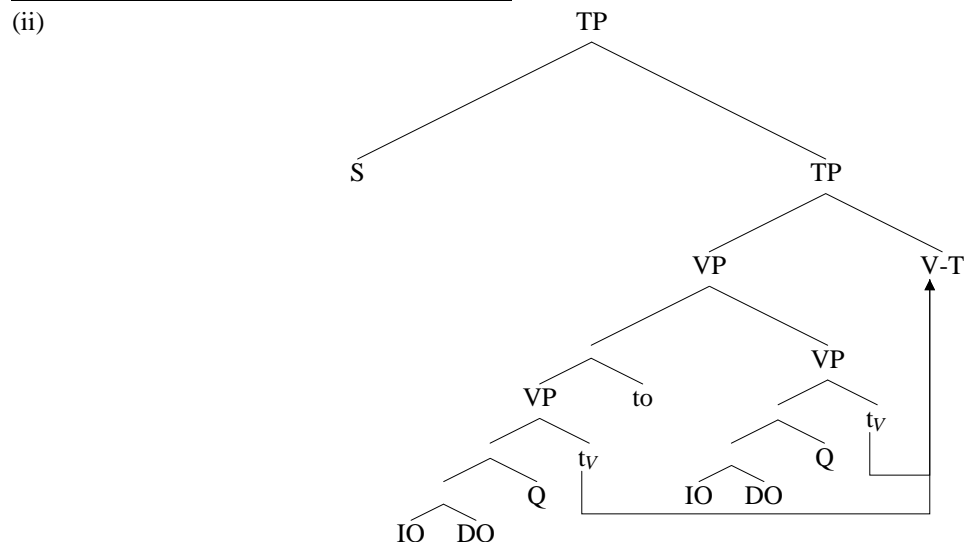
is satisfied by other means). A null-subject pattern confirming this prediction is found in Modern Hebrew.

In Modern Hebrew, a verb moves to T only in the Past and the Future tense (Shlonsky, 1997, 2009). Consequently, a null subject in matrix clauses is possible only in the Past and the Future tense but not in the Present tense (Borer, 1980, 1983; Doron, 1983; Shlonsky, 1987), as witnessed by (29).

(29) *Null subjects in Modern Hebrew are dependent on verb movement to T* (from Landau 2004, p. 815, (1)):

- a. (ani) dibarti / (ata) dibarta
(I) talked.1SG (you) talked.2SG
'I/you talked.'
- b. (ani) adaber / (ata) tedaber
(I) will-talk.1SG (you) will-talk.2SG
'I/you will talk.'
- c. *(ani) medaber / *(ata) medaber
I talk.1SG you talk.2SG
'I/you talk.'

Interestingly, the Modern Hebrew pattern is even more complex because null subjects are dependent not only on Tense but also on Person. In particular, null subjects are licensed only in the



1st and 2nd person but not in the 3rd person, as seen in (30).

(30) *Null subjects are licensed only in 1st and 2nd person of Past and Future* (from Landau 2004, p. 815, (1)):

- a. (ani) dibarti / (ata) dibarta / *(hu) diber
(I) talked.1SG (you) talked.2SG *(he) talked.3SG
'I/you/he talked.'
- b. (ani) adaber / (ata) tedaber / *(hu) yedaber
(I) will-talk.1SG (you) will-talk.2SG *(he) will-talk.3SG
'I/you/he will talk.'
- c. *(ani / ata / hu) medaber
(*I you he) talks
'I/you/he talk(s).'

I will argue that contrary to appearances Modern Hebrew constitutes yet another case of structural asymmetries due to the TER. Specifically, I will argue that there is a matrix-embedded asymmetry as predicted under the TER. The argument will be based on the fact that null-subject structures may be repaired by extension. If the null subject pattern followed, from example, from the amount of information that can be recovered from the verbal morphology, structural extension should be irrelevant.

3.2 *Person Dependency*

It has been argued that verb head-raising is dependent on the featural content of the agreeing subject (Vikner, 1995; Zanuttini, 2008, among others). Roughly, $[+\phi]$ Person features (1st and 2nd person) need to be checked against a higher functional head than $[-\phi]$ features (3rd person). If this is correct, only the 1st and 2nd person verbal head might raise high enough to satisfy the TER.

Suggestive evidence for the different height of verb raising in Modern Hebrew comes from verbal morphology. The 1st and 2nd person is morphologically more complex than 3rd person in that it often contains extra consonantal material that is not present in the tri-consonantal root. This suggests that the 1st and 2nd person morphology corresponds to a more complex syntactic

structure.²¹ The table in (38) summarizes the forms for the Past and the Future tense. As we can see, the Past tense is formed by the so called suffixal conjugation, i.e., there is a consonantal suffix following the tri-consonantal root. The Future tense is formed by the so called prefixal conjugation, i.e., there is a consonantal prefix preceding the tri-consonantal root.²²

(31) *Forms of $\sqrt{\text{TFR}}$ 'to sew' (from Shlonsky 1997, p. 9–10, (1-12), (1-14))*

	Past	Future		Past	Future
1SG	tafar- ti	ʔe -tfor	1PL	tafar- nu	ni -tfor
2SG.M	tafar- ta	ti -tfor	2PL.M	tafar- tem	ti -tfər-u
2SG.F	tafar- t	ti -tfər-i	2PL.F	tafar- ten	ti -tfor-na
3SG.M	tafar	yi-tfor	3PL.M	tafr-u	yi-tfər-u
3SG.F	tafr-a	ti-tfor	3PL.F	tafr-u	ti-tfor-na

An independent theoretical argument in the same direction has been made by Shlonsky (1997, 2009). According to Shlonsky, 3rd person features are located on the Num head, while 1st and 2nd person features are located on the D-head. Since only the D-head obligatorily moves to T, only the D-head satisfies the TER.

However, even though the theoretical and the morphological argument is compatible with the TER, it does not distinguish between the TER Hypothesis and a hypothesis that ties a possibility of null subjects solely to the richness of verbal morphology.²³ Crucially, if the problem with 3rd person null subjects is a matter of extension and not the richness of morphology or lesser degree of contextual recoverability, a 3rd person null subject should be licensed if the structure is further extended.

In the next subsections I will discuss two cases confirming the TER prediction. First, I will show that 3rd person null subjects are licensed in an embedded environment, including non-complement clauses (Borer, 1986; Landau, 2004; Melnik, 2007, among others). Second, I will

²¹The overt morphology of 3rd person is related to Gender and Number only.

²²The prefixes in the 3rd person forms of the Future tense, i.e., yi- and ti-, are Gender markers and have a different morphological status than the other prefixes in the Future paradigm.

²³I will compare the TER Hypothesis to other theories in more detail in section 4.

present new data showing that 3rd person null subjects are licensed also in matrix exclamative clauses.

3.2.1 Case I: 3rd Person Null Subjects in Embedded Clauses

If the 3rd person null subject is degraded because the verb does not move high enough to satisfy the TER, we predict that if the structure is further embedded, even 3rd person null subjects should be grammatical. This is indeed correct.

In Modern Hebrew, 3rd person subjects may be dropped under embedding. The best described case in the literature is null subjects in subjunctive complements, as in (32). It has been argued that this is a case of obligatory control (Landau 2004 contra Borer 1986, among others). Crucially, 3rd null subjects may be grammatical also in non-obligatory control and non-control environments (Melnik 2007, R. Katzir, p.c., D. Fox, p.c.), as seen in (33)–(34).

- (32) *Obligatory control into finite subjunctive complements* (Landau, 2004, (5a), (86b), p. 817, 866):

- a. Rina himlica le-Gil₁ še-pro_{1/*2} ya'avod yoter kaše.
Rina recommended to-Gil that-pro will-work.3SG.M more hard
'Rina recommended to Gil that he would work harder.'
- b. Hem₁ kivu še-pro_{1/*2} yelxu ha-bayta mukdam.
they hoped that-pro will-go.3PL home early
'They hoped to go home early.'

- (33) *Non-obligatory control in adjunct clauses* (Melnik, 2007):

- a. hu haya yoshev leyad-am kol ha-layla kshe-naflu le-mishkav...
he was.3SG.M sit next-to-them all the-night when-fell.3PL.M to-bed
'He would sit next to them_i all night when they_i were ill. . . ' (Ha'aretz Corpus)
- b. be-mixtav she-hefits bekerev ha-ovdim hoda la-hem
in-letter that-distributed.3SG.M among the-workers thanked.3SG.M to-them
beit ha-malon...
house the-hotel
'In a letter which it_i distributed among the workers, the hotel management thanked them. . . '

(34) *Null subjects in Past tense complements*

- a. hu amar Se-higia
 he say.SG.M.PST that-arrive.SG.M.PST
 ‘He said that he had arrived’
- b. hu hichir Se-hifsik le’aSen
 he declare.SG.M.PST that-stop.SG.M.PST to-smoke
 ‘He declared that he had stopped smoking.’

Notice that in this case it is necessary to distinguish between the TER Hypothesis and means of null-subject identification. Whether or not a particular null subject is grammatical depends on whether it can be appropriately controlled. Yet, for the identification to be at all relevant, the structure must be first extended.

3.2.2 *Case II: Licensing 3rd Person Null Subjects in Exclamatives*

We have seen in Section 1.1 that in Old French C is able to satisfy the TER even in a matrix clause. Thus we would expect that even in Modern Hebrew, the presence of the higher clause is not crucial for the TER. Consequently, if a Hebrew matrix clause has a complementizer, a 3rd person null subject should be possible even in a matrix clause. This prediction is indeed borne out.

In Modern Hebrew, there is a type of matrix clause underspecified for its illocutionary force and with its interpretation highly dependent on the context. This type of clause has an overt complementizer. Consequently, 3rd person null subjects are licensed in this type of clause (Danny Fox, p.c.), as witnessed by (35).

(35) *A matrix clause extended by a complementizer licenses a 3rd person null subject:*

- a. Se-yavo kvar
 that-come.SG.M.FUT already
 ‘(Why isn’t he here?) Let him come already.’
- b. Se-yavo ve-nedaber
 that-come.SG.M.FUT and-talk.PL.PRES
 ‘Let him come, and we’ll talk (things over). [talking about someone who is not present at that point]’

I leave as an open question whether even in these cases we could deal with a case of control. It has been suggested that an illocutionary force is always encoded by a silent structure, either a predicate or an operator, (Katz and Postal, 1964; Ross, 1970; Truckenbrodt, 2006, among others), but it is not clear how to test such a hypothesis.

Importantly, no matter how large the structure above T actually is, this pattern provides further evidence in favor of the TER Hypothesis.

3.3 *Lack of Movement*

So far we have looked only at cases where structure α was not able to license a null subject without being further extended. However, we can reverse the argumentation and look at structure β in which a null subject is always licensed. The prediction is that if we could block the extension that satisfied the TER, a null subject should not be possible anymore. For example, if a null subject is licensed for a certain Tense because there is verb movement to T in this Tense, then if the verb movement is blocked, a null subject should no longer be possible.

Evidence suggesting that this prediction is also borne out comes again from Modern Hebrew. As we have seen, in Modern Hebrew verbal morphology, extending functional head is realized by a consonantal morpheme. Interestingly, in Colloquial Hebrew the Future tense morpheme – the prefix – can be dropped. If the Tense morpheme is dropped, then the subject must be overt (Borer, 1989; Ritter, 1995), as witnessed by (36)–(37) from Artstein (1999, (23)).

(36) *Standard Hebrew:*

(ani) ?oxal et ha-banana
 (I) will-eat ACC the-banana
 I will eat the banana

(37) *Colloquial Hebrew:*

*(ani) yoxal et ha-banana
 I will-eat ACC the-banana
 I will eat the banana

3.4 The Present Tense

As we have seen, even though Modern Hebrew presents a rather complex null-subject pattern dependent on the Tense and Person, once we look at it in detail, we see that the TER is still relevant. In particular, the pattern is sensitive to further extension.

The attentive reader might wonder whether it is the case that null subjects can be repaired also in the Present tense. The answer is no. I argue that this is due to the cyclic property of the TER. In particular, I will argue that in contrast to the other two Tenses, there is no T merged in the Present tense. Consequently, the TER cannot be satisfied.

The evidence comes from the following observation. The Modern Hebrew Present tense does not have a finite verbal form. The so called Benoni form – traditionally translated as the Present tense – is not a verbal form but a *deverbal adjectival form*.²⁴ The Present tense thus patterns with nominal clauses with no overt copula.

The difference between Present on the one hand and Past/Future on the other is also manifested in the overt morphology. While the Benoni form contains only consonants of the root,²⁵ both Past and Future are formed by an extra consonantal morpheme, as seen in (38).

(38) *Forms of $\sqrt{\text{TFR}}$ ‘to sew’ (from Shlonsky 1997, p. 9–10, (1-12), (1-14))*

	Present	Past	Future		Present	Past	Future
1SG	tofer	tafar-ti	?e-tfor	1PL	tofer	tafar-nu	ni-tfor
2SG.M	tofer	tafar-ta	ti-tfor	2PL.M	tofer	tafar-tem	ti-tfər-u
2SG.F	tofer	tafar-t	ti-tfər-i	2PL.F	tofer	tafar-ten	ti-tfor-na
3SG.M	tofer	tafar	yi-tfor	3PL.M	tofer	tafr-u	yi-tfər-u
3SG.F	tofer	tafr-a	ti-tfor	3PL.F	tofer	tafr-u	ti-tfor-na

I argue that the extra consonantal morpheme is an overt realization of a functional head that the verb moves to. Suggestive evidence that the Future tense prefix $t\langle i \rangle$ - corresponds to a higher

²⁴Modern Hebrew differs from Arabic in that in Hebrew Benoni appears without any overt auxiliary, while in Arabic presence of an auxiliary is obligatory. See, for example, Shlonsky (1997) for detailed discussion.

²⁵Notice also that the very same form functions as the active participle as well.

head comes from the forms of Hebrew imperatives.²⁶ Modern Hebrew uses four distinct forms to express imperative:

(39) *Types of Hebrew imperatives (for $\sqrt{\text{XBS}}$ 'to launder'):*

- a. normative imperative: kabes
- b. colloquial imperative: xabes
- c. future form: **tex**abes/**tə**xabes
- d. partially truncated future form: **tx**abes

Interestingly, only the prefixed forms (the future form and the partially truncated future form) may be combined with a subject and with negation. This follows if the non-prefixed imperatives are formed by a smaller structure (roughly, a VP size), in contrast to the prefixed imperatives that have been further extended.

Furthermore, I assume, following Wurmbrand (2007), that functional projections are merged only if needed for semantic interpretation or if required for selectional purposes. In Modern Hebrew Present tense has a default semantic interpretation. Therefore, no grammatical representation is needed. Consequently, there is no T merged in the Present tense in Modern Hebrew. The subject and the Benoni form must enter a predicative relation without the T projection. Since there is not T merged, the Present tense is not covered by the TER.

If this reasoning is on the right track, we predict that if there is an independent reason to merge T and extend the structure, null subjects may be licensed even for the Present tense. This is indeed so as observed in Shlonsky (2009). Modern Hebrew has two types of negation, *lo*-negation that may function as a constituent negation and *eyn*-negation that can only be sentential. As argued by Shlonsky (2009), the *eyn*-negation combines with the T-head. Consequently, *eyn*-negation licenses null subjects even in the Present tense, as seen in (40).

- (40) a. *(ani) lomed
I study.1SG

²⁶I would like to thank Roni Katzir, p.c., for bringing these facts to my attention.

‘I study.’

- b. (ani) eyn-eni lomed
 I not-1SG study.1PL
 ‘I don’t study.’

3.5 Summary

This section presented a case study of a partial null-subject language – Modern Hebrew. As we have seen, despite the complexity of the null-subject pattern observed in this language, the possibility of null subjects is directly dependent on whether or not the structure has been extended and the TER has been satisfied. Modern Hebrew thus provides additional evidence for the TER Hypothesis.

4. Comparison with Other Theories

I will consider here four hypotheses: (i) The Morphology Hypothesis, i.e., a hypothesis that ties null subjects to properties of verbal morphology in a given language, (ii) The Discourse Accessibility Hypothesis, i.e., a hypothesis that ties null subjects to the information state of the speaker, (iii) The Flexible EPP Hypothesis, i.e., a hypothesis according to which not every language has the EPP requirement, and (iv) The Identification Hypothesis, i.e., a hypothesis according to which *pro* is licensed only if it is c-commanded by a potential licenser.

The Morphology Hypothesis corresponds to a family of approaches arguing that a null-subject licensing is dependent on the particular form of verbal morphology. The relation can be formalized either with respect to properties of an individual form or with respect to uniformity of the whole paradigm (Taraldsen, 1978; Rizzi, 1982, 1986; Safir, 1985; Jaeggli and Safir, 1989, among others). Under this theory, the matrix-embedded clause asymmetry discussed in this paper is unexpected because there is no difference in verbal morphology between matrix and embedded clauses.²⁷

The Discourse Accessibility Hypothesis (Ariel, 1990, among others) is a theory in which the actual licensing of null subjects depends on the level of activation of the antecedent in the discourse.

²⁷Embedding could be relevant in case of complementizer agreement. There is no complementizer agreement in the cases discussed above.

According to this theory, embedding should be relevant only if *pro* has an antecedent in the matrix clause. As we can see in (8a), repeated below, embedding helps even if *pro* has no antecedent in the matrix clause.

- (8a) Petr řekl mamince, že jsem přišel domů pozdě
 Petr.NOM said mother.DAT that AUX.1SG come.PP home late
 ‘Petr told his mother that I came home late.’

This hypothesis also predicts that if a language is a partial *pro*-drop language, a null subject should be licensed for the [+speaker]/[+hearer] related persons but not for [–speaker]/[–hearer]. Even though many languages confirm this prediction, Dryer (2008) reports that there are languages, for instance Dinka and Lamani, in which a null subject is possible for 3rd person but not for 1st and 2nd person.

Furthermore, there should be no difference between an antecedent introduced in the matrix clause and an antecedent introduced in the previous clause. However, as (41) shows, this prediction is not borne out.

- (41) a. *Petr mluvil s maminkou. By rád přišel domů pozdě.
 Petr.NOM talked with mother would.3SG happy come.PP home late
 ‘Petr talked to his mother. He would like to come home late.’
 b. Petr řekl mamince, že by rád přišel domů pozdě.
 Petr.NOM said mother.DAT that would.3SG happy come.PP home late
 ‘Petr told his mother that he would like to come home late.’

The Flexible EPP Hypothesis (Alexiadou and Anagnostopoulou, 1998; Alexiadou, 2006) disputes the assumption that the EPP requirement is valid in every null-subject language. According to this proposal, the EPP is satisfied either by head movement, or there is no EPP requirement for the given structure. This theory predicts no difference between matrix and embedded clauses. We can thus consider two cases: (i) If there is no head movement and yet the structure exhibits the EPP requirement, both the embedded and matrix structure should be ungrammatical; (ii) If there is no EPP requirement, both the embedded and matrix structure should be grammatical. As we have

seen in the previous sections, both predictions are incorrect.²⁸

Finally, the Identification Hypothesis (Borer, 1986, 1989, among many others) argues that *pro* must have a licenser and the licenser must be c-commanded by this licenser. Crucially, the licenser does not need to be in the same clause as *pro*. This proposal predicts the matrix-embedded clause asymmetry expected only for complement clauses. However, this is incorrect because embedding within an adjunct improves the structure as well (Melnik, 2007). The same is also true for Czech, as seen in (42).

- (42) Když jsem byl pryč, Marie uvařila večeři.
 when am been gone Marie cooked dinner
 ‘When I was away, Marie prepared dinner.’

To summarize, none of the currently available theories correctly capture the data discussed in this paper and predicted by the TER Hypothesis.

5. Conclusion

Current null-subject theories explain the null subject distribution in terms of the null subject licensing and identification because they assume that the EPP is always satisfied by *pro*. I have argued against this view providing evidence that there is no *pro* in Spec,TP. Consequently, a structure with a null subject may be grammatical only if the structure is independently extended. As we have seen, this is equal to saying that any language can in principle have null subjects, as long as it has some other way to satisfy the TER.

The hypothesis as it stands seems to be rather weak. As we have seen, it is often the case that null subjects are grammatical in an embedded environment but not in a matrix environment. Other languages behave in the same way: Czech, Hebrew and Old French are far from being unique. Notice, however, that the TER Hypothesis does not make this prediction independently of the actual

²⁸Another version of a Flexible EPP Hypothesis can be found at Mathieu (2006). According to his proposal, developed to capture the Old French data, the EPP is sometimes located on CP and sometimes on TP. Thus, in embedding clauses Stylistic fronting is not necessary because the EPP feature is located on C. On the other hand, in matrix clauses the EPP is located on TP and Stylistic fronting is the only way to make the structure grammatical. Even though this proposal correctly captures the Old French data, the matrix-embedded clause asymmetry and the direction of the asymmetry is purely accidental. Under the present proposal, the asymmetry and its direction follows.

syntactic properties of a given language. Thus, if a language has, for example, head movement only in a matrix clause and not in an embedded clause (and head movement in this language satisfies the TER), we expect the opposite asymmetry. Old High German and some German dialects constitute exactly such a pattern (Axel, 2008; Weiss and Axel, to appear). Considering the lack of other bidirectional universals discussed in section 2.3, the seeming weakness of the TER Hypothesis is in fact advantageous.

Another consequence of the presented proposal is that there is no [\pm null subject] parameter. Instead we expect a whole range of partial null-subject languages which is indeed what we find. Interestingly, the languages also differ in the way they license null subjects. While Czech, Italian, and Old French might represent null subjects as *pro*, other languages, for instance, Finnish, Brazilian Portuguese, Russian, and Marathi, explore various types of licensing by control (PRO) (Vainikka and Levy, 1999; Matushansky, 1999; Holmberg, 2005; Barbosa, 2009; Holmberg et al., 2009, among others).²⁹ It is also possible that null subjects may also be variables dependent on the quantificational properties of its antecedent, as argued for Russian by Matushansky (1999). Furthermore, some languages, for example, Brazilian Portuguese, might have more than one way of null subject identification (Barbosa, 2009).

Thus we clearly need a separate theory of null subject identification. The question is whether we also need a theory of licensing. The discussion of Modern Hebrew in section 3 might suggest that there is very little work left for licensing. However, if we removed licensing we would be left with the issue of expletives. As the empirical issue of expletives is beyond the scope of this paper, I leave the question of licensing for future research. No matter what the result turns out to be, the conclusion stays the same: null subject identification and licensing are not sufficient conditions for null subjects to be grammatical. The syntax of null subjects is restricted by the TER.

²⁹See Holmberg et al. (2009) for an interesting argument that there is a scale of types of control that license null subjects in partial pro-drop languages.

References

- Adams, Marianne. 1987. From Old French to the theory of pro-drop. *Natural Language & Linguistic Theory* 5:1–32.
- Adams, Marianne. 1988. Embedded pro. *Proceedings of NELS* 18:1–21.
- Alexiadou, Artemis. 2006. Uniform and non-uniform aspects of pro-drop languages. In *Arguments and agreement*, ed. Peter Ackema, Patrick Brandt, Maaïke Schoorlemmer, and Fred Weerman, 127–158. Oxford University Press.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 1998. Parametrizing AGR: Word order, V-movement and EPP checking. *Natural Language and Linguistic Theory* 16:491–539.
- Ariel, Mira. 1990. *Accessing noun-phrase antecedents*. London: Routledge.
- Artstein, Ron. 1999. Person, animacy and null subjects. In *Proceedings of Console VII, SOLE, Leiden*, 1–15.
- Axel, Katrin. 2008. *Studies in Old High German syntax*. Amsterdam: Benjamins.
- Baltin, Mark. 1995. Floating quantifiers, PRO, and predication. *Linguistic Inquiry* 26:199–248.
- Baltin, Mark. 2001. A-movements. In *The handbook of contemporary syntactic theory*, ed. Mark Baltin and Chris Collins, 226–254. Oxford: Blackwell.
- Barbosa, Maria do Pilar Pereira. 1995. Null subjects. Doctoral Dissertation, MIT.
- Barbosa, Maria do Pilar Pereira. 2009. Two kinds of subject pro. *Studia Linguistica* 63:2–58.
- Belletti, Adriana. 1990. *Generalized verb movement: Aspects of verb syntax*. Torino: Rosenberg and Selier.
- Borer, Hagit. 1980. Empty subjects in Modern Hebrew and constraints on thematic relations. In *Proceedings of the 10th meeting of the North Eastern Linguistic Society*, ed. J. Jensen. Ottawa, Ontario: Cahiers linguistiques d'Ottawa.

- Borer, Hagit. 1983. *Parametric syntax*. Dordrecht: Foris.
- Borer, Hagit. 1986. I-Subjects. *Linguistic Inquiry* 17:375–416.
- Borer, Hagit. 1989. Anaphoric AGR. In *The Null Subject Parameter*, ed. Osvaldo Jaeggli and Kenneth J. Safir. Dordrecht, Boston, London: Kluwer Academic Publishers.
- Bury, Dick. 2003. Phrase structure and derived heads. Doctoral Dissertation, University College London.
- Burzio, Luigi. 1986. *Italian syntax: A government-binding approach*. Dordrecht: Reidel.
- Cardinaletti, Anna. 1995. Subjects position. GenGen, University of Geneva Working Papers.
- Ceplová, Markéta. 2003. What's the problem with VSO/VOS sentences in Czech? Presented at NASC, Concordia, Montréal, May 2-4, 2003.
- Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam. 1982. *Some concepts and consequences of the Theory of Government and Binding*. Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and Beyond*, ed. A. Belletti. New York: Oxford University Press.
- Chomsky, Noam. 2005. On phases. MIT ms.
- Chomsky, Noam, and Howard Lasnik. 1993. The theory of principles and parameters. In *Syntax: An international handbook of contemporary research*, ed. J. Jacobs, A. von Stechow, W. Steinfeld, and T. Vennemann. Berlin: de Gruyter.
- Croft, William. 2003. *Typology and universals*. Cambridge: Cambridge University Press.

- Doron, Edit. 1983. Verbless predicates in Hebrew. Doctoral Dissertation, University of Texas, Austin.
- Dotlačil, Jakub. 2004. The syntax of infinitives in Czech. Master Thesis, Universitetet i Tromsø.
- Dryer, Matthew S. 2002. Case distinctions, rich verb agreement, and word order type (Comments on Hawkins' paper). *Theoretical linguistics* 28:151–157.
- Dryer, Matthew S. 2008. Expression of pronominal subjects. In *The world atlas of language structures online*, ed. Martin Haspelmath, Matthew S. Dryer, David Gil, and Bernard Comrie. Munich: Max Planck Digital Library, chapter 39. Available online at <http://wals.info/feature/101>. Accessed on September 27, 2008.
- Einhorn, E. 1974. *Old French: A concise handbook*. Cambridge: Cambridge University Press.
- Foulet, Lucien. 1982. *Petite Syntaxe de L'ancien Français*. Paris: Librairie Honore Champion, Editeur.
- Frascarelli, Mara. 2007. Subjects, topics and the interpretation of referential pro. An interface approach to the linking of (null) pronouns. *Natural language & linguistics theory* 25.
- Gilligan, Gary M. 1987. A cross-linguistic approach to the pro-drop parameter. Doctoral Dissertation, University of Southern California.
- Halle, Morris, and Alec Marantz. 1993. Distributive morphology and the pieces of inflection. In *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger*, 111–176. Cambridge, MA: MIT Press.
- Hirschbuhler, Paul. 1990. La légitimation de la construction V1 à sujet nul en subordonnée dans la prose et le vers en ancien français. *Revue québécoise de linguistique* 19:33–55.
- Hirschbuhler, Paul. 1995. Null subjects in verb-first embedded clauses in Phillippe de Vigneulles. In *Clause Structure and Language Change*, ed. Adrian Battye and Ian Roberts. New York, Oxford: Oxford University Press.

- Holmberg, Anders. 2000. Scandinavian stylistic fronting: How any category can become an expletive. *Linguistic Inquiry* 31:445–483.
- Holmberg, Anders. 2005. Is There a Little Pro? Evidence from Finnish. *Linguistic Inquiry* 36:533–564.
- Holmberg, Anders, Aarti Nayudu, and Michelle Sheehan. 2009. Three partial control languages: A comparison of Brazilian Portuguese, Finnish and Marathi. *Studia Linguistica* 63:59–97.
- Jaeggli, Osvaldo. 1982. *Topics in Romance syntax*. Dordrecht: Foris.
- Jaeggli, Osvaldo, and Kenneth J. Safir. 1989. The null subject parameter and parametric theory. In *The null subject parameter*, ed. Osvaldo Jaeggli and Kenneth J. Safir. Dordrecht: Kluwer.
- Jouitteau, Mélanie. 2007. The Brythonic reconciliation. In *Linguistic variation yearbook*, ed. Jeroen van Craenenbroeck and Johan Rooryck, volume 7, 163–200. John Benjamins.
- Katz, Jerry, and Paul Postal. 1964. *Integrated theory of linguistic description*. Cambridge, Mass.: MIT Press.
- Kayne, Richard, and Jean-Yves Pollock. 1978. Stylistic Inversion, Successive Cyclicity, and Move NP in French. *Linguistic Inquiry* 9:595–621.
- Koizumi, Masatoshi. 1995. Phrase structure in minimalist syntax. Doctoral Dissertation, MIT, Cambridge, MA.
- Koizumi, Masatoshi. 2000. String vacuous overt verb movement. *Journal of East Asian Linguistics* 9:227–285.
- Kornfilt, Jaklin. 1984. Case marking, agreement, and empty categories in Turkish. Doctoral Dissertation, Harvard University.

- Kučerová, Ivona. 2005. The T-Extension condition. In *Proceedings of the 24th West Coast Conference on Formal Linguistics*, ed. John Alderete et al., 227–235. Somerville, MA: Cascadilla Proceedings Project.
- Kučerová, Ivona. submitted. T-Extension Condition.
- Landau, Idan. 2004. The scale of finiteness and the calculus of control. *Natural Language & Linguistic Theory* 22.
- Landau, Idan. 2007. EPP Extensions. *Linguistic Inquiry* 38:485–523.
- Maling, Joan. 1980/1990. Inversion in embedded clauses in Modern Icelandic. *Íslenskt mál og almenn málfræði* 2:175–193; [Reprinted in *Syntax and semantics* 24: Modern Icelandic syntax, ed. Joan Maling and Annie Zaenen, 71–91. San Diego, Calif.: Academic Press (1990).].
- Mathieu, Eric. 2006. Stylistic fronting in Old French. *Probus* 18:219–266.
- Matushansky, Ora. 1999. Partial pro-drop in Hebrew and Russian. *Documents de Travail Langues et Grammaire* 7:145–62.
- Melnik, Nurit. 2007. Extending partial pro-drop in Modern Hebrew: A comprehensive analysis. In *Proceedings of the HPSG07 conference*, ed. Stefan Müller. Stanford: CSLI Publications.
- Neeleman, Ad, and Kriszta Szendrői. 2007. Radical pro drop and the morphology of pronouns. *Linguistic Inquiry* 38:671–714.
- Newmeyer, Frederick J. 2008. Universals in syntax. *The Linguistic Review* 25:35–82.
- Perlmutter, David M. 1971. *Deep and surface structure constraints in syntax*. New York: Holt, Rinehart and Winston.
- Pesetsky, David. 1982a. Complementizer-trace phenomena and the NIC. *The Linguistic Review* 1:279–343.
- Pesetsky, David. 1982b. Paths and categories. Doctoral Dissertation, MIT.

- Platzack, Christer. 1987. The Scandinavian languages and the Null-Subject Parameter. *Natural Language & Linguistic Theory* 5:377–401.
- Rezac, Milan. 2005. The syntax of clitic climbing in Czech. In *Clitic and affix combinations: Theoretical perspectives*, ed. Lorie Heggie and Francisco Ordóñez. John Benjamins Publishing Company.
- Ritter, Elizabeth. 1995. On the syntactic category of pronouns and agreement. *Natural Language & Linguistic Theory* 13:405–443.
- Rizzi, Luigi. 1980. Wh-movement, negation and the pro-drop parameter. Ms. Scuola Normale Superiore, Pisa.
- Rizzi, Luigi. 1982. *Issues in Italian syntax*. Dordrecht: Foris.
- Rizzi, Luigi. 1986. Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17:501–557.
- Roberts, Ian. 1993. *Verbs and diachronic syntax: A comparative history of English and French*. Dordrecht, Boston, London: Kluwer Academic Publishers.
- Ross, John Robert. 1970. On declarative sentences. In *Readings in English transformational grammar*, ed. R. A. Jacobs and P. S. Rosenbaum. Waltham, MA: Gin.
- Safir, Kenneth J. 1985. *Syntactic chains*. Cambridge and New York: Cambridge University Press.
- Shlonsky, Ur. 1987. Null and displaced subjects. Doctoral Dissertation, MIT, Cambridge, MA.
- Shlonsky, Ur. 1997. *Clause structure and word order in Hebrew and Arabic: An essay in comparative Semitic syntax*. New York: Oxford Studies in Comparative Syntax, Oxford University Press.
- Shlonsky, Ur. 2009. Hebrew as a partial null-subject language. *Studia Linguistica* 63:133–157.
- Taraldsen, Knut Tarald. 1978. On the NIC, vacuous application and the That-Trace Filter. Ms. MIT, Cambridge, Mass.

- Truckenbrodt, Hubert. 2006. On the semantic motivation of syntactic verb movement to C in German. *Theoretical Linguistics* 32:257–306.
- Vainikka, Anne, and Yonata Levy. 1999. Empty Subjects in Finnish and Hebrew. *Natural Language & Linguistic Theory* 17:613–671.
- Vanelli, L.R., and L. Benincà. 1986. Typologie des pronoms sujets dans les langues romanes. *Actes du XVIIème Congrès International de Linguistique et de Philologie Romanes* 3:161–176.
- Vermeulen, Reiko. 2008. Nonconstituent coordination in Japanese: A case of phonological re-ordering. *Linguistic Inquiry* 39:345–354.
- Vikner, Sten. 1995. *Verb movement and expletive subjects in the Germanic languages*. New York: Oxford University Press.
- Weiss, Helmut, and Katrin Axel. to appear. Pro-drop in the history of German. From Old High German to the modern dialects. In *Empty pronouns*, ed. P. Gallmann and M. Wratil. Berlin, New York: de Gruyter.
- Wurmbrand, Susi. 2001. *Infinitives: Restructuring and clause structure*. Mouton de Gruyter.
- Wurmbrand, Susi. 2007. Infinitives are tenseless. *Proceedings of the 30th Annual Penn linguistics colloquium. Penn Working Papers in Linguistics* 13:407–420.
- Zanuttini, Raffaella. 2008. Micro-comparative syntax in English verbal agreement. Paper presented at NELS 39, November 2008.