EPP Extensions

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1. Introduction

Two major research strands, launched in the GB era, studied the distribution of empty categories, and the distribution of subjects. The first strand attempted to formulate and refine a central theoretical construct – the Empty Category Principle (ECP). The second strand studied the various consequences of an equally central cornerstone of GB – the Extended Projection Principle (EPP). In retrospect, it is striking to observe that there has been hardly any interaction between those two topics. That is, the ECP and the EPP reigned over disjoint empirical kingdoms, and nothing in their declarative content suggested that they should be collapsed, or even unified under a broader principle. The situation became much more diffuse with minimalism, where the EPP has been reinterpreted in radically different ways, while the ECP simply dissolved, its effects either derived differently Her a or left unexplained.

The starting point of this paper is an attempt to view some of the effects of the classical ECP and EPP as instantiations of the same underlying generalization. The first step in this direction will be to refine a specific theoretical version of the EPP, inspired by certain recent proposals. The second step will revisit some classical ECP effects and show how they fall out of this novel understanding of the EPP. We will further show that this understanding sheds light on new puzzles in the distribution of empty categories. Overall, it will be seen that a fairly simple view of the EPP, taken to its limit, yields a surprisingly diverse array of empirical consequences.

To begin, let us review the major approaches to the EPP in the last decade or so. It is useful to classify these approaches by the nature of the answers they provide for the following key questions.

(1) a. What kind of principle is the EPP?
b. Where in the grammar does the EPP apply?
c. Where in the clausal hierarchy does the EPP apply?

Question (1a) focuses on the grammatical type to which the EPP belongs. Is it a principle of predication? of agreement? or of selection? Question (1b) focuses on the grammatical component/level at which the EPP applies: Is it S-structure, PF or LF?

Question (1c) focuses on the localization of the EPP in the syntactic tree: is it a property of T alone (hence, affects only subjects), or perhaps other functional categories (v, Agr_s, C, etc.)? Naturally, answers to the various parts of (1) potentially restrict each other.

According to the syntactic approach, EPP essentially operates in the syntax, on standard syntactic features. The first explicit formulation of the EPP – "Every clause must have a subject" (Chomsky 1982) – was syntactic, insofar as the only requirement from the subject was that it bear some syntactic feature (e.g., categorial feature, case, ϕ-features). It followed that phonologically empty elements (e.g., *pro*) and semantically empty elements (e.g., expletives) can legitimately satisfy the EPP.

This view carried over pretty much unchanged into minimalism. Chomsky (1995) reduces the EPP to a strong D feature on T, which triggers either subject raising or expletive insertion in [Spec,TP] (see also Bobaljik & Jonas 1996, Déprez 2000). Alexiadou & Anagnostopoulou (1998) follow this idea, although expanding the options for D-checking beyond Chomsky's original proposal. Haeberli (2003) argues that EPP (and abstract case) phenomena result from negatively-valued categorial features on T that need to locally "bond" with their positive counterparts, found on the DP subject. All these authors assume a derivational model where the triggering feature for EPP is checked during the syntactic computation. Significantly, the underlying mechanism is agreement, or some version of Agree (Chomsky 2000).

The phonological approach to the EPP takes literally the word "filled" in the statement "The subject position must be filled". That is, only elements with phonological content are eligible as subjects for the EPP. This view grew prominent within the interface-driven syntax of recent years. It is expressed in one form or another in Ndayiragije (2000), Holmberg (2000), Miyagawa (2001, to appear), Bobaljik (2002) and Holmberg & Hróarsdóttir (2003).

A significant change introduced by Chomsky (2000), related to (1c), is the extension of the EPP-property from T to all core functional categories (v, T and C), contingent on the presence of a full set of the appropriate agreement features. Thus, finite and control T have an EPP feature, raising and ECM T do not; transitive/unergative v has an EPP feature, passive/unaccusative v does not; interrogative C has an EPP feature, declarative one does not (barring intermediate landing sites of Ā-movement). Crucially, Chomsky (2000) treats the EPP as a selectional feature requiring overt merge, thus potentially subsuming the "strong" features of Chomsky (1995).

Semantic approaches to the EPP have been quite marginal, due to the lack of obvious semantic contribution of expletive subjects. Indeed, Rothstein (1983) admits that expletives are required by a syntactic condition on predicates; yet the claim that it

applies to predicates (a semantic category), plus the modeling of the condition on semantic saturation, make her analysis at least "quasi-semantic". Kiss (2001) decomposes the EPP into two conditions, morphological and semantic. The latter requires that declarative, non-quantificational statements express predication (of an element in [Spec,TopP]). Rosengren (2002) construes the EPP as a visibility requirement on [Spec,FinP] (where expletives are found) or [Spec,TP] (where subjects are found), imposed by the semantic interface, where existential and specific/generic readings of subjects must be distinguished. Finally, there are also eliminative approaches, that view the EPP as an artificial label for a cluster of independently explained phenomena, with no explanatory role whatsoever (Grohmann, Drury and Castillo 2000, Bošković 2002).

I believe that there is something to be learned from various features of the above proposals. In what follows I concentrate on those features that strike me as most fruitful and synthesize them into a coherent system.

2. The Proposal and its Predictions

The conception of the EPP that I would like to articulate combines features of both the syntactic and phonological approaches. Strictly speaking, though, I take the EPP to be a pure PF constraint. Its misleading syntactic guise owes to the fact that the EPP almost always works in tandem with some other syntactic feature (e.g., case, [wh], etc.). However, once the syntactic effects are factored out, it becomes clear that a phonological construal of the EPP is to be preferred on grounds of generality.

The key aspects of the proposal are given in (2).

(2) a. EPP is a *selectional* feature governing PF configurations.
b. *Every* functional head may bear an EPP feature.

Following Holmberg (2000), let us call the EPP feature simply [P]. [P] is a selectional feature that must be locally satisfied by some element with phonological content.[1] It is best to think of the relation between the [P]-bearing head and the element that satisfies it as a true instance of selection; call it *p-selection*. Like s-selection, which governs LF configurations, p-selection is an interface condition, which governs PF configurations. Strictly speaking, the only type of selection that is part of narrow syntax is c-selection.

As Holmberg makes clear, [P] does not specify or care what phonetic matrix is used to satisfy it, as long as some such matrix is found. Crucially, though, in contrast

[1] To keep our terminology clear: selectional features are *satisfied*; uninterpretable agreement features are *checked* (and deleted). The distinction is important, and we return to it in section 5.1.

to Holmberg, I do not assume that [P] is syntactically visible; correspondingly, [P] does not enter agreement relations by itself (it is not a probe for Agree), just like the s-selectional feature [__[+animate]] is not directly active in the syntax. Again, apparent syntactic EPP effects are always parasitic on some independent syntactic feature; we return to discuss this issue in section 5.2.

Given the nature of [P], its effects will always be phonologically visible. Notice that on this view, null elements – such as *pro* and PRO – cannot satisfy EPP. Copies of movement, however, can do so, if the condition is derivational, not representational. This view leaves open the possibility that intermediate copies (e.g., in [Spec,TP]) are required by something other than the EPP, e.g., locality constraints (Bošković 2002). I return in section 6 to the status of null subjects viz à viz the EPP.

The view outlined in (2) is not particularly remarkable. However, once spelled out explicitly, it has some striking consequences, which, I believe, have so far escaped attention. The key concept here is the idea that the EPP is a species of selection (see Chomsky 2000). As such, it should be subject to familiar syntactic conditions on selectional dependencies. Two such conditions are stated in (3).

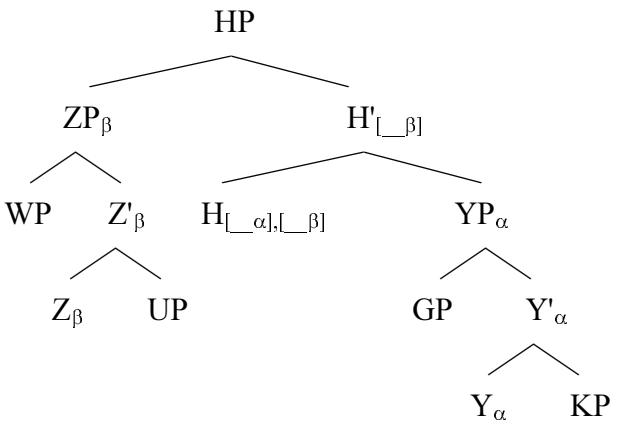
(3) *Syntactic conditions on selection*

a. Locality: A head may only select elements in its complement/specifier.

b. Headedness: A head may only select the *head* of its complement/specifier.

If selectional features percolate from a head H to H', then (3a) is reducible to the simple statement that selectional features must be satisfied under sisterhood, i.e., between H and its complement or between H' and its specifier. Consider the following schematic situation.

(4)



The selectional feature [__α] on the head H is satisfied upon merge of the complement YP. The selectional feature [__β] is satisfied upon merge of the specifier ZP with H', which inherits [__β] from H.[2] Since features – selectional or not – percolate from heads to higher projections, α and β are really features of the heads Y and Z, respectively, and only derivatively mark YP and ZP. This is captured by (3b).

In the context of discussions of the EPP, (3a) guarantees that only elements overtly adjoined to H, or merged in its specifier, are eligible for EPP satisfaction. In particular, the EPP cannot be satisfied by covert movement or by long-distance Agree.

The interesting part is (3b). That selection in general is constrained by the headedness condition is well-known. For example, if a verb c-selects a PP or an AP, then it is not enough for these selected categories to occur somewhere in the complement of the verb; the relevant P or A must be the *head* of the complement itself.

(5) a. John lives [$_{PP}$ *in* Canada].
b. * John lives [$_{DP}$ a town [$_{PP}$ *in* Canada]]
c. John remained [$_{AP}$ *neutral* about the news].
d. * John remained [$_{PP}$ about [$_{DP}$ the [$_{A}$ *neutral*] news]].

Consider the implications for the EPP, embodied in the feature [P]. As a selectional feature, it must conform to (3). (3a) entails that [P] may only be satisfied by sisters or specifiers to [P]-bearing heads. Which option is taken may be a parametric choice. According to Alexiadou & Anagnostopoulou (1998), EPP on T is checked by adjoined Agr-heads in null subject languages and by merged specifiers (subjects) in non-null-subject languages. Similarly, Miyagawa (2001) proposes that EPP on C is checked by an adjoined Q-head in *wh*-in-situ languages and by merged specifiers (*wh*-phrases) in languages with *wh*-movement. This much seems reasonable.

What is generally overlooked is the implication of (3b) for the EPP: The [P] feature may only be satisfied by the *head* of the selected complement/specifier. Given that the property required of that head is that it bear some phonetic material, we derive the result that the head of the EPP-satisfier must be phonetically realized. This result is trivial for EPP-satisfiers which are themselves bare heads – like the Agr- and Q-morphemes mentioned above. It becomes non-trivial when the EPP-satisfier is a full phrase. What (3b) now implies is that phonetic realization is specifically required of the *head* of that phrase, and not of any other part of it. Let us state this result explicitly.

[2] See Adger (2003) for a similar execution of this idea.

(6) In $[_{HP}$ ZP $[_{H'}$ $H_{[P]}$ …]], Z must be pronounced.

That is, if ZP satisfies the [P] (=EPP) feature of H, then its head Z must be pronounced. Put differently, the head of ZP is selected to be phonetically realized. Importantly, this formulation is much more specific than the general statement "The specifier of H must be filled". Just like it is not enough for a PP to be found *somewhere* in the complement of *live* in (5b), it is not enough for phonetic material to be found *somewhere* in the specifier of T or $C_{[+wh]}$ in English; it must be found on the head of that specifier.

Three major predictions follow from this formulation. They are listed in (7).

(7) In $[_{HP}$ ZP $[_{H'}$ $H_{[P]}$ …]], where ZP is merged (internally or externally) to satisfy [P]:

a. If Z is null, the result is ungrammatical.
b. If Z normally alternates between a lexical and a null variant, the latter will be excluded.
c. If Z satisfies another [P] feature in the structure, head-doubling (of Z) might result.

In other words, the [P] feature may force phonetic doubling, or exclude null variants of lexical heads in its specifier. The remainder of this paper shows that these predictions are borne out across a surprisingly diverse range of constructions. Although the particular problems we will look at have received various local solutions, the view of the EPP advanced above allows a simple, unified account for all of them.

3. Impossible Merge of Empty-headed Phrases

Consider first situations where the head of the phrase merged in the EPP position can only be realized as a phonologically null element, an overt variant being unavailable as a matter of a lexical gap. Lacking any phonetic content, this head will not be able to satisfy the selectional [P] feature. The structure is thus predicted to be ungrammatical, even if some phonetic material exists in a non-head position within the merged phrase.

(8) *$[_{HP}$ $[_{ZP}$ $[_{Z}$ ∅] …] $[_{H'}$ $H_{[P]}$ …]]

Identifying structures of this type is a subtle matter; often the strongest evidence for the presence of the offending null head is the very ungrammaticality it induces. Still, there are situations where independent evidence supports the existence of the null head, which then predictably cannot appear in structures like (8).

A well-known class of such cases falls under the classical ECP, where ZP in (8) is the subject and H is the T^0 head. During the '80s, configuration (8) was taken to instantiate an ECP-violation, with [$_Z$ ∅] the offending empty category that fails to be properly governed (Kayne 1981, Stowell 1981). In this section, we will look at two ECP effects manifesting configuration (8): Bare nouns in Romance, with a null D or Q head; and sentential subjects, with a null C head. We will see that the present EPP-analysis shares with the classical ECP the insight that certain positions do not tolerate null heads, although, importantly, we discard the assumption that null heads are subject to specific licensing conditions.

3.1 ECP Effects

3.1.1 Bare Nouns in Romance

The distribution of bare nouns (BNs) in Romance displays a subject-object asymmetry, which has been traditionally explained by the ECP (Contreras 1986, Longobardi 1994, 1996). The basic facts are the following. Singular count nouns must be introduced by an overt determiner wherever they occur; presumably, there is simply no null determiner with the indefinite existential meaning of *a* or *one*. By contrast, bare plurals and mass nouns are tolerated in object positions of all sorts, but not in subject positions.[3] This state of affairs characterizes most Romance languages (French is a notable exception, where BNs are uniformly excluded).

(9) *Spanish* (Contreras 1986)

a. Quiero café.
'I want coffee'

b. * Café me gusta.
coffee me pleases
'I like coffee'

[3] Postverbal BN subjects may only be interpreted existentially, not generically. Longobardi (2000) argues that the former type of subjects remain inside VP (with the verb possibly raising to T), whereas the latter raise to [Spec,TP] (followed by leftward movement of the VP-remnant). Consequently, only non-existential postverbal subjects need to satisfy a [P] feature.

c. El café me gusta
the coffee me pleases
'I like coffee'

(10) *Italian* (Longobardi 1994, M. Ippolito, p.c.)

a. In questo ufficio incontro sempre marocchini.
in this office I-meet always Moroccans
'In this office I always meet Moroccans'

b. * In questo ufficio marocchini telefonano sempre.
in this office Moroccans call-up always
'In this office Moroccans always call up'

c. In questo ufficio dei marocchini telefonano sempre.
in this office of-the Moroccans call-up always
'In this office some Moroccans always call up'

As (9a) and (10a) show, Spanish and Italian do provide null determiners for indefinite plurals and kind terms.[4] For some reason, however, these determiners, which freely alternate with overt ones (the definite and the partitive) in non-subject positions, are not licensed in subject positions; the latter require phonologically overt determiners.

Sardinian is another language exhibiting a subject-object asymmetry in the distribution of BNs. A nice illustration is provided by the noun *adziccu* 'little', used before mass nouns. This item occurs with an optional indefinite article in complement positions to V or P, but in subject positions the article becomes obligatory (Jones 1993, p. 62).

(11) a. Appo mandicato (un') adziccu de pane kin (un') adziccu de casu.
I ate (a) little of bread with (a) little of cheese
'I ate a little bread with a little cheese'

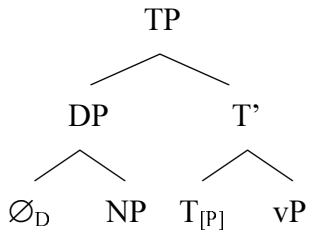
b. *(Un') adziccu de pane est rutt'a terra.
*(a) little of bread is fallen floor
'A bit of bread fell on the floor'

[4] Following much work on the topic, I assume that argumental nominals are necessarily DPs; bare NPs are only licensed in non-argumental positions (e.g., predicative, vocative etc.).

The ECP account of these facts assumed that BNs contain an empty category (a QP in [Spec,NP] for Contreras, a D head for Longobardi) which is subject to the ECP. In subject positions, this empty category is not properly governed, violating the ECP (unless it is lexicalized). The theoretical assumptions embedded in the ECP-account are no longer tenable; therefore, it would be desirable to derive the same restriction from currently available assumptions.

In fact, BNs with null D heads instantiate the illicit configuration (8), as shown in (12).

(12) Bare Noun Subjects



The [P] feature on T selects a specifier with a phonologically overt head; this is nothing but the plain old EPP, now construed as any other selectional feature. (9b) and (10b) fail to meet this requirement. (9a) and (10a), by contrast, do not impose this requirement on their object BNs, since V bears no [P] feature.

One may wonder, at this point, how the present account is compatible with Alexiadou & Anagnostopoulou's (1998) idea, adopted here, that EPP in null-subject languages is satisfied by V-to-T raising. Italian and Spanish being null-subject languages, the [P] feature on T should have been satisfied already by the raised V, thus failing to force a lexical D in the subject position.

There are two possible answers to this question. First, we may construe [P] as a permanently active feature, effectively requiring *all* of its local sisters/specifiers to be phonologically visible.[5] This would be analogous to $C_{[+Wh]}$ in languages with multiple *wh*-movement, all of whose specifiers must bear the [+wh]-feature. Alternatively, we may follow Alexiadou & Anagnostopoulou's (1998) other claim (see also Solà 1992, Barbosa 1994) that preverbal subjects in null-subject languages occupy an Ā-position, distinct from [Spec,TP]. The head licensing this position, then, would bear a [P] feature distinct from T's, similarly excluding a BN in its specifier. I leave the choice between these options open.

[5] Importantly, [P] is a selectional feature, not an uninterpretable agreement feature, hence it is never deleted. See section 5 for discussion.

Despite their similarities, the present EPP account and the classical ECP accounts differ in some crucial respects. First, as noted above, null elements are not subject to any specific licensing conditions in the current account. Second, within the classical analysis, the offending configurations were excluded at LF, whereas for us they are phonologically ill-formed. In this respect, the current account is more akin to PF versions of the EPP than to LF versions of the sort adopted by Contreras (1986) and Longobardi (1994).

There are also empirical advantages to this shift. First, it has been observed that BNs are impossible as small clause subjects.

(13) *Spanish*

a. * Consideramos caro café.
we-consider expensive coffee
'We consider coffee expensive'

Italian

b. * Consideravo studenti intelligenti.
I-consider students intelligent
'I consider students intelligent'

This is a problem for standard versions of the ECP, including Longobardi's (although not Contreras'), since the null D head is externally governed by the matrix verb. It is not a problem for the EPP account, on the simple assumption that small clauses too impose an EPP requirement on their subject; hence, its head must be overt.

Second, consider a puzzle noted both by Contreras and Longobardi; namely, the fact that *conjoined* BNs are possible in subject position.

(14) *Spanish*

a. Viejos y niños escuchaban con atención sus palabras.
old-people and children listened with attention his/her words
'Old people and children listened with attention to his/her words'

Italian

b. Cane e gatto sono sempre nemici.
dog and cat are always enemies
'The dog and the cat are always enemies'

The grammaticality of these examples is a total mystery for any approach that posits special licensing conditions on null categories. Why should the null category inside a BN be exempt from the ECP when the BN is conjoined? A straightforward explanation is offered by the selectional EPP account. The head of the conjunction is *y/e*, a phonologically overt item. Since *this* is the head of the phrase in [Spec,TP], rather than the D heads of its constituents, it serves to satisfy the [P] requirement of T.[6]

The present proposal faces some obvious challenges. First, within Romance, it is well-known that certain nouns can occur without any determiner in subject positions. Importantly, proper names are such nouns, as well as N(egative)-words. For these, I will essentially adopt Longobardi's solution: Proper names in Romance overtly raise to the D position (see Longobardi 1994 for compelling evidence). Consequently, the head of the subject DP is phonologically overt, satisfying EPP. The same analysis is extended by Déprez (2000) to N-words (see the next section).

A second challenge concerns the occurrence of BNs of various types in subject positions outside Romance (e.g., *Children were playing in the yard*). For these cases we will need to set up some space of parametric variation. I return to these issues in section 5.2.

3.1.2 Bare NPIs

Independent support for the present analysis comes from a parallelism in Romance between BNs and N-words functioning as NPIs or negative quantifiers. Déprez (2000) observes that the subject-object asymmetry in the distribution of BNs in Romance is mirrored by an asymmetry in the distribution of N-words: The latter require the co-presence of negation when occurring as objects and preclude it as subjects (under the "negative concord" reading).

(15) a. *(Non) ho visto nessuno.
not I-have seen nobody
'I didn't see anyone'

[6] A similar line is taken by Déprez (2000). However, Déprez follows Chomsky (1995) in reducing the EPP to D-checking; consequently, she must posit a D-feature on $Conj^0$, even when conjoining two BNs, an unnecessary stipulation in the present analysis. Heycock & Zamparelli (2003) explain the alleviating effect of conjunction on BN subjects in Romance by assuming an internal raising of the conjoined NP to the specifier position of a null D, to check a Quantifier feature; this spec-head agreement somehow licenses the null D. Although the proposal has some interesting semantic effects, the resulting notion of "licensing a null D" is rather artificial.

b. Nessuno (*non) ha telefonato.
nobody (not) has called
'No one called'

Déprez argues that within the scope of Neg, N-words are introduced by a null D, interpreted as a variable. On pains of being null, however, this head cannot satisfy the EPP. As a last resort operation, N-to-D movement applies inside subject N-words, endowing them with intrinsic quantificational force and allowing them to check the D-feature of T. Indeed, this internal head movement yields visible word order effects. The correlation with BNs is obtained by assuming that in the same Romance languages, BNs are truly bare NPs, lacking a DP layer. Thus, they too cannot check the D-feature of T. Without D, however, N-to-D movement cannot apply, thus BNs are excluded from subject positions.

Our account shares with Déprez's the insight that the asymmetric distribution of BNs in Romance should fall under the EPP, rather then the ECP. Still, there are significant differences. First, we assume that NPs are intrinsically predicative, hence cannot occur in argument positions. The source of the ban on subject BNs thus must be the null D head introducing BNs (as in Contreras' and Longobardi's accounts). In fact, it is not clear what *prevents*, in Déprez's analysis, generating BNs in Romance as null-headed DPs, and "saving" them in subject positions by N-to-D movement, on a par with N-words.

Second, the EPP for us translates to a PF requirement, not to syntactic feature checking. What makes BNs and weak N-words a natural class in Romance is, plainly, the fact that they are both headed by a null D, incapable of satisfying [P]. Strong N-words (like proper names) lexicalize the D position, thus becoming eligible for EPP positions. Notice that Déprez is committed to the unappealing position whereby a null D (in N-words) effectively lacks the [D] feature needed to check EPP. Furthermore, to explain how N-to-D amends this situation, she assumes that N checks some ϕ-feature on D, this operation somehow producing a categorial [D] feature. These stipulations are immediately dispensable once we make the EPP sensitive to purely phonological visibility.[7]

A similar pattern to (15) in French has been discussed by Kayne (1975, 1981). Kayne has claimed that *de*-NPs in French, licensed in negative environments, are

[7] Déprez also argues that N-to-D in subject N-words is a substitution operation, "suppressing" the null D (and inducing a semantic type-shift). It is unclear how this suppressed D, removed from both the syntactic and semantic representations, can check the EPP feature. The Romance-internal split between BNs, which cannot resort to N-to-D, and N-words, which can, must therefore be dealt with on a par with the contrast between BNs and proper names (Longobardi 1994). Evidently, semantic criteria restrict the class of "raising" nouns in Romance.

introduced by a null quantifier. This claim is motivated by the syntactic and semantic parallelism between (16b) and (16c).

(16) a. * Jean a trouvé de livres.
John has found of books

b. Jean n'a pas trouvé [$\varnothing_Q$ de livres].
John neg-has not found of books
'John hasn't found any books'

c. Jean n'a pas trouvé beaucoup de livres.
John neg-has not found many of books
'John hasn't found many books'

Although Kayne (1981) analyses the empty category inside the object of (16b) as a QP specifier of NP, we will follow more recent practice and take it to be the head of a QP projection, *de livres* being its complement. Interestingly, Kayne observes that such null-headed QPs are excluded from subject positions, exhibiting the familiar ECP asymmetry.[8]

(17) a. Jean ne voudrait pas que tu boives [$_{QP}$ $\varnothing_Q$ de bière].
John neg would-like not that you drink of beer
'John wouldn't like you to drink beer'

b. * Jean ne voudrait pas que [$_{QP}$ $\varnothing_Q$ de bière] lui coule dessus.
John neg would-like not that of beer to-him spill on
'John wouldn't like beer to spill on him'

In our terms, the contrast is reduced to the fact that T bears a [P] feature that selects for a specifier with a phonologically overt head; QPs headed by a null Q violate this selectional requirement. By contrast, inside VP there is no [P] feature to force an overt head in the object QP.

To summarize, the selectional view of the EPP provides a natural, straightforward account of the fact that BNs and empty headed QPs in Romance are

[8] Following the discussion of N-words above, the null category may be a D rather than a Q head, depending on whether or not it is associated with intrinsic quantificational meaning. I leave this issue open, as the only thing that matters in the present context is the phonetic invisibility of the head, not its syntactic label or logical denotation. Déprez (2000, ex. 42) provides a parallel pair to (17), where the (lexically frozen) BN *grand monde* 'many people' is felicitous in a postverbal but not in a preverbal position.

subject to stricter conditions in subject positions than in object positions. Importantly, it does so by using the same principle that already distinguishes subject from object positions (namely, the EPP), not postulating any additional theoretical difference between them (like the ECP). One corollary of this particular view of the EPP is that no null head will be able to satisfy [P], regardless of how it came to be null – by base-generation or movement. In that respect, we share the basic intuition of representational approaches to the ECP (Stowell 1981, Kayne 1981, Contreras 1986). Whether and how this view can be incorporated into a derivational model of grammar is a question I return to in section 7.[9]

3.1.3 Sentential Subjects

We now turn to prediction (7b): If a head alternates between a lexical and a null variant, only the former will be possible when selected by the [P] feature. In other words, an EPP environment forces pronunciation of heads that are otherwise optionally null.

One case that nicely fits this description is the head of sentential subjects. It is well known that the complementizer is obligatory in such contexts; compare (18) with (19).

(18) a. People widely assume (that) politics is corrupting.
b. Everyone would prefer (for) Mary to be our representative.

(19) a. *(That) politics is corrupting is widely assumed.
b. *(For) Mary to be our representative would be preferred by everyone.

[9] Clearly, a vast array of phenomena has been treated under the classical ECP, many of which are not addressed by the present proposal. This partial overlap should not, in itself, be considered a weakness, since it may well be the case that "classical ECP effects" were in fact never a natural class. For instance, it has been argued that the ban on extraction of Q(uantitative)-*en* from derived subjects in French – as opposed to free extraction of G(enitive)-*en* – is an ECP effect (Rizzi 1990). Yet Boivin (2000) shows convincingly that the contrast reduces to Case theory. Perhaps the strongest argument against an ECP account is the fact that a null N-head is licensed precisely where a null N-trace is not.

i. * [$_{DP}$ Trois t_i]$_j$ en_i sont déjà cassés t_j.
three of-them are already broken
'Three of them were already broken'

ii. [Trois $\varnothing_N$]$_j$ sont déjà cassés t_j.
three are already broken
'Three were already broken'

On the view that neither the ECP nor the EPP distinguish empty categories by their origin, the ungrammaticality of (i) should be attributed to some independent principle, as it is in Boivin (2000).

It is a matter of some dispute whether the preposed clause occupies subject or topic position (or both, via a chain) Happily, we need not take any position on the issue. Whether selected by $T_{[P]}$ or by $Top^0_{[P]}$, the head of the preposed clause must be phonetically realized. Such facts have received various treatments in the literature, based on certain interpretations of the ECP (Stowell 1981) or pronunciation principles (Pesetsky 1998).

Within the current framework, the ECP is not available, while Pesteky's appeal to the privileged PF-status of edge-elements – complementizers and *wh*-phrases – is unnecessary: For us, what makes the C position special is the fact that it is a head (hence, subject to selection), rather than the fact that it is peripheral. In fact, this is the single feature of a null category that potentially restricts its distribution (compare the [–pronominal] restriction embedded in the ECP or the restriction to CPs in Pesetsky's LeftEdge constraint). The merit of the present proposal lies in that it situates the phenomenon of C^0-deletion in preposed clauses within a natural class of other EPP-related phenomena, with no recourse to auxiliary assumptions.[10,11]

3.2 Initial Adjuncts

A different instantiation of configuration (8), not covered by standard ECP accounts, involves PP adjuncts headed by a null P. The present analysis helps explain some puzzling gaps in the distribution of these adjuncts. Let us look at examples from Hebrew.

In Hebrew, PP adjuncts that contain full finite clauses may appear either initially or at the end of the sentence; as usual, the initial position signifies topicality of the adjunct.

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[10] In the OT-analysis of Pesetsky (1998), a specific constraint (the DCP – "Deletion in CP Principle") guarantees that null C heads will incur violations in all but complement positions. This principle seems to extend to obligatory-C effects in adjunct positions as well, at the cost, however, of treating C-less object relatives (e.g., *The man I met*) as complements. The present proposal is not intended to capture all obligatory-C effects; we simply point out that an important subset of them (i.e., those found in sentential subjects) naturally fall under the selectional view of the EPP. The absence of such effects from (bridge) complement positions thus follows from the lack of [P] features on lexical heads, and need not be stipulated. Note that if "extraposition" is analyzed as movement to the specifier of some functional projection, obligatory-C effects in extraposed clauses will also follow.

[11] Potentially problematic to this account are preposed infinitives and *wh*-clauses, whose C head is presumably null.

i. To fail this exam would be disastrous.
ii. Where she found this wreck of a car is unclear.

As to (i), one might speculate that the infinitival head *to* somehow "counts" as the head of CP – perhaps by truncation of the CP layer (see Pesetsky 1998 for a somewhat different implementation of this idea, where *to* is allowed to satisfy LeftEdge). (ii) might be explained by percolation of [P] from [Spec,CP] to C, perhaps parasitically on [+wh]-percolation (see discussion in section 5.2).

(20) a. azavnu mukdam axrey/lifney/lamrot še-Rina ne'elva.
left.1pl early after/before/even-though that-Rina was-insulted.
'We left early after/before/even though Rina was insulted'

b. axrey/lifney/lamrot še-Rina ne'elva, azavnu mukdam.
after/before/even-though that-Rina was-insulted, left.1pl early
'After/before/even-though Rina was insulted, we left early'

(21) a. azavnu mukdam mipney/keyvan/biglal še-Rina ne'elva.
left.1pl early because that-Rina was-insulted.
'We left early because Rina was insulted'

b. mipney/keyvan/biglal še-Rina ne'elva, azavnu mukdam.
because that-Rina was-insulted, left.1pl early
'Because Rina was insulted, we left early'

Notice that unlike in English, the overt complementizer *še-* 'that' is preserved after the preposition heading the adjunct; in fact, it is obligatory. The pattern seen in (20)-(21) is entirely systematic, except for one exception. In addition to the reason adjuncts illustrated in (21), Hebrew has another reason adjunct, headed by the morpheme *ki*, normally glossed as 'because'. Interestingly, *ki* is incompatible with the complementizer *še-*.

(22) azavnu mukdam (*še) ki (*še) Rina ne'elva.
left.1pl early (*that) *ki* (*that) Rina was-insulted.
'We left early because Rina was insulted'

The simplest account of this fact would be that unlike the morphemes *mipney/keyvan/biglal* 'because' in (21), *ki* is a complementizer, not a preposition, hence occupies the position normally reserved for *še-*. In fact, Hebrew provides both synchronic and diachronic evidence for this claim. First, *ki* can actually replace *še-* as the standard declarative complementizer (23a) (this is typical of formal registers, including news reports). Second, in Biblical Hebrew *ki* functioned as the conditional complementizer (23b) (alongside its modern functions).

(23) a. dover cahal masar od še/ki ha-xakira adayin be-icuma.
Spokesman IDF notified more that/that the-investigation still in-its-middle
'The IDF spokesman further notified that the investigation is still under way'

b. ve-haya ki tavo el ha'arec ašer adonay elohexa
and-it-shall-be *ki* you-will-come to the-land which the-Lord your-god
noten lexa naxala, viyrišta ve-yašavta ba.
gives to-you inheritance and possess-it and-dwell-in-it
'And it shall be, when thou art come in unto the land which the Lord thy God giveth thee for an inheritance, and possessest it, and dwellest therein'
(Deuteronomy 26, 1)

Accepting the conclusion that *ki* is a complementizer, the question arises – where does the adverbial "reason" semantics come from? Given that *ki* can only carry the "bleached" semantics of a declarative complementizer in Modern Hebrew, its association with the particular "because"-meaning – an association which is strictly obligatory in (22) – is somewhat puzzling.

The solution, I argue, lies in some hidden "zero syntax". In particular, let us suppose that the *ki*-adjunct in (22) is actually introduced by a null preposition with the requisite semantics of a reason.

(24) *Structure of adjunct in (22)*
$[_{PP} \varnothing_{Bec} [_{CP}$ *ki* $[_{TP}$ Rina ne'elva]]]

$\varnothing_{Bec}$ is the null counterpart of *mipney/keyvan/biglal* in Hebrew and 'because' in English. By an l-selection stipulation, it selects a *ki*-headed complement. This is the reason why *ki*-adjuncts are interpreted as reason adverbials and why Hebrew speakers often translate *ki* as 'because'. Strictly speaking, though, it is $\varnothing_{Bec}$, not *ki* (with which it is uniquely associated) that determines the adverbial semantics.

This analysis – independently supported on Hebrew-internal grounds – now combines with the EPP theory outlined above to yield a remarkable prediction: *ki*-adjuncts will resist topicalization. This can easily be seen by substituting $\varnothing_{Bec}$ for Z and Top^0 for H in (8). The null preposition cannot satisfy the Topic selectional [P] feature.

(25) *$[_{TopP} [_{PP} \varnothing_{Bec} [_{CP}$ *ki* …]] $[_{Top'} Top^0_{[P]} …]]$

The prediction is borne out; *ki*-adjuncts with the "reason" semantics can never be initial.

(26) *ki Rina ne'elva, azavnu mukdam.
ki Rina was-insulted, left.1pl early
'Because Rina was insulted, we left early'

(26) should be contrasted with (22), where the *ki*-adjunct is legitimate in a final position, and with (21b), where the overtly headed reason adjuncts are legitimate in initial position. It is only when $\varnothing_{\text{Bec}}$ occupies a position which is phonologically selected by an EPP feature that it becomes ungrammatical. Moreover, since $\varnothing_{\text{Bec}}$ has no lexical allomorph – recall that the other 'because' prepositions l-select a *še*-clause, not a *ki*-clause – there is no alternative pronunciation that would redeem the structure. Notice that (26) is predicted to be ungrammatical whether the topic *ki*-adjunct merges internally or externally – that is, whether it obtains its surface position by movement or base-generation; either way, it cannot satisfy [P] on Top^0.[12]

That the non-topicalizable PP adjunct is precisely the one independently established to be headed by a null head is directly predicted by the present analysis. What appears, superficially, to be a quirky gap in the syntax of adjuncts in Hebrew, proves to be a principled consequence of the present view of the EPP.

3.3 Bare NP Adverbs

Larson (1985) has drawn attention to a class of adverbials in English, expressing time, place or manner, that have the surface form of bare NPs.

(27) a. I saw John *that moment/hour/day/week/year*.
b. You have lived *every place* that Max has lived.
c. We were headed *that direction*.
d. You pronounced my name *that way*.

Although Larson himself had analyzed these adverbials as bare NPs, subsequent research followed Bresnan & Grimshaw (1978) in favoring the view that these are PPs headed by a null P (Emonds 1987, McCawley 1988). Our analysis therefore predicts that such adverbials will be excluded from environments like (8).

The prediction is mostly borne out. Durative time adverbials can indeed be fronted only when introduced by an overt preposition, which is otherwise optional

[12]Lack of reconstruction effects suggests that base-generation is more likely.

(Morzycki 2001). The same restriction is attested with locational NP adverbs, and with punctual time adverbials containing proper time names ((30) is from Czepluch 1982, fn. 16).

(28) a. They slept (for) an hour and then went to work.
b. *(For) an hour, they slept, and then went to work.

(29) a. She has lived (in) few places with so much sunlight.
b. *(In) few places with so much sunlight has she lived.

(30) a. He came back (on) October 1st.
b. *(On) October 1st, he came back.

Puzzlingly, other punctual time adverbials (generally, anaphoric ones) seem to be tolerated in the preposed position with or without a preposition.

(31) a. (On) that day, he met Jane.
b. (On) the same evening, the murderer hit again.

(28b), (29b) and (30b) are predictably ungrammatical, on the assumption that "bare NP adverbs" are really PPs headed by a null preposition. Assuming that the preposed adverbial occupies [Spec,Top^0], the null preposition fails to satisfy the [P] feature of Top^0. The preposition-less versions of (31) present a problem then. One can imagine two solutions: (i) Without the preposition, the adverbials in (31) are truly bare NPs, or rather DPs (hence, D satisfies [P]); (ii) the adverbials in (31) are adjoined to TP, hence not selected by any [P] feature. I tend towards solution (ii), but the question remains, of course, what criterion distinguishes "Spec"-adverbials like those in (28)-(30) from adjunct adverbials like those in (31).[13]

Interesting facts concerning the distribution of accusative durative NPs in Russian are reported by Fowler & Yadroff (1993). These adverbials optionally occur with unergative verbs; however, when the verb carries the aspectual prefix *pro*-, the adverbial assumes a "quasi-argument" status, in Fowler & Yadroff's terms, and becomes obligatory.

[13] For unclear reasons, directional and manner NP-based adverbials resist fronting even when introduced by an overt preposition, rendering them irrelevant for our purposes.

i. * (In) that direction, I think they went.
ii. * (In) that way, he always pronounces my name.

(32) a. On prygal na odnoj noge (ves' den').
he hopped on one foot (all day.ACC)
'He hopped on one foot all day'

b. On proprygal na odnoj noge *(ves' den').
he hopped-through on one foot *(all day.ACC)
'He spent all day hopping on one foot'

Correspondingly, the accusative adverbial may be marginally passivized only with a *pro-* verb; otherwise, the result is strictly ungrammatical.

(33) a. * Ves' den' prygalsja (im) na odnoj noge.
all day.NOM was-hopped (by-him) on one foot
'All day was hopped on one foot (by him)'

b. ? Ves' den' byl proprygan (im) na odnoj noge.
all day.NOM was hopped (by-him) on one foot
'All day was spent (by him) hopping on one foot'

Fowler & Yadroff propose that durative NP adverbials are introduced by a null preposition *Dur*, and further suggest that (33b) involves a "pseudopassive" derivation, where *Dur* affixes to and reanalyses with the verb. Plausibly, such affixation is excluded for non-arguments, which is why it fails to apply in (33a).

Notice, though, that this proposal only goes half way to explain the ungrammaticality of (33a). With V-P reanalysis excluded, Fowler & Yadroff correctly rule out DP-movement to [Spec,TP] (34a) (presumably, PP is a barrier); but movement of the entire PP, pied-piping the null *Dur*, is still an option (34b).

(34) a. * $[_{TP}$ DP_i T^0 $[_{VP}$ V_{pass} ... $[_{PP}$ *Dur* t_i] ...]]
b. * $[_{TP}$ $[_{PP}$ *Dur* DP$]_i$ T^0 $[_{VP}$ V_{pass} ... t_i ...]]

In order to rule out (34b), we need only invoke the now-familiar condition (8): A null category may not head a phrase merged in an EPP position. Only with this assumption can the explanation for the ungrammaticality of (33a) be considered complete.[14] Thus,

[14] Fowler & Yadroff attribute the marginality of (33b) to a morphological conflict between the *Dur* and the passive affixes on the verb. Notice that the present proposal does not predict that overtly headed PPs will be freely passivizable in Russian. Presumably passivization is contingent on the verb's ability to absorb the case of the promoted object, which will be impossible with non-accusative objects.

we have another piece of evidence for the significance of the selectional view of the EPP.

The failure of null-headed PPs to undergo passive in Russian may in fact provide a clue for a much broader restriction on verbal passives across languages. As is documented in detail by Landau (2002a), object experiencer (ObjExp) verbs fail to passivize in many languages. This failure, I argued, is due to the fact that accusative object experiencers are actually concealed PPs, headed by a null P (termed $Ø_{\psi}$). In languages lacking a pseudopassive strategy, the null P (and its complement) will end up in [Spec,TP], an EPP position, in violation of condition (8).[15]

3.3 Indirect (Applied) Objects

Among the numerous analyses of the double object construction (DOC), there is a notable class of proposals treating the first object (the "goal") as a PP headed by a null P (Czepluch 1982, Kayne 1984, den Dikken 1995, Baker 1997).

(35) a. George kicked [$_{PP}$ $\varnothing_{P}$ [$_{DP}$ the boy]] the ball.
b. Fred baked [$_{PP}$ $\varnothing_{P}$ [$_{DP}$ the kids]] coconut cookies.

Without delving into the complexity of issues surrounding DOCs, let me point out an straightforward dividend of our account. If null headed PPs are excluded from certain peripheral positions, and if the indirect object in DOC is indeed such a PP, we immediately derive a well-known but poorly understood restriction: namely, the fact that the indirect object in DOC resists displacement of the Ā-type (Culicover & Wexler 1973, Hornstein & Weinberg 1981, Whitney 1982, den Dikken 1995).

(36) a. * Who did George kick the ball?
b. * Those kids, Fred baked coconut cookies.
c. * It was Larry that we gave the keys.

The attracting heads – C and Top^{0} – bear the [P] feature, which selects for a phrase with an overt head. The indirect object of DOC is precisely not such a phrase.[16]

[15] See Landau (2002b, 2003a) for much evidence for the claim that object experiencers are universally oblique. In Landau (2002a, 2003a) I maintained that as a parametric option, [$_{PP}$ $Ø_{\psi}$ DP] may occupy [Spec,TP] in languages with quirky subjects (e.g., Finnish). That idea must be reconsidered in view of the present claim that condition (8) is universal.

[16] In principle, the same logic could be extended to movement to [Spec,TP], to account for the restrictions on passivization of DOC. However, it is well known that these restrictions widely vary across speakers and lexical choices. One dialect is represented in (i).

i. Mary was given/?bought/*baked a cake.

4. Head-doubling

In this section I examine a class of topic/focus constructions, where the head of the topic/focus constituent is pronounced twice – both in the topic/focus position, to which it moves, and in some lower position. We will see that both phonetic occurrences of that head are required by some [P] feature or an equivalent PF condition.

4.1 D/P-doubling in Split Topicalization

In split topicalization, attested in languages like German and Croatian, a phrase is broken up into two or more pieces, each occupying some derived position (van Reimsdijk 1989, Fanselow & Ćavar 2002). The following German example illustrates the splitting of a plural DP.

(37) *Neue Bücher* hat sie *keine interessanten* gekannt.
New books has she no interesting known
'As for new books, she knows no interesting ones'

There is solid evidence, from island-sensitivity, that the two parts of the split phrase are related by movement. However, there is equally solid evidence that the source phrase cannot be literally split up by some syntactic operation. In particular, DPs which are otherwise islands for extraction – non-unaccusative subjects, dative and genitive objects – can be split. Most importantly, when singular count nouns are split, the determiner must be doubled, which is completely unexpected if the fronted constituent is a proper subpart of DP.

(38) *Einen* alten Professor kennt sie *keinen*.
an old professor knows she no
'As for old professors, she knows none'

Perhaps reanalysis of $\varnothing_P$ with the passive verb is an interfering here, but this is just a speculation.

If Landau (2003a) is correct, all object experiencers are in fact of the form [$_{PP}$ $\varnothing_P$ DP], predicting similar restrictions on displacement. Indeed, object experiencers resist passivization in many languages, and sometimes require resumption under relativization. Still, they seem to be more tolerant to *wh*-movement than indirect objects in NOC. I suspect that this difference stems from the greater susceptibility of $\varnothing_P$ to reanalysis with the verb in the case of psych-verbs as compared with DOC verbs; this makes sense if the inner object in DOC is some sort of a small-clause subject.

Fanselow & Ćavar propose that these data can be explained if we assume that the entire DP is copied into each of its surface positions, followed by partial deletion of complementary portions in the different locations. They note additionally that "… the right part of the XP must be focal, while the left-hand part may be a (link-) topic or a second focus". Thus, both parts occupy derived positions (say, TopP and FocP), which differ only in which portion of the DP they target for pronunciation. The schematic structure of (37) is (39).

(39) [$_{TopP}$ ~~keine interessanten~~ neue Bücher [hat sie [$_{FocP}$ keine interessanten Neue Bücher [keine interessanten neue Bücher gekannt]]]].

Adopting the essentials of Fanselow & Ćavar's analysis, suppose that we posit two discourse-related functional heads, Top^0 and Foc^0, bearing "strong" features; in our terms, this simply means that both heads have the EPP property, or the feature [P]. Pied-piping constraints dictate that prenominal elements – determiners and adjectives – may not be extracted by themselves from their mother DP. Thus, a [+foc]-marked determiner will pied-pipe the entire DP to [Spec,Foc], and a [+top]-marked adjective will pied-pipe it to [Spec,Top].

(40) [$_{TopP}$ [$_{DP}$ D Adj$_{[+top]}$ N$_{[+top]}$]$_i$ $Top^0_{[P]}$ … [$_{FocP}$ [$_{DP}$ D$_{[+foc]}$ Adj N]$_i$ $Foc^0_{[+P]}$ ..]]]

Pronounce: ↑ ↑ ↑ ↑

Minimally, the [+foc]-bearing elements must be pronounced in the Focus position, and the [+top]-bearing elements in the Topic position. This much seems to follow from the "parasitic" nature of the [P] feature – it always operates in tandem with some other syntactic feature, harboring phonetic expression at the service of that feature (see section 5.2 for discussion).

However, one more thing follows from the view of the EPP as a selectional feature: namely, the head of the moved phrase must be pronounced as well. In other words, to comply with condition (6), D must be pronounced in *both* locations of the discontinuous DP. While the low occurrence of D in (40) is associated with focus, hence predictable, the high occurrence of D is not directly associated with topic (Adj and N, not D, bear the [+top] feature). Still, it must be pronounced, due to the EPP.

This, I argue, is the source of D-doubling seen in (38): A DP is attracted twice by two different heads bearing a [P] feature. Moving D to only one of the two positions would violate pied-piping restrictions; failing to pronounce it in either position would violate the EPP. Doubling emerges as a last resort.

We still need to explain why no D-doubling is required when the split DP is plural, as in (37). In fact, the generalization observed in German is quite simple: D-doubling is required in all and only the contexts where a bare indefinite NP is disallowed (van Reimsdijk 1989, Fanselow & Ćavar 2002). Thus, one finds D-doubling with singular count nouns, which require an overt determiner, but not with plural or mass nouns, which do not. The intuition is that both DP-portions must be possible *complete* DPs in the language.

Thus, our question about the legitimacy of null D in the topic position in (37) can be restated for the simple case of legitimate continuous bare nouns (BNs): what exactly is the status of "null D" in bare plurals or mass nouns, and how does it manage to successfully occur in EPP positions, which call for a lexical head? This question will be addressed in section 5.2, in the context of the contrast between Romance, which bans subject BNs, and Germanic (and Slavic), which allows them. Clearly, the answer should be uniform: Whatever allows subject BNs in German, also allows bare D-less NP-portions in split topicalization.

Observe next that split topicalization of a PP can – in fact, must – give rise to P-doubling. Both copies of P are required in (41).

(41) *In* Schlößern habe ich noch *in* keinen gewohnt.
In castles have I yet in no lived
'So far, I have not yet lived in any castle'

This case naturally falls together with D-doubling; the head P must be pronounced in both the PP positions that contain an EPP feature. The fact that a lexical N complement cannot "redeem" a null P head suggests, perhaps, that of the two possible ways of licensing BNs in German, the second one (anchoring N-feature) is more plausible.

Note that on both van Reimsdijk's (1989) and Fanselow & Ćavar's (2002) accounts, the emergence of the doubled D or P is attributed to German-specific well-formedness conditions on the phonological shape of DPs and PPs. By contrast, the present account holds that D- and P-doubling in split topicalization arise from the need to satisfy two distinct [P] features occurring on two separate heads. Whether or not the head of the fronted DP/PP bears the feature to be checked – [+top] or [+foc] – its head status forces it to be pronounced in every site to which it is fronted. I take it that this type of account, avoiding reference to language-specific spellout strategies, is to be preferred on grounds of generality.

4.2 Intermediate P-stranding

The possibility of partial deletion in chain copies, illustrated in (39), raises interesting issues for other "split" constructions. Consider P-stranding. Postal (1972) first observed that P-stranding is restricted to base positions; stranding a preposition in an intermediate Spec of C (or Top^0) position always results in strong ungrammaticality (43). Note that in themselves, embedded *wh*-phrases or topics are relatively weak islands (44), hence the strong deviance of (43) must be independently explained.

(42) a. Which bed did Mary sleep in?
b. That bed, Mary slept in.

(43) a. * Which bed did he say [$_{CP}$ in (that) Mary slept]?
b. * That bed, he said [$_{CP}$ in (that) Mary slept].

(44) a. ? Which artist did he wonder which picture of people like best?
b. ? That artist, he said that quite a few pictures of people misunderstood.

Sentences like (43a) have two possible derivations. On the first derivation, the PP *in which bed* is pied-piped to the intermediate [Spec,CP], from which the complement DP is subsequently extracted; on the second derivation, the entire PP is copied to both embedded and matrix [Spec,CP] positions, but only P is "subdeleted" in the highest copy. The two derivations are schematized below.

(45) a. *Subextraction*
Which bed$_j$ did he say [$_{CP}$ [in [~~which bed~~]$_j$]]$_i$ (that) Mary slept [~~in which bed~~]$_i$]?

b. *Subdeletion*
[~~In~~ which bed]$_i$ did he say [$_{CP}$ [in ~~which bed~~]$_i$ (that) Mary slept [~~in which bed~~]$_i$]?

The crucial difference between (45a) and (45b) lies in the target of the second step of the *wh*-movement. In (45a), the DP is extracted from within the higher PP copy. There are two distinct chains – a PP chain and a DP chain – each of which receives standard pronunciation, i.e., full deletion of the low copy and full pronunciation of the higher one. In (45b), on the other hand, there is a single PP chain with three copies; the lowest one is fully deleted, the two higher copies undergo complementary partial deletions, with P deleting in the highest copy and DP in the middle one.

The subextraction derivation (45a) can be ruled out by the Minimal Link Condition (MLC). Without delving into the complexities of pied-piping, let us assume a simple feature-copying convention that marks a head with a feature (say, [+wh]) of its complement or specifier.

(46) *Pied-piping convention*

a. $[_{XP}\ ZP\ [_{X'}\ X\ YP_{[+wh]}] \rightarrow [_{XP}\ ZP\ [_{X'}\ X_{[+wh]}\ YP_{[+wh]}]_{[+wh]}$

b. $[_{XP}\ ZP_{[+wh]}\ [_{X'}\ X\ YP] \rightarrow [_{XP}\ ZP_{[+wh]}\ [_{X'}\ X_{[+wh]}\ YP]_{[+wh]}$

Under standard assumptions, the [+wh] feature copied from the complement/specifier to the head X will project the entire XP, making it visible to *wh*-movement. Thus, in order for the PP *in which bed* to be attracted to the intermediate [Spec,CP] in (45a,b), (46a) must have applied. Since the entire PP is marked [+wh] (we assume that the effect of (46a) cannot be undone), it must proceed to move as a unit: by the MLC, the matrix $C_{[+wh]}$ cannot attract the DP *which movie*, which is properly contained inside the PP, but must instead attract the closer [+wh] category, which is the PP itself.[17]

The alternative, subdeletion derivation (45b) can only be ruled out by the present EPP-analysis. Following Fanselow & Ćavar (2002), I take it that partial deletion of chain copies is possible in the grammar; hence, derivation (45b) is in principle available and cannot be dismissed without comment. What goes wrong in it is the failure to pronounce the P(reposition) head of the fronted PP in an EPP environment – namely, the specifier of $C_{[+wh]}$, which also bears the [P] feature. In that sense, (45b) is ruled out for the same reason that forces P-doubling in (41) – a head must be pronounced to satisfy the selectional EPP.[18]

4.3 V-doubling in VP-fronting and Predicate Clefts

Split topicalization of DPs and PPs is rather uncommon crosslinguistically, presumably because most languages do not make available clause-internal focus projections, over and above the clause-peripheral ones. Lexical doubling, in contrast, is much more common when the fronted category is V or VP; in that situation, the

[17] (44a) allows subextraction of the inner *wh*-phrase because the [Q] feature of the outer one has already been checked and deleted in the embedded [Spec,CP]. The marginality of the example is on a par with other *wh*-island examples, which presumably violate the P(hase) I(mpenetrability) C(ondition), not the MLC.

[18] On an economy interpretation, PF should *only* target EPP-positions. Thus, if the embedded clauses in (43) contain no TopP projection, there would be no [P]-bearing head in their left periphery to justify the pronunciation of *in*. The analysis in the text then applies to situations where the stranded P can be somehow phonologically justified, and still, its null copy in the matrix clause is illicit. A natural question is why P-doubling is excluded in English (and most languages, for that matter), unlike German (**In which bed did he say in (that) she slept?*). Presently I leave this as an open question.

higher V copy spells out a topic/focus feature, while the low copy carries inflection and tense.

V-doubling is attested in many African languages of the Kwa/Kru families, Carribean Creoles, Russian, Yiddish, Brazilian Portuguese, Korean and Hebrew (for a recent survey, see Landau 2005 and the references therein). Some examples are given below (the two verbal copies are boldfaced).

(47) a. **Fifún** ni Tolú **fún** mi ní ìgbá.
giving COP Tolu gave me case calabash
'Tolu GAVE me the calabash'
(Yoruba; Dekydspotter 1992)

b. **Dumat'** o ženit'be (-to) on **dumaet** – no nikogda on ne ženitsja.
to-think about marriage (PRT) he thinks – but never he not marry-self
'He does think about marriage, but he will never marry'
(Russian; Abels 1999)

c. Chelswu-ka ku chayk-ul **ilk**-ki-nun **ilk**-ess-ta.
Chelswu-NOM the book.ACC read-NMZ-TOP read-PAST-DECL
'Chelswu *did* read the book (but…)' (Korean; Jo 2003)

d. **liknot** et ha-praxim, hi **kanta**.
to-buy ACC. the-flowers, she bought
'Buy the flowers, she did' (Hebrew)

There are a number of differences among the various instantiations of V(P)-fronting in the world's languages, which I briefly mention. In the African/Creole constructions, the fronted predicate is syntactically clefted and expresses focus; in languages like Russian and Yiddish, the fronted predicate functions as a topic. Furthermore, in some languages the fronted category can only be a bare verb (Vata, Haitian, Igbo), in others VP-internal material can be freely carried along (Yoruba, Brazilian Portuguese, Hebrew). These differences are important in themselves, but do not bear on the present discussion, hence I leave them aside.

What is relevant to us are the following observations. First, topic/focus V-doubling constructions typically exhibit island-sensitivity. Second, it appears to be universally true that while the low verbal copy carries the normal inflection of the clause, the higher one receives some "default" form – a bare root (Vata, Haitian), a nominalized verb (Yoruba, Korean) or an infinitive (Russian, Hebrew). Third, in the

constructions at hand, V-doubling is obligatory; failing to pronounce either the low or the high verbal copy results in ungrammaticality.

The first observation is standardly accounted for by the assumption that V-doubling constructions are derived by (A-bar) movement. The second observation is naturally explained if the copied element is either the root itself √V or the stem V, prior to its fusion with the T/Agr-features that reside under the T^0 node (see Landau 2005 for discussion).

The third observation would follow from the present analysis of the EPP. Let us assume that a topicalized VP is attracted by a Top^0 head at the left periphery. Assume also that the head of the copied VP is itself already a copy of V-raising to T. The base VP is deleted, and pronunciation targets both remaining copies of V.

(48) $[\ _{TopP}\ [_{VP}\ V_{[+top]}$ XP YP] $Top^0_{[P]}\ [_{TP}$ Subj. V-T $[_{\sout{VP}}$ ~~Subj. V XP YP~~]]]

Pronounce: ↑ ↑

The V-copy in T must be pronounced due to an independent PF-requirement – namely, the need to support the T/Agr-features ("The Stray Affix Filter").[19] The V-copy in [Spec,Top^0] must be pronounced because Top^0 bears a [P] feature, effectively selecting a phonetic head for its specifier. The important thing to note in this analysis is that pronunciation of the low V-copy in T does not exempt the high V-copy from pronunciation; the EPP requirement of Top^0 is strictly local and cannot be satisfied by the occurrence of phonetic V-copies anywhere outside [Spec,Top^0]. The inevitable result is doubling.[20]

5. EPP as P-selection

5.1 Selection or Agreement?

So far I have been assuming, following Chomsky (2000), that the EPP is a selectional requirement. In section 2 (see (3)), we briefly mentioned two properties of the EPP that naturally fall out from this view: Locality and headedness. The latter property, however, central to the empirical discussion above, may be equally explained on an Agree-based view of the EPP. That is, just like selection applies to the head of the selected phrase, so does agreement; the goal in a probe-goal Agree relation is a head,

[19] If V remains in-situ, PF would still force its pronunciation to host affix-hopping or morphological merger with T.

[20] In Landau (2005) I attributed the obligatory high V-copy in Hebrew to the need to realize the high pitch accent characteristic of V(P)-fronting. This may well be true, however, the present EPP-based account provides an overriding general answer to this puzzle, independent of language-particular phonological rules.

some projection of which may be attracted to the probe to check off the triggering (uninterpretable) strong feature.

Such an Agree-based view of the EPP has indeed been proposed by Chomsky (1995). Chomsky argued that EPP satisfaction is nothing but checking off a strong D-feature on T. Pursuing this line, later proposals diverged only in the identification of the triggering feature (see, among others, Roberts & Roussou 2001, Haeberly 2003). Others settled for an intermediate position, whereby selection is formalized as a species of agreement – basically identifying strong features with selectional features (Adger 2003).

It is worth emphasizing that the issue is substantial, not merely terminological. To the extent that we acknowledge a set of real differences between selectional relations and agreement relations, we are more justified in keeping them apart. And to the extent that the EPP displays core selectional properties but none of the core agreement properties, we may conclude that the approach taken in this paper is on the right track.[21]

What are, then, the fundamental differences between selection and agreement? The following seem crucial.

(49) *Differences between selection and agreement*

a. Locality: Selection is strictly local – satisfied only under sisterhood. Agreement is moderately local, constrained by c-command and intervention (the MLC) only.
b. Valuation: In agreement, one member values the features of the other member, which are originally unvalued. In selection, no valuation takes place (both members are originally valued).
c. Pure (external) Merge: Agreement can only apply between connected nodes; selection may pair a node in the syntactic tree and an external element (from the numeration).

To be sure, this description is not universally accepted. Indeed, it has frequently been claimed that there are two types of agreement – weak (corresponding to “agreement" in (49)), and strong (corresponding to “selection” in (49)). But this disjunctive notion of agreement seems to conceal a problem rather than solve it. Moreover, exactly the same properties of so-called “strong agreement” manifested by the EPP – strict locality, no valuation, possibility of external merge – are observed in bona fide

[21] See Lasnik (2001a) for an argument (based on VP-ellipsis facts) that EPP does not involve feature checking.

selectional relations. Yet few would argue that, e.g., the animacy restriction on the object of *frighten* should be understood in terms of an Agree relation between the verb and its object. It seems far more reasonable to acknowledge two syntactically distinct relations: Agreement, on the one hand, applying to ϕ-features/case, *wh*-features, top/foc-features etc.; and selection, on the other hand, applying to θ-relations, extended projections (v-V, D-N, C-T relations) and the like. Observationally, at least, the EPP relation belongs to the second category.

There is an additional, compelling argument for the selectional view of the EPP, drawing on a fundamental asymmetry between the EPP and normal checking relations. It is developed in the next section.

5.2 The Parasitic Nature of [P]

One of the most puzzling aspects of EPP phenomena is this: [P] can never trigger movement by its own. If an element moves to the specifier of the [P]-bearing head, then it must check some independent feature against that head. In other words, [P] is always parasitic on the presence of some *anchoring feature* (F_A).[22] This generalization, unviolated to my knowledge, is well-documented but remains a sore thumb for most current treatments of the EPP. The present analysis derives it in a principled way.[23]

Consider first well-known cases. The same [P]-bearing T head that requires an overt subject also checks ϕ-/case features with it. Alternatively, it may check those features against a lower associate DP, [P] being satisfied by an expletive or a quirky subject. There is evidence that quirky subjects check some formal feature against T, over and above EPP-satisfaction, possibly [person] (Sigurðsson 2004). Thus, whenever something moves to [Spec,TP], something beyond the EPP is checked; pure EPP satisfaction only occurs with pure (external) merge of expletives.

Moving to other functional heads, light v in Scandinavian checks accusative case against the DP that satisfies its [P] feature (under Object Shift). And the [P] feature of C in *wh*-movement languages, of course, is satisfied by the element that checks the [wh] feature as well.

The particular association between anchoring features and [P] is precisely where languages differ. The case of T is especially illuminating, exhibiting this variation in its broadest. In null-subject languages (of the Italian type), [P] is anchored by verbal agreement features; V-to-T movement thus satisfies EPP (Alexiadou &

[22] Chomsky (2000) associates an EPP-feature only with fully-specified core functional categories.
[23] The only potential refutation of this generalization would be a genuine case of expletive movement, where the expletive is of the *there*-type (i.e., caseless and ϕ-less). However, there are strong arguments that expletives are always generated in their surface position and never move (Bošković 2002).

Anagnostopoulou 1998). In Irish, [P] on T is linked to nominative case: the subject position of unaccusatives is filled if and only if the internal argument is a DP, which needs case, while PP arguments are left in situ (McCloskey 1996). [P] on T in aspectual complements in Fɔ̀ngbè appears to be anchored by either verbal Agr or by D; thus, one finds an alternation between V-doubling in T and object shift to [Spec,TP] (Ndayiragije 2000). Finally, Miyagawa (2001, to appear) argues that in focus-prominent languages like Japanese, [P] on T is anchored by a [wh] or a [foc] feature. No doubt other options exist.[24]

The underlying rule, however, is that in all these cases, [P] always depends on some other feature to attract a category. This appears to hold even in the most dramatic illustration of the EPP in its pure form – stylistic Fronting (SF) in Icelandic. As shown in detail by Holmberg (2000), SF may front almost any category – participles, negation, adverbs, particles, DPs or PPs – to [Spec,TP], whenever it is occupied by a subject gap. Only two constraints are at work: first, the fronted category must be phonologically visible (i.e., bear [P]); and second, it must be the closest such category to T, an MLC effect according to Holmberg. In (50a), an adverb blocks SF of a lower participle; in (50b), the adverb itself is SF-ed (SF-ed categories are italicized, their gap is marked with an underline).

(50) a. sá sem *skrifa* hefur (*sennilega) ___ essa bók.
he that written has (*probably) this book

b. sá sem *sennilega* hefur ___ skrifað þessa bók.
he that written has probably this book

Holmberg concludes from the syntactically indiscriminate nature of SF that it operates on purely phonological features. There is, however, a notable exception: auxiliary verbs do not block SF of lower elements by intervention, as (50a,b) show. Nor can they be SF-ed themselves.

(51) a. *Tekin* hefur verið ___ erfið ákvörðun.
taken has been difficult decision

[24] Holmberg & Nikanne (2001) argue that in topic-oriented languages like Finnish, EPP is satisfied by almost any [–focus] element, the thematic subject having no privileged status. According to them, the EPP position in Finnish is located in a projection higher than TP (see Kiss 2001 for a similar claim for Hungarian). Interestingly, a few adverbials are excluded from this position, suggesting that [P] is also semantically parasitic in this language (see the discussion below on Stylistic Fronting in Icelandic).

b. * *Verið* hefur ___ tekin erfið ákvörðun.
been has taken difficult decision

Holmberg proposes that SF-ed material must have "sufficient" semantic features, in addition to a phonological matrix; auxiliaries lack the requisite semantic content. It is conceivable that the SF operation itself is triggered by some discourse-related feature on T, serving as the anchoring feature for [P]. While the former acts as a probe under standard Agree, the latter is purely selectional.[25] Even here, then, where the element selected by [P] is unrestricted in syntactic category or semantic type, it is still minimally required to bear some independent (non-phonological) features, confirming that [P] never operates on its own.

The parasitic nature of [P] may explain some puzzling facts concerning the distribution of bare nouns (BNs) in Romance. Recall from section 3.1.1 that BNs are excluded from subject positions, an ECP effect presently reanalyzed in terms of the selectional EPP. Several authors have observed that subject BNs are rendered grammatical when focused; cf. the contrast in Spanish (52), from Contreras (1986).

(52) a. * Esclavos construyen pirámides. [non-focused subject]
'Slaves build the pyramids'

b. ESCLAVOS construyeron las pirámides. [focused subject]
'Slaves built the pyramids'

Why should a null D be excluded in [Spec,TP] but allowed in [Spec,FocP], given the (plausible) assumption that both T^0 and Foc^0 are [P]-bearing heads? The answer might lie with the different anchoring features for [P]. On T^0, [P] is anchored by case/ϕ-features; on Foc^0, the anchor is simply [+foc]. Suppose that within DP, case/ϕ-features are specified on D (possibly spread to N by concord) but [foc] is a feature of N. This is motivated by the observation that D is the prototypical locus of morphological contrasts in case/ϕ-values, while it is N that bears the semantic content targeted by the focus interpretation.

[25] See Davis & Prince (1986) and Landau (2005) for a similar restriction on V-topicalization in Yiddish and Hebrew.

Holmberg attempts to derive the semantic restriction from the idea that SF is Ā-movement, subject to obligatory reconstruction. In the absence of semantic content, reconstruction of the SF-ed auxiliary will fail. It is not clear how this is supposed to follow, given Holmberg's assumption that SF moves *just* p(honological)-features. So defined, the effect of "obligatory reconstruction" is inescapable, since no s(emantic)-features are moved in the first place. What is left is a stipulation that p-features may be moved only when associated with s-features – clearly, an odd situation. Notice that the present account assumes that *Copy* is an unselective operation, hence movement carries along all features of the moved item. Semantic restrictions, then, are imposed by the anchoring feature for [P].

The contrast in (52) now follows. Since [P] on T is anchored by a feature that is checked against D, it is D that must be phonologically visible to satisfy [P]; hence, BNs (with a null D) are excluded in [Spec,TP]. By contrast, since [P] on Foc^0 is anchored by a feature checked against N, it is N that must be phonologically visible to satisfy [P]; hence, a null D is tolerated in [Spec,FocP]. Note that [Spec,TP] can but need not be lexicalized in Romance (e.g., postverbal subject constructions). Hence, the focused subject in (52b) could raise directly from its VP-internal position, leaving no potentially offending null-headed copy in [Spec,TP]. While this scenario calls for further testing, I believe that it holds some promise of insight into the puzzle posed by (52), which has so far resisted explanation.[26]

In fact, once we take a broader look at the distribution of BNs outside Romance, it becomes evident that the anchoring mechanism for [P] is precisely where crosslinguistic variation is located with respect to the EPP. It is well-known that BNs are possible subjects in Germanic languages (e.g., English). In Hebrew, all indefinite DPs lack an overt determiner, and in Russian the same is true of all DPs, definite or not (excluding those with demonstrative). Presumably, in all these cases the DPs are headed by a null D.

(53) a. Firemen are available.

b. yeled sixek ba-gina. [Hebrew]
child played in-the-garden
'A child was playing in the garden'

c. Devočka čitala knigu. [Russian]
girl read book
'A/the girl read a/the book'

Keeping to the assumption that nominals in argument positions are introduced by D, one must explain how the EPP is satisfied in the context of these null-headed DP subjects.

Notice that there is no a priori reason to believe that a unique solution will apply to all languages. For V-raising languages, an appealing approach would have the EPP

[26] Contreras (1986) reports further complications: singular BNs resist focalization, while all (deep subject) BNs resist topicalization. These are the expected patterns on the null hypothesis that [P] is satisfied in a uniform fashion everywhere. Caseielles (1996) argues that Spanish has no genuine topicalization operation; instead, fronted BNs are left-dislocated, binding a null clitic. This is supported by the fact that like CLLD, BN fronting is island-insensitive. If left-dislocated phrases are adjoined to TP (rather than occupy a Spec position), this would explain the absence of a [P]-requirement, allowing them to surface in an initial position, at least for some speakers.

satisfied by (the Agr features of) V in T, rather than by a merged specifier (Alexiadou & Anagnostopoulou 1998). This could be true for Hebrew and Russian.

Another possibility, however, is to parameterize the anchoring feature for EPP. Déprez (2000), in a different context, proposes that the EPP feature itself is parameterized – D in Romance, N in English. Under the present account, what must be parameterized is the anchoring feature for [P], rather than [P] itself (which is invariant). One way of doing it, following Déprez, would be indeed to link [P] to an uninterpretable D- or N-feature on T. I will not pursue this idea, as it seems to re-introduce a "syntactic" EPP feature in the back door.

Instead, suppose we anchor [P], as is quite standard, to the uninterpretable case/ϕ-features on T. That means that whatever XP is used to check off these features must be headed by an overt head X. The locus of crosslinguistic variation, then, could be the location of syntactically visible case/ϕ-features within DPs. Specifically, suppose that in Romance, it is the head D that bears those features. Since [P] is anchored to case/ϕ-features, the p-selectional requirement of T will be imposed on D. In contrast, suppose that in languages allowing subject BNs (e.g., English, Hebrew, Russian) case/ϕ-features are syntactically visible on N, not on D (which may nonetheless exhibit partial morphological concord with N). Then the p-selectional requirement of T will be imposed on N, permitting D to be null.

Undoubtedly, these matters deserve further study, but it appears that several routes are available within the present system to approach facts like (53). It should be clear that *some* hidden parametric contrast between Romance, on the one hand, and Germanic/Semitic/Slavic, on the other hand, is needed in any account of the generalization that BNs exhibit a subject-object asymmetry only in the former language group.

Having established the parasitic behavior of [P], we may ask *why* it is so. Strikingly, there is little in current theorizing to explain this curiosity. On the dominant approaches, which are essentially syntactic, the EPP is reduced to feature checking (e.g, a strong D-feature on T). But why should the ability of one feature to trigger movement depend on the presence of other features? For case and agreement, one might argue that morphological bundling simply results in their being checked simultaneously. However, there is no obvious morphological link between the requirement for phonetic realization and, e.g., case or [wh].

This sort of anomaly was precisely what lay behind the introduction of "strength" as a grammatical property. In Chomsky (1995, chapter 2) strength is not conceived as a formal feature in itself, but rather a property of an independent feature. Notice that this view did explain why EPP-effects were parasitic, but only at the cost of introducing the unwieldy concept of strength, a second-order feature. Abandoning

this concept and reanalyzing strength as a distinct, independent "EPP feature", Chomsky (2000) cleared the conceptual confusion, but the original puzzle now re-emerged: Why is EPP – an independent grammatical feature – parasitic? The paradox is especially pressing in light of the current tendency to speak of EPP features as "triggers for movement". As we saw above, this description is highly misleading. An EPP feature is never sufficient for movement to occur; it is just necessary.

The view of [P] as a selectional feature, specifically p-selectional, provides a principled answer to the puzzle. P-selection operates at PF; accordingly, p-selectional features do not drive movement, any more than s-selectional features do. As a rule, selectional relations are inspected, satisfied or violated at the interfaces, after all movement (at least, within a given phase) took place. Consider, for example, the following failed attempts to satisfy selection via movement.

(54) a. * We showed Mary to ~~Mary~~.
b. * Jane seemed to ~~Jane~~ to be fortunate.

In (54a) *Mary* moves from the indirect object position to the direct object (the intended reading is *We showed Mary to herself*). Evidently, the fact that *show* s-selects both a theme and a goal cannot trigger movement of the latter to satisfy the former.[27] Existing accounts resort to Case theory to rule out (54a) (double case-marking, "inactive" goal for Agree), hence presupposing that selection alone cannot trigger movement. The PF analogue is (54b), where the case-marked indirect object moves to the non-thematic subject position (the intended reading is *Jane seemed to herself to be fortunate*). Again, p-selection by the matrix T for a phonologically visible specifier cannot trigger movement of *Jane* if case cannot be simultaneously checked.

Notice where the common statement "EPP triggers movement" comes from. Indeed, without a [P] feature, there will be no motivation for phonological displacement; Agree can operate on a category in-situ. Economy, then, rules out such unmotivated movements, but only at the PF interface, where the occurrence of [P] features is registered; if nothing requires pronouncing an element away from its base position, it should be pronounced there. Conversely, [P] is never a trigger for movement, strictly speaking. Rather, whenever it is present, failure to spell out p-features in its Spec results in a PF (selectional) violation. On a cyclic Spellout model, the violation is detected fairly quickly.

[27] That s-selection may trigger movement (and θ-roles are checkable features) has been argued by Hornstein (1999); see Landau (2003b) for a detailed critique. If correct, the present analysis bolsters the case against the conflation of selection and checking.

In short, the answer to the puzzle stated at the beginning of this section is very simple: [P] is parasitic (i.e., cannot trigger movement) because *selection* is parasitic. The interfaces are filtering devices, not computational components; LF/PF can at most weed out illicit representations independently generated by narrow syntax. The answer is principled in that it follows from the very architecture of the grammar, and the division of labor between syntactic computation (checking) and interface licensing (selection). As far as I can see, syntactic treatments of the EPP cannot offer equally satisfactory explanations for this important distinction between the EPP and standard syntactic processes.

6. Null Subjects

On the phonological construal of the EPP articulated here, the role of phonologically empty elements must be reconsidered. In particular, so-called null subjects can no longer satisfy the EPP requirement, since by definition, they lack the phonetic content selected by the [P] feature. In this section we consider the three main types of null subjects: *pro*, PRO and unpronounced movement copies ("traces").

Regarding *pro*, the null subject of finite clauses in null-subject languages (NSL) I will simply adopt the line of research represented by Alexiadou & Anagnostopoulou (1998) (and the references therein). Within this framework, it is recognized that the function served by subject DPs and overt pronouns in non-NSLs is taken over by the inflectional morphology on the verb in NSLs. Importantly, the finite verb overtly raises to T, checking off all the features an overt subject would – the D and Agr features in particular. I would like to suggest that the [P] feature as well is satisfied by the occurrence of the finite V in T; indeed, [P] is necessary for V-to-T to take place. We may assume, with Alexiadou & Anagnostopoulou (1998) and Miyagawa (2001), that the choice between an X^0 and an XP element, to satisfy [P] on T, is parametric.

Notice that on these assumptions, it is not even clear that *pro* exists. If the inflectional morphology on the finite verb is interpretable, just like a pronoun, then *pro* becomes redundant: it is needed neither for s-selection nor for p-selection. This conclusion is quite appealing, although nothing crucial rests on it in the present context.

Consider next the subject of control clauses – finite or nonfinite, obligatorily controlled or not – namely, PRO.[28] I take it that the reality of PRO is beyond reasonable doubt. Ample converging evidence from agreement process, binding and other subject-sensitive phenomena points to the conclusion that PRO exists as a

[28] See Landau (2004) for much evidence that PRO may occur in finite clauses.

distinct formative in the grammar (see Landau 2003b). Clearly, though, being null it cannot satisfy the EPP.

There are two possible responses to this state of affairs. Either we say that control clauses simply lack the EPP property; or they have it, but something other than PRO satisfies it, much like finite inflection in NSLs.

It seems to me that the second option faces considerable difficulties from a crosslinguistic perspective. Though one can find distinct T-morphemes in control clauses in certain languages (e.g., English *to*), and possibly V-to-T raising in other languages, these options certainly do not represent a universal pattern. There are quite a few languages where control clauses clearly contain a PRO subject but no phonetic material in T whatsoever (e.g., Swedish; see Thráinsson 1993). Furthermore, Stylistic Fronting in Icelandic fails to apply in infinitives – presumably due to the lack of the triggering feature [P] (see Holmberg 2000).

For these reasons, I conclude that T in control clauses simply lacks the [P] feature. Nevertheless, standard subject properties indicate that PRO occupies the canonical subject position, namely [Spec,TP]. What triggers the raising of PRO to this position, if it is not the EPP?

In Landau (2004) I develop a comprehensive analysis of control, focusing on the intricate factors that affect the licensing of PRO as opposed to lexical subjects in infinitives (uninflected or inflected), subjunctives (controlled or uncontrolled) and indicatives. The basic claim in that work is that T and C are associated with a feature labeled [R(eferential)], that must be checked off by either PRO ([–R]) or a lexical subject ([+R]). [R] is a "redundancy" feature, assigned on the basis of the values of [T] and [Agr]. Essentially, [+T,+Agr] implicates [+R], while [–R] is assigned elsewhere. I further show that a cluster of converging arguments show that PRO undergoes normal case-marking, indicating that its distribution must be divorced from Case theory.

Minimally changing Landau's (2004) assumption that [R] is an agreement feature to the assumption that it is a selectional feature would resolve the current issue. Specifically, assume that the licensing feature of PRO (namely, [–R]) is an s-selectional feature of T. This is plausible, given that [R] ultimately reflects referential properties of the DP subject, which are relevant to LF. As a selectional feature, it can only be satisfied locally. Thus, just like [P] drives raising of overt subjects to [Spec,TP], [–R] drives raising of PRO to [Spec,TP].[29] Notice that the logic of the proposal would remain unchanged if the driving feature for PRO-raising is different, as long as it is a selectional feature. In fact, since agreement alone cannot drive

[29] Notice that in both cases the selectional relation is parasitic on case/ϕ-checking, in line with the conclusions of the previous section.

movement, and p-selection does not apply to PRO, we conclude by elimination that s-selection (by the T head) is responsible for the occurrence of PRO in the canonical subject position. This result is achieved without reference to the EPP; indeed, subjecthood in control clauses is divorced from EPP effects, properly construed as restricted to PF.

Finally, consider unpronounced copies (traces) in EPP positions, created by A- or Ā-movement. The simplest assumption to make is the one already made for selection in general: namely, selectional requirements are satisfied upon merge in the selected position, before it is evacuated by movement. Thus, just like ~~*which girl*~~$_i$ in (55a) satisfies at LF the s-selectional requirement of V ([__[+animate]]), ~~*which noise*~~$_i$ in (55b) satisfies at PF the p-selectional requirement of T ([__[+P]]).

(55) a. Which girl$_i$ did that noise scare ~~which girl~~$_i$?
b. Which noise$_i$ do you think ~~which noise~~$_i$ scared that girl?

Notice that both semantic and phonetic features, of the type selected in (55), are interpretable at the (LF and PF) interfaces, hence are never deleted. An obvious implication is that a single category with phonetic content may satisfy the [P] feature of several distinct heads, by passing through their respective specifiers. As (55b) shows (with respect to the embedded T and the matrix C), this seems to be correct.[30]

To summarize, the main instances of null categories that appear to occur in EPP positions can be accommodated on fairly standard assumptions, without raising remarkable challenges to the p-selection view of the EPP.

7. Conclusion

There is a fundamental observation, running through the entire GB era and up until the present day, which can be put as follows: The functional field is much less tolerant to empty categories than the lexical field. That is, while the occurrence of null elements in the lexical domain seems to be governed solely by semantic recoverability considerations, their distribution in the functional domain is subject to further syntactic conditions. Putting aside null-subject phenomena, it appears that whenever a

[30] One may wonder how doubling – as in (38) – ever arises, given that a single phonetic matrix may satisfy distinct EPP positions via movement. It appears that particular PF circumstances may still force phonetic realization of more than one copy. In German split topicalization, for instance, the low D-copy is anchored by a [+foc] feature, which also dictates a specific (prosodic) realization at PF. The high D-copy is adjacent to [+top]-bearing elements, but is itself discourse-neutral. Trying to realize the [+foc] prosody on this D, inside a [+top] category, would presumably create an ill-formed object at PF. Similarly, in V-doubling situations, the low verbal copy is required by an affixal T morpheme – an absolute, local PF constraint, that cannot be satisfied "at a distance" by a remote V-copy.

null category is possible outside VP, it is also possible inside VP, but not vice versa. This striking asymmetry poses a major challenge to any theory of syntax.

The classical ECP approach to these matters assumed that empty categories are sui generis, subject to specific conditions that exclusively target them. A notion of *licensing* was developed (with numerous versions – government, lexical government, θ-government, proper government, etc.), so constructed that lexical heads turned out to be suitable licensors whereas functional heads were deficient in some sense; consequently, the special licensing required for empty categories often failed in the vicinity of a functional head.

The present proposal recognizes the fundamental asymmetry to be accounted for. However, the approach taken is radically different. First, we assume no special licensing condition for empty categories. Second, we locate the contrast between lexical and functional heads not in the alleged deficient licensing capacity of the latter, but in their special selectional requirements. In particular, functional heads (may) bear a p-selectional feature [P], which must be satisfied by a phonologically visible element in a local configuration (namely, sisterhood). This, I argued, is the true content of the EPP, and for that matter, of the "strength" property.

This view has some clear benefits. First among them is the rationalization of a previously accidental matching between EPP-inducing heads and ECP-inducing heads. That is, within the existing accounts, it has never been clear why, for example, T has *both* the EPP property *and* the deficient-licensing property. In fact, there was something distinctly unnatural about the assumption that T requires a specifier but nonetheless excludes one that is either null or contains a null category. This link now makes perfect sense. The EPP is a p-selectional requirement; it requires a phonologically visible category in the Spec of T (and other functional heads). As a selectional requirement, it applies to the head of the selected category, the result being that this head cannot be null. Thus, the *same* mechanism that explains EPP effects also explains ECP effects, and that is, I think, a mark of progress.

The empirical predictions of the EPP-account of the ECP also appear to be more finely tuned to the actual phenomena. Recall that the illicit configuration is the following.

(56) *$[_{HP}\ [_{ZP}\ [_{Z}\ \varnothing]\ \ldots]\ [_{H'}\ H_{[P]}\ \ldots]]$

In other words – not just any element within the EPP-satisfier, but specifically its head must be phonologically visible. Across a wide range of phenomena, this seems to be correct. Bare nouns in Romance are excluded from subject positions because of they are headed by a null D; QPs headed by a null Q are equally excluded. Sentential

subjects headed by a null C cannot occupy subject/topic positions; adjuncts headed by a null P are excluded from initial positions (plausibly, p-selected by Top^0); indirect objects headed by a null P resist displacement; and the head of fronted categories – DPs, PPs and VPs – may be phonologically doubled if it has to satisfy two distinct [P] features.

Much of the theoretical simplification delivered by the proposal owes to the deep analogies found between general selectional relations and EPP effects. By maintaining the classical distinction between selection and agreement (checking), we were able to explain why EPP stands out among other syntactic process with its remarkable properties. The most significant corollary of this treatment is a principled explanation for the parasitic nature of the EPP, i.e., its inability to trigger movement by itself. The reason, simply, is that interface conditions (like selection) cannot drive syntactic operations; at most, they can filter out structures where some operations failed to apply.

There is, however, one point of disanalogy between s-selection and p-selection that we have so far ignored. In ordinary s-selection, what is being selected is not just any s-feature, but a particular one: [+animate], [-abstract] and so on. It is quite rare to find an indiscriminate selection for some [S] feature, whatever it may be.[31] With p-selection, by contrast, the rule seems to be that *any* phonological feature is eligible for satisfying the requirement; as far as I know, there are no designated syntactic positions in specific constructions/languages that call for, say, a [+coronal] or [-back] feature. I think this is a real asymmetry, even if an exception to the general symmetrical pattern, and I have nothing insightful to say about it.

Throughout the discussion, I have intentionally skirted the question why p-selectional features exist to begin with. Here one can only offer speculations. It seems that the very existence of p-selection serves some natural functional rationale; namely, to enhance the perceptual contrast between lexical information and discourse information. By forcing displacement of categories from the lexical domain to the functional domain, [P] features allow a greater number of communicative distinctions to be read off phonetic strings. Thus, from the perspective of language evolution, the introduction of [P] features into the grammar imparts on it a certain adaptive edge over grammars with less or no [P] features.

A final general issue that arises out of this discussion is the familiar opposition between derivational and representational views of the grammar. Within GB, there has been a pervasive sense that the ECP is a representational condition, as opposed to derivational conditions like Subjacency (Stowell 1981, Kayne 1981, Czepluch 1982,

[31] Although one might view cases like **There heard a noise*, with an expletive in a thematic position, as violations of such a requirement.

Lasnik & Saito 1984, Contreras 1986). Correspondingly, any (non-pronominal) empty category was subject to the ECP, whether derived by movement or not. With the advent of minimalism, representational conditions fell from grace, with the unfortunate result that their empirical substance has been unjustly neglected (see Lasnik 2001b for an illuminating discussion).

The present analysis "resurrects" some of the representational effects of the classical ECP (e.g., the restrictions on Romance BNs) within the confines of the derivational model. In particular, we observe that the ECP-qua-EPP effects are not strictly derivational, since the offending null head is not ruled out the moment it is introduced, but rather on the phase-level application of Spellout. On the other hand, they are not strictly representational either, since the same phonologically visible category may satisfy different [P] features in different locations via successive cyclic movement. As with other topics, the derivational-representational opposition turns out to be blurred in a model incorporating both derivational computations and representational interfaces.

References

Adger, David. 2003. *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.

Alexiadou, Artemis and Elena Anagnostpoulou. 1998. Parameterizing AGR: Word Order, V-movement and EPP-checking. *Natural Language and Linguistic Theory* 16, 491-539.

Baker, Mark C. 1997. Thematic Roles and Syntactic Structure. In: Haegeman, Liliane (ed.), *Elements of Grammar: Handbook in Generative Syntax*, Dordrecht: Kluwer, 73-137.

Barbosa, Pillar. 1996. A New Look at the Null Subject Parameter. In: Costa, João, Rob Goedemans and Ruben ban de Vijver (ed.), *Proceedings of ConSOLE 4*, Leiden University, HIL, 375-395.

Bresnan, Joan and Jane Grimshaw. 1978. The Syntax of Free Relatives in English. *Linguistic Inquiry* 9, 331-391.

Bobaljik, J. D. 2002. A-Chains at the PF-Interface: Copies and 'Covert' Movement. *Natural Language and Linguistic Theory* 20, 197-267.

Bobaljik, Jonathan and Dianne Jonas. 1996. Subject Positions and the Roles of TP. *Linguistic Inquiry* 27, 195-236.

Boivin, Marie-Claude. 2000. *Split Noun Phases and the Theory of Case*. PhD dissertation, MIT.

Bošković, Željko. 2002. A-movement and the EPP. *Syntax* 5, 167-218.

Caseilles, Eugenia. 1996. On the Misbehavior of Bare Nouns in Spanish. In: Parodi, Claudia, Carlos A. Quicoli, Mario Saltarelli, and Maria Luisa Zubizarreta (eds.), *Aspects of Romance Linguistics*, Washington: Georgetown University Press, 135-148.

Chomsky, Noam. 1982. *Some Concepts and Consequences of the Theory of Government and Binding*. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. MIT Press, Cambridge Mass.

Chomsky, Noam. 2000. Minimalist Inquiries: The Framework. In: Martin, Roger, David Michels, and Juan Uriagereka (eds.), *Step by step: Essays on Minimalist Syntax in Honor of Howard Lasnik,* 89–155. Cambridge, Mass.: MIT Press.

Contreras, Heles. 1986. Spanish Bare NPs and the ECP. In: Bordelois, Ivonne, Heles Contreras and Karen Zagona (eds.), *Generative Studies in Spanish Syntax*, Foris: Dordrecht, 25-49.

Culicover, Peter and Ken Wexler. 1973. An Application of the Freezing Principle to the Dative in English. *Social Sciences Working Papers* 39, University of California, Irvine.

Czepluch, Hartmut. 1982. Case Theory and the Dative Construction. *The Linguistic Review* 2, 1-38.

den Dikken, Marcel. 1995. *Particles: On the Syntax of Verb-Particle, Triadic and Causative Constructions*. Oxford: Oxford University Press.

Déprez, Viviane. 2000. Parallel (A)symmetries and the Internal Structure of Negative Expressions. *Natural Language and Linguistic Theory* 18, 253-342.

Emonds, Joseph. 1987. The Invisible Category Principle. *Linguistic Inquiry* 18, 613-632.

Fanselow, Gisbert, and Damir Ćavar. 2002. Distributed Deletion. In: Alexiadou, Artemis (ed.), *Theoretical Approaches to Universals*, Amsterdam: John Benjamins, 65–107.

Fowler, George and Michael Yadroff. 1993. The Argument Status of Accusative Measure Nominals in Russian. *Journal of Slavic Linguistics* 1, 251-279.

Grohmann, Kleanthes K., John Drury and Juan Carlos Castillo. 2000. No More EPP. In: Billerey, Roger and Brook Danielle Lillehaugen (eds.), *Proceedings of WCCFL 19*, Somerville, MA: Cascadilla Press, 153-166.

Haeberli, Eric. 2003. Categorial Features as the Source of EPP and Abstract Case Phenomena. In: Brandner, Ellen and Heike Zinsmeister (eds.), *New Perspectives on Case Theory*, Stanford, CA: CSLI Publications, 89-126.

Heycock, Caroline and Roberto Zamparelli. 2003. Coordinated Bare Definites. *Linguistic Inquiry* 34, 443-469.

Holmberg, Andres. 2000. Scandinavian Stylistic Fronting: How Any Category Can Become an Expletive. *Linguistic Inquiry* 31, 445-483.

Holmberg, Andres and Urpo Nikanne. 2001. Expletives, Subjects and Topics in Finnish. In: Svenonius, Peter (ed.), *Subjects, Expletives and the EPP*, Oxford University Press, 71-105.

Holmberg, Andres and Thorbjörg Hróarsdóttir. 2003. Agreement and Movement in Icelandic Raising Constructions. *Lingua* 113, 997-1019.

Hornstein, Norbert. 1999. Movement and Control. *Linguistic Inquiry* 30, 69–96.

Hornstein, Norbert and Amy Weinberg. 1981. Case Theory and Preposition Stranding. *Linguistic Inquiry* 12, 55-91.

Jones, Michael A. 1993. *Sardinian Syntax*. London: Routledge.

Kayne, Richard. 1975. *French syntax: The transformational cycle*. Cambridge: MIT Press.

Kayne, Richard. 1981. ECP Extensions. *Linguistic Inquiry* 12, 93-133.

Kayne, Richard. 1984. *Connectedness and Binary Branching*. Dordrecht: Foris.

Kiss, Katalin É. 2001. The EPP in a Topic-Prominent Language. In: Svenonius, Peter (ed.), *Subjects, Expletives and the EPP*, Oxford University Press, 107-124.

Landau, Idan. 2002a. A Typology of Psych Passives. In: Proceedings of the 32nd conference of the North Eastern Linguistic Society, GLSA, UMASS, Amherst, 271-286.

Landau, Idan. 2002b. Experiencer Objects are Oblique. *Glot International* 6:9/10, 329-335.

Landau, Idan. 2003a. *The Locative Syntax of Experiencers*. Ms., Ben Gurion University.

Landau, Idan. 2003b. Movement Out of Control. *Linguistic Inquiry* 34, 471–498.

Landau, Idan. 2004. The Scale of Finiteness and the Calculus of Control. *Natural Language and Linguistic Theory* 22, 811-877.

Landau, Idan. 2005. Chain Resolution in Hebrew V(P)-fronting. To appear in *Syntax*.

Larson, Richard. 1985. Bare-NP Adverbs. *Linguistic Inquiry* 16, 595-621.

Lasnik, Howard. 2001a. A Note on the EPP. *Linguistic Inquiry* 32, 356-362.

Lasnik, Howard. 2001b. Derivations and Representations in Modern Transformational Syntax. In: Baltin, Mark and Chris Collins (eds.), *The Handbook of Contemporary Syntactic Theory*, Oxford: Blackwell Publishers, 62-88.

Lasnik, Howard and Mamuro Saito. 1984. On the Nature of Proper Government. *Linguistic Inquiry* 15, 235-289.

Longobardi, Giuseppe. 1994. Reference and Proper Names: A Theory of N-movement in Syntax and Logical Form. *Linguistic Inquiry* 25, 609-665.

Longobardi, Giuseppe. 1996. The Syntax of N-raising: A Minimalist Theory. *OTS Working Papers of Theoretical Linguistics*, Research Institute for Language and Speech, University of Utrecht.

Longobardi, Giuseppe. 2000. "Postverbal" Subjects and the Mapping Hypothesis. *Linguistic Inquiry* 31, 691-702.

McCawley, James D. 1988. Adverbial NPs: Bare or Clad in See-Through Garb?. *Language* 64, 583–590.

McCloskey, James. 1996. Subjects and Subject Positions in Irish. In: Borsley, Robert D. and Ian Roberts (eds.), *The Syntax of the Celtic Languages: A Comparative Perspective*, Cambridge University Press, 241-283.

Miyagawa, Shigeru. 2001. The EPP, Scrambling, and *Wh*-in-situ. In: Kenstowicz, Michael (ed.): *Ken Hale: A Life in Language*, MIT Press, 293-338.

Miyagawa, Shigeru. On the EPP. To appear in Richards, Norvin and Martha McGinnis (eds.), *Proceedings of the EPP/Phase Workshop*, MITWPL,MIT.

Morzycki, Marcin. 2001. Interpreting Measure DP Adverbials. In: Megerdoomian, Karine and Leora Anne Bar-El (eds.), Proceedings of *WCCFL* 20, Cascadilla Press, 442-455.

Ndayiragije, Juvénal. 2000. Strengthening PF. *Linguistic Inquiry* 31, 485-512.

Pesetsky, David. 1998. Some Optimality Principles of Sentence Pronunciation. In: *Is the Best Good Enough*?, ed. by Pilar Barbosa, Danny Fox, Paul Haegstrom, Martha McGinnis and David Pesetsky, MIT Press and MITWPL, Cambridge MA, 337-383.

Postal, Paul M. 1972. On Some Rules that Are Not Successive-Cyclic. *Linguistic Inquiry* 3, 211-222.

Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, MA: MIT Press.

Roberts, Ian and Anna Roussou. 2002. The Extended Projection Principle as a Condition on the Tense Dependency. In: Svenonius, Peter (ed.), *Subjects, Expletives and the EPP*, Oxford University Press, 125-155.

Rosengren, Inger. 2002. EPP: A Syntactic Device in the Service of Semantics. *Studia Linguistica* 56, 145-190.

Rothstein, Susan D. 1983. *The Syntactic Forms of Predication*. PhD dissertation, MIT.

Roussou, Anna. 2002. C, T and the Subject: *That*-t Phenomena Revisited. *Lingua* 112, 13-52.

Ruwet, Nicolas. 1972. *Théorie Syntaxique et Syntaxe du Français*. Editions du Seuil, Paris.

Sigurðsson, Halldór A.. 2004. Icelandic Non-nominative Subjects. In: Bhaskararao, Peri and Karumuri Venkata Subbarao (eds.), *Non-nominative Subjects*, Amsterdam: John Benjamins, 185-208.

Solà, Juame. 1992. *Agreement and Subjects*. PhD dissertation, Universität Autonoma de Barcelona.

Stowell, Timothy. 1981. *Origins of Phrase Structure*. PhD dissertation, MIT.

Thráinsson, Höskuldor. 1993. On the Structure of Infinitival Complements. In: Epstein, Samuel D. and Susumo Kuno (eds.), *Harvard Working Papers in Linguistics* 3, Harvard University, 181–213.

Whitney, Rosemarie. 1982. The Syntactic Unity of Wh-movement and Complex NP Shift. *Linguistic Analysis* 10, 299-319.