A Typology of EPP-Checking Mechanisms

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And, thanks also to you, dear reader! I hope you find something to think about in the following pages!
### Abbreviations

| 1  | first person                           | NFIN | non-finite |
| 2  | second person                          | NFUT | non-future tense |
| 3  | third person                           | NOM  | nominative case |
| ABS | absolutive case                        | NPI  | Negative Polarity Item |
| ACC | accusative case                        | NSL  | Null Subject Language |
| AN  | animate                                | OBJ  | object |
| ART | article                                | OBV  | obviative |
| CL  | Classical Latin                        | PERS | personal |
| COM | comitative case                        | PERF | perfective aspect |
| COMP | complementizer                        | PF   | Phonetic Form |
| COP | copula                                 | PL   | plural |
| C(P) | Complementizer (Phrase)               | PROX | proximate location |
| DAT | dative case                            | P(P) | Preposition (Phrase) |
| DIR | direct sign                            | PRED | predicate |
| DIST | distal location                       | PRES | present tense |
| DFLT | default case                         | PROG | progressive aspect |
| D(P) | Determiner (Phrase)                   | PRON | pronoun |
| EMPH | emphatic                              | PRT  | particle |
| EPP | Extended Projection Principle          | PST  | past tense |
| ERG | ergative case                          | PVN  | predicative verbal noun |
| EXPL | expletive                            | REFL | reflexive marker |
| F   | feminine                               | SBJ  | subjunctive mood |
| F(P) | Functional (Phrase)                   | SG   | singular |
| FUT | future tense                           | SUB  | subject |
| GEN | genitive case                          | SVO  | Subject-Verb-Object |
| HABIT | habitual aspect                      | T(P) | Tense Phrase |
| IMP | impersonal                             | TRAN | transitive |
| IMPER | imperative                         | UG   | Universal Grammar |
| INDEF | indefinite                            | VN   | verbal noun |
| INTR | intransitive                          | V(P) | Verb (Phrase) |
| INV | inverse sign                          | v(P) | ‘light’ verb (Phrase) |
| I/Inf(P) | Inflection (Phrase)               | VSO  | Verb-Subject-Object |
| M   | masculine                              |      |  |
| NEG | negation                               |      |  |
1 Introduction

The Extended Projection Principle (EPP) was first introduced by Chomsky (1981, 1982) at the height of the theory of Government and Binding to account for the fact that subjects, at least in English, appear to be obligatory in every clause. The EPP, like every aspect of syntactic theory, has come under scrutiny within the Minimalist Program, and has been deemed a problematic aspect of linguistic theory. It has been criticized for being a stipulation—no one can quite come up with a satisfying explanation for its existence, and yet, analyses which attempt to remove it entirely, accounting for its effects by other means, are problematic as well. These matters do not improve when we consider them on a cross-linguistic scale. Some argue the EPP is universal, others that it is not. Some others, still, argue that it takes various forms cross-linguistically. In this paper, I will consider evidence from English, Niuean, Italian, Irish, and Arabic, demonstrating that the EPP is indeed obligatory cross-linguistically, but that the forms it takes vary from language to language, and even within the same language, in some cases. In particular, I will introduce the idea that Irish, rather than not having an EPP, as argued by McCloskey (1996a, 2001), has an EPP which is checked by movement of the verb into Infl. I will use alternations within the Italian subjunctive paradigm to demonstrate that it is the agreement morphemes which are crucial for EPP-checking in Italian. I will also argue that alternations in word order and subject-verb agreement in Arabic can be explained by assuming multiple mechanisms for EPP-checking. Furthermore, I will argue that it is valued features, in particular, which are crucial for EPP-checking, and that the EPP seems to be related to deixis, which, as Ritter and Wiltschko (2009) argue, is characteristic of Infl.
1.1 The History of the EPP

In a development to X-bar theory, Chomsky (1981) proposed the Projection Principle, shown in (1).

(1) \textit{The Projection Principle} (Chomsky 1981: 29)
Representations at each syntactic level (i.e., LF, and D- and S-structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items.

The Projection Principle allowed X-bar to exist independently of phrase structure rules, instead putting the burden of argument structure on the lexical requirements of the head of a phrase. However, Chomsky (1981) also noted that this was not quite sufficient. He thus proposed another principle, which he called \textit{Principle P}, to account for sentences such as those found in (2).

(2) a. There is a good reason for his refusal. (Chomsky 1981: 26)
   b. I believe there to be a good reason for his refusal.
   c. I’d prefer for there to be a better reason for his refusal.
   d. I’d prefer there being a better reason for his refusal.
   e. I believe it to have rained.
   f. I believe it to be clear who won.
   g. I’d prefer its raining in September.
   h. I’d prefer its being clear who won.

The constructions in (2), Chomsky argued, illustrate that the obligatory insertion of the NPs \textit{there} and \textit{it} is a result of some structural requirement for subjects. These expletives do not bear 0-roles, nor are they subcategorized for by the verb. He thus proposes that the obligatoriness of subjects is a fact of languages such as English and French. Chomsky (1982) then reprises this argument, this time giving it a name: the Extended Projection
Principle (EPP). He further implies, this time, that the EPP is a requirement of Universal Grammar (UG), and that it, therefore, applies cross-linguistically, showing how, even when there is no overt linguistic object, the empty slot behaves analogously to its overt counterpart. He states that if there is no overt element in a theta-position or a subject position, then there must be an empty category there, as required by the Projection Principle and the Extended Projection Principle, respectively.

At the outset of the Minimalist Program, Chomsky (1995) modifies the EPP, stating that it is a strong D feature on I, where a strong feature is defined as a feature which forces overt movement. Under this characterization, then, the EPP is simply a morphological property, and, therefore, cross-linguistic variation is expected. He speculates that the necessity of the specifier of I may be due to predication or some morphological requirement. Again, he argues that the specifier is required throughout the course of the entire derivation, both at D- and S-structure. Finally, Chomsky (2000, in Lasnik 2001), drops the analysis of the EPP as a strong feature, and instead proposes that it is simply some requirement that a certain functional head have a specifier.

The term EPP is now sometimes used simply as a synonym for strong, as a diacritic on a feature, indicating that that feature must be checked by means of overt Move or Merge. In this paper, however, I am considering the EPP in the sense of the requirement for a subject in every clause.

1.2 Other Accounts of the EPP

The EPP is a problematic aspect of syntactic theory, and, as such, a variety of alternative approaches have been suggested over the years. Bošković (2002), among others,
attempts to eliminate the EPP from syntactic theory altogether. Many other approaches, which attribute the effects of the EPP to properties of phase heads, or to requirements stemming from case checking, predication, and PF requirements, have also been proposed. However, all of these approaches are problematic.

Bošković (2002) attempts to eliminate the EPP as a trigger for movement. He argues that there are two sources of EPP effects: final and intermediate EPP. The final EPP is when the final landing site of the subject is in the specifier of I, whereas intermediate EPP is when the subject passes through the specifier of I on the way to some higher position. In short, Bošković (2002) argues that final EPP effects can be accounted for by the θ-criterion or by the Inverse Case Filter, which requires every Case-assigning head to assign case in a spec-head configuration. He then argues that the intermediate EPP can be accounted for under successive cyclicity, by arguing that a DP undergoing movement cannot skip any intermediate steps, including the specifier of I, as per the Head Movement Constraint, and that these intermediate steps do not need to be independently motivated. However, his approach is not without problems. For one, in terms of the final EPP, there has been a recent tendency to allow Case checking to occur across intervening heads, and there is much evidence, discussed throughout this paper, that Case checking and the EPP are separate from each other. Furthermore, his account of the intermediate EPP is not consistent with the Phase Impenetrability Condition (PIC), which states that once a phase has been spelled out, its contents are no longer accessible. Thus, Bošković (2002) cannot account for sentences such as (3) in which the raising happens across a phase.

(3) Who, did you say [<i> seemed <i> to <i> want the cake]?
In (3), the *wh*-word needs to move to the edge of the embedded phase before that phase is spelled out; however, without the EPP, the only way to trigger that movement is by an uninterpretable feature in the next phase up, which should not be available before the embedded phase is spelled out.

In fact, some have speculated that the EPP is a property of phase heads (cf. Uriagereka 2011), functioning as a type of “escape hatch.” However, just as with Bošković’s analysis, this type of account requires either look-ahead or some sort of happy accident, as well as being in danger of over-generating structures. Without constraints on what can move to the edge of a phase and be available in the next phase, there wouldn’t really be many phase effects at all. The use of the EPP to escape phases, then, is more likely a secondary use of the EPP, rather than its cause.

The EPP is also independent from Case. This is illustrated, for example, by Icelandic Transitive Expletive constructions, such as the one in (4), where the expletive checks the EPP but all the DPs still get Case.

(4) fað lauk einhver verkefninu (H&C 1997: 78)
there finished someone the.assignment
‘Someone finished the assignment.’

Additionally, in some languages, including Icelandic, subjects can receive quirky case in certain contexts, yet still surface in subject position. However, Bošković (2002), among others, argues that, in these cases, the subjects are marked for both nominative and their quirky case. Lasnik (1995), following Belletti (1988), argues that expletive *there* takes partitive case. The expletive *there*, then, is one of the most problematic words to account for in considering alternative explanations for the EPP. It clearly is not required for semantic reasons, and, if Lasnik is correct, its insertion cannot be accounted for by case
reasons, either. Finally, in the Niuean and Irish data, discussed in §2.2 and §2.4, respectively, we will see cases where DPs move for case, independently of the EPP, to a position lower than the EPP position.

Another account of the EPP would be as a form of predication. Rothstein (1983) argues that every non-θ-marked XP requires a formal subject, or an external argument. She argues that this requirement would supersede the EPP, as the EPP would just be one particular instance in which predication would be required. Other contexts where predication might occur include small clauses, and even nominals (especially nominals that have corresponding verbs which take an external argument). However, representing this concept formally within Minimalism is problematic. One aspect of current syntactic theory that makes it particularly difficult to update Rothstein’s approach is the sheer number of functional projections which we now assume to be part of every clause. Under Rothstein’s original formulation, every single one of those functional projections would need to be predicated, and thus require a subject. Therefore, a new account, explaining where and why predication is necessary, is needed. It is difficult to provide even a descriptive generalization that can account for the three cases where predication occurs—within small clauses, regular clauses, and nominals—without also overgenerating.

Cardinaletti (2004) proposes a functional projection which she calls the “Subject of Predication” projection. She argues that this projection is used to structure the sentence, separating the subject from the predicate. This is a position which co-occurs with a filled specifier of I, and differs from the Topic of a sentence. Cardinaletti also explicitly states that the Subject of Predication must also be independent from the EPP, using evidence from thetic sentences in Italian. In thetic sentences, which occur in out-of-the-blue contexts,
or in response to the question, “What happened?”, the entire sentence is the subject. She thus contrasts the three Italian sentences in (5).

(5)  

a. Gianni è arrivato.  
Gianni has arrived  
(Cardinaletti 2004: 151)

b. È arrivato GIANNI (non Maria).  
Is arrived Gianni (not Maria)

c. È arrivato Gianni.  
Is arrived Gianni.  
‘Gianni has arrived.’

In (5a), the sentence is about Gianni, and thus Gianni is the subject of predication (in Cardinaletti’s terms, it would move into the specifier of her Subject of Predication projection). In the contrastive sentence in (5b), the subject of predication is determined by the preceding context, and then negated by the post-posed contrasted subject. However, in the thetic sentence in (5c), there is no subject of predication, as the sentence is about the event as a whole, and not any particular participant involved in it. However, there are thetic sentences where the subject still moves to some pre-verbal position, although this cannot be required by predication, since thetic sentences have no Subject of Predication. This is demonstrated by an Italian transitive sentence in (6), and an Italian unergative sentence in (7), both ambiguous between thetic and predicated sentences.

(6) Gianni ha chiamato Piero.  
Gianni have.3SG.PRES called Piero  
‘Gianni has called Piero.’

(7) Gianni ha telefonato a Piero.  
Gianni have.3SG.PRES phoned to Piero  
‘Gianni has phoned Piero.’

Cardinaletti thus argues that the movement of the subject in Italian transitive and unergative sentences cannot be accounted for by the need to check the Subject of Predication feature, but instead must move to check the EPP.
Thetic sentences provide even clearer evidence that the EPP is independent from predication when we consider languages such as English. In English, there is no word order alternation associated with thetic, predicated, and contrasted sentences, as in Italian. Thus, the sentences in (8) could all receive any of the above interpretations, depending on context and intonation.

(8)  
   a. John arrived.  
   b. John jumped.  
   c. John called Peter.  

In fact, in English, some thetic contexts favour the use of the expletive there, which, as discussed earlier, is one of the elements most crucial to understanding the EPP.

(9)  
   a. What’s going on?  
   b. There’s a dog running loose in the street.  

Any analysis of the EPP as a form of predication would therefore need to account for the distribution and interpretation of thetic sentences, including the word order alternations found in Italian.

Another approach to the EPP is for it to be a PF requirement. This would explain why the EPP appears to behave so differently from other syntactic requirements, and also why the overtness of the subject matters.¹ However, if the EPP operated at PF, after spell-out, then we would expect there to be no semantic effect arising from the raising of the subject. This does not appear to be the case. For example, consider the sentence in (10).

(10)  A handsome man did not marry Jen last year.

This sentence could have either of the interpretations shown in (11).

¹To account for why pro, for example, is generally assumed to be unable to check the EPP. The distribution of overt and null subjects will be discussed in more detail in §3.2.
(11) a. There is a handsome man, and he did not marry Jen.

b. There is no handsome man that married Jen.

In (11a), the quantifier in the subject takes scope over negation, whereas, in (11b), negation takes scope over the quantifier in the subject. If the EPP were to occur at PF, we would not expect the interpretation in (11a) to be possible.

Thus, even though the EPP remains a stipulation in the grammar, it is a stipulation without which it is difficult to adequately account for the behaviour of lexical and expletive subjects in languages.

1.3 Varieties of EPP-Checking

When we consider well-known attested linguistic structures such as VSO word orders or pro-drop languages, it appears as though the EPP is not a cross-linguistic phenomenon. However, although such languages do not have EPP effects that are as obvious as in English, upon closer examination, they still appear to have equivalents to the EPP, even if the exact forms they take are a little different.

1.3.1 V- and D-Prominent Languages

Massam and Smallwood (1997) show that, in Niuean, the predicate always raises to a position high in the structure. They thus propose that, analogously to D-checking in English, there is a T feature that must be checked in Niuean. Just as the fronting of DPs in English is a strict requirement, obligatory in every clause, so is predicate-fronting in Niuean. As well, Niuean appears to lack clear grammatical subjects, expletives, and small
clauses, which Massam and Smallwood (1997) attribute to the fact that the Niuean EPP is satisfied by the predicate, rather than by a DP.

Along the same lines, Davies and Dubinsky (2001), after considering several languages, conclude that there is a distinction between V- and D-prominent languages. In D-prominent languages, such as English and French, there must always be a DP subject. Even in cases where the subject appears to be something other than a DP, it displays properties which demonstrate that it really is a DP, albeit covertly. On the other hand, there are also V-prominent languages, such as Bulgarian and Malagasy, whose non-nominal subjects do not display any DP properties. Thus, Davies and Dubinsky propose that languages can be either V- or D-prominent. D-prominent languages have an EPP satisfied by a D feature on T, whereas V-prominent languages have an EPP satisfied by a V feature on T. All V-initial languages must be V-prominent; however, Davies and Dubinsky argue that there are languages, including Bulgarian, which are not V-initial but are still V-prominent.

1.3.2 Heads and Phrases

Alexiadou and Anagnostopoulou (1998), in considering several Null Subject Languages (NSLs), including several Romance languages and Greek, argue that the EPP is parameterized between move/merge XP and move/merge Xº. NSLs are characterized by an SVO-VSO word order alternation, the ability to drop subjects, and the lack of expletives. Alexiadou and Anagnostopoulou propose that the agreement morpheme on the verbs in these languages is equivalent to a pronoun in other languages, including the presence of a D feature. Thus, they propose that the EPP can be checked by verb raising, as long as the
verb has an agreement affix with pronominal properties. They suggest that an affix which
could check the EPP has its own lexical entry, whereas those which do not are already
affixed to the verb when it merges. They also argue that classifying these languages as ones
with no EPP or a weak EPP cannot account for the fact that the VSO word order always
patterns with the ability to take null subjects.

Alexiadou and Anagnostopoulou specifically argue that the richness of agreement
morphology does not necessarily indicate whether or not an affix has the ability to check
the EPP. They argue that syntactic behaviour, including the presence of pro-drop, word
order, and definiteness restriction effects, is what must be used in order to determine
whether the verbal agreement has a D feature and is able to check the EPP. However, we
will consider some Italian data in §2.3 which indicates that the shape of the agreement
morpheme does indeed matter. Furthermore, a distinction must be drawn between NSLs
and languages such as Niuean, which do not have agreement morphemes on the verb at all,
nor any of the characteristics of a NSL, although the EPP appears to be checked by a verbal
element in both types of languages. Hence, I propose that the type of EPP argued for by
Alexiadou and Anagnostopoulou for NSLs is dependent on the form of the agreement
morpheme and must be distinct from the EPP occurring in languages such as Niuean.

1.3.3 Four Mechanisms for EPP-Checking

Therefore, if we combine the verbal-nominal distinction proposed by Massam and
Smallwood (1997) and Davies and Dubinsky (2001) with the phrase-head distinction
proposed by Alexiadou and Anagnostopoulou (1998), we end up with four possible forms
of EPP-checking. Each of these is, in fact, attested, as illustrated in (12).
In this paper, I will demonstrate the different EPP-checking mechanisms outlined in (12) through a series of case studies. Following Davies and Dubinsky (2001), I argue that the English EPP is checked by a DP in §2.1. Massam and Smallwood (1997) and Massam (2000) argue that the EPP in Niuean is checked by the predicate, which I, in turn, argue is the vP in §2.2. Alexiadou and Anagnostopoulou (1998) include Italian in their analysis of Xº-checked EPP languages; I will provide additional evidence corroborating their analysis in §2.3. McCloskey (1996a, 2001) argues that there is no EPP in Irish. However, in §2.4, I will claim that his arguments demonstrate only that the EPP is not checked by a DP in Irish, and that the structure of Irish is still consistent with an EPP checked by head movement of the verb. Finally, I will show that Arabic alternates between being a D-head and a DP-EPP language in §2.5.

Within this typology of EPP-checking mechanisms, we can maintain that the EPP is a cross-linguistic aspect of grammar. Furthermore, we can demonstrate that, in all these cases, the EPP is obligatorily checked in some form in every instance of Infl.\(^2\) Finally, following its original formulation, the EPP is normally satisfied by movement into some position within the domain of Infl, although the merging of an expletive also sometimes occurs. Thus, we see that, for the EPP, a local relationship is always required.

\(^2\) I use Infl in the remainder of this paper, rather than T or I. This is following Ritter and Wiltschko (2009), who demonstrate that the inflection that occurs in this projection is not limited to tense inflection. Furthermore, in some of the languages under consideration here, such as Niuean, there appears to be separate T and Infl elements.
In §3, I will discuss various further issues which seem to affect the EPP. In §3.1, I will consider whether it is the word category feature itself which checks the EPP, or rather, some other characteristic associated with those word categories. In §3.2, I will present some evidence that the EPP has an effect on the overtness of the element which checks it. Lastly, in §3.3, I will attempt to determine what the various EPP-checking elements have in common.

2 Case Studies

2.1 DP-EPP: English

There are many possible English subjects which appear to not be nominals, such as CPs (13a), PPs (13b), and APs (13c). These sentences are potentially problematic to a traditional account of the English EPP, in which the EPP is checked by a D feature in the subject.

(13)  a. [That I saw a unicorn] was unexpected.
    b. [Down the hill] is a good place for a picnic.
    c. [Very clean] is how he expects his apartment.

Additionally, all three non-nominal subject types undergo raising, as demonstrated in (14).

(14)  a. [That I saw a unicorn] seems to be unexpected.
    b. [Down the hill] seems to be a good place for a picnic.
    c. [Very clean] seems to be how he expects his apartment.

Under standard Minimalist approaches, the subject raises from an embedded infinitival clause to the matrix clause to check the EPP features of Infl° in the matrix clause.

Sentences such as those in (13) and (14) suggest that CPs, PPs, and APs have whatever
feature is required for EPP checking in English, in at least some contexts. Along these lines, Davies and Dubinsky (2001) argue that, despite appearances, these non-nominal subjects are underlying DPs. They demonstrate that PPs and CPs behave like DPs in terms of subject agreement and the licensing of reflexives and plural adverbs, but only when they are in subject position.

First of all, Davies and Dubinsky (2001) show that non-nominal subjects can trigger subject agreement. Normally, this surfaces as third person singular agreement, which, as the default, could be argued to not be agreement at all. However, conjoined non-nominal subjects can trigger plural agreement in some contexts, as demonstrated in (15). This was first noted by McCloskey (1991) for CPs and Levine (1989) for PPs.

(15)  a. [That the march should go ahead] and [that it should be cancelled] have both been argued by the same people at different times. (McCloskey 1991: 564)

  b. [Down the hill] and [across the river] are both good places for a picnic.
  
  c. [Very brawny] and [very studious] are what Cindy aspires to be. (D&D 2001: 249)

That these non-nominal elements can trigger subject-verb agreement illustrates that they do function as subjects in these examples, and that, furthermore, at some point in the derivation, their number features are formally encoded somewhere in the syntax.

Non-nominal subjects can also license emphatic reflexives (Davies and Dubinsky 2001). Definite NPs can take emphatic reflexives in any argument position, as shown in (16).

(16)  a. The president himself signed the orders.

  b. I met the Queen herself.
c. They mailed the letter to their mother herself.

CP and PP subjects can also host emphatic reflexives, as shown in (17).

(17) a. That I saw the girl itself was unexpected.

b. Down those hills is itself a fairly long trip.\(^3\)

Note that the reflexives in (17) cannot be hosted by the embedded DPs, the girl and the man, respectively, as they do not agree with those DPs in gender and number. CPs and PPs cannot license reflexives when they are not in subject position (Davies and Dubinsky 2001), as shown in (18).

(18) a. *It was unexpected that I saw the girl itself.

b. *A good place to hide is under those beds itself.

The licensing of reflexives is arguably a nominal property, and thus it appears that, when in subject position, CPs and PPs have some nominal properties. Furthermore, since a reflexive agrees with the \(\varphi\)-features of its antecedent, it would appear that CPs and PPs in subject position also bear \(\varphi\)-features, although it could also be argued that the reflexive simply takes on default \(\varphi\)-feature values.

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\(^3\) For both the CP and the DP subjects, the reflexive surfaces in between the subject XP and the verb. For PP subjects, however, it is more natural to place the reflexive after the verb, as in (17b), above. This order is also possible for CPs (ia), and DPs in copula constructions (ib).

(i) a. That I saw the girl was itself unexpected.

b. The president is himself in charge of these affairs.

This is limited to copular constructions, however, likely because the copula raises to Infl.

(ii) *The president signed himself the orders.

The reflexive may also precede the verb when it is licensed by PPs, as in (iii).

(iii) Down those hills itself is a fairly long trip.

It is unclear what motivates these word-order alternations.
Finally, non-nominal subjects can also license the adverb *equally* (Davies and Dubinsky 2001). This adverb can be licensed by plural NPs (19), or by conjoined predicates (20).

(19) a. The combatants were equally intransigent. (D&D 2001: 250)
    b. My rabbit and my hamster are equally annoying.
    c. The professor distributed the As and Fs equally.
    d. My grandmother was proud of the two children equally.

(20) The apartment was equally messy and smelly.

Conjoined CPs, PPs and APs can also license *equally* when in subject position (Davies and Dubinsky 2001), as shown in (21).

(21) a. That he’ll resign and that he’ll stay in office seem at this point equally possible. (McCloskey 1991: 564)
    b. Under the bed and in the closet equally remind me of that game of hide-and-go seek we played. (D&D 2001: 251)
    c. Very tall and quaintly studious equally bring to mind my sixth grade science teacher. (D&D 2001: 251)

However, they are only able to license *equally* in subject position (Davies and Dubinsky 2001), as illustrated in (22).

(22) a. Ashley acts big and surly (*equally*).
    b. Dale thought that Dana left and that Terry wouldn’t come (*equally).
    c. Leslie hid under the bed and in the closet (*equally).

This, again, shows XP subjects of all types patterning with nominals.

Davies and Dubinsky (2001) thus suggest that all subjects in English are DPs. 5

Non-nominal subjects, then, must be contained within a DP shell. This DP shell would be

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4 Some people may accept this sentence if *big* and *surly* are interpreted as predicates.
headed by a null Dº with a full set of \( \varphi \)-features. Davies and Dubinsky (2001) also show that this is not limited to English; French non-nominal subjects behave as if they were DPs, as well. However, they also show that this pattern cannot be semantically required, as it is not attested cross-linguistically. In particular, they provide parallel evidence from both Bulgarian and Russian in which non-nominal subjects do not pattern with DPs. Assuming that the presence of the DP shell is an EPP requirement, this also demonstrates that the EPP does not behave the same universally.

\[\text{5} \text{ Most of the examples involving non-nominal subjects in this section involved copular constructions. There is, however, another construction in English in which non-nominal subjects appear, the locative inversion construction, illustrated in (i).} \]

\[(i) \quad \text{[Down the hill]} \text{ rolled the ball.}\]

These do not display all the properties of a DP that the other non-nominal subjects have. For example, in (iia), the inverted subject PP cannot undergo raising. On the other hand, the sentence is somewhat improved if the embedded clause is in the perfective aspect, as shown in (iib).

\[(
\begin{align*}
\text{(iia) a. & Down the hill] seems to roll the ball.} \\
\text{b. & [Down the hill] seems to have rolled the ball.}
\end{align*}
\]

The inverted PP cannot take an emphatic reflexive, as in (iii).

\[(
\begin{align*}
\text{(iii) *Down those hills itself rolled the ball.}
\end{align*}
\]

Conjoined PP subjects do not seem to license the adverb *equally,* either, as seen in (iv).

\[(
\begin{align*}
\text{(iv) Down the hill and across the field (*equally) rolled (*equally) the ball (*equally).}
\end{align*}
\]

Finally, the verb may or may not agree with conjoined PP subjects.

\[(
\begin{align*}
\text{(v) [Down the hill] and [across the field] roll/rolls the ball.}
\end{align*}
\]

Instead, the verb may agree with the post-verbal locatum.

\[(
\begin{align*}
\text{(vi) [Down the hill] roll the balls.}
\end{align*}
\]

These facts seem to indicate that the PPs in locative inversion structures do not appear within a DP shell, like most other non-nominal subjects in English. Rather, subject properties in locative inversion constructions seem to be spread out across multiple different XPs. How the EPP is checked in such constructions is unclear. Because locative inversion constructions are used in specific discourse contexts, it is possible that both the verb and the locative PP have been raised into the higher discourse structure of the clause, and that the locatum DP remains in the specifier of Infl, and checks the EPP (cf. Salzmann 2011).
2.2 vP-EPP: Niuean

Niuean is a VSO language with isolating morphology. Massam and Smallwood (1997) argue that, in Niuean, the EPP is checked by the Tense feature on the verb when it is fronted. Massam (2000) argues that it is not only the verb which fronts, but also some phrasal material, including VPs containing bare NPs, and predicative DPs and PPs. Thus, she argues that the VSO order arises as a result of predicate-fronting, rather than simply V-to-Infl head movement. DP objects remain at the end of the clause because they raise out of the VP to check Case prior to predicate-fronting. Likewise, Davies and Dubinsky (2001) argue that there are D-prominent languages, in which the EPP is checked by some D feature, and V-prominent languages, in which the EPP is checked by a V feature. Following Massam and Smallwood (1997) and Davies and Dubinsky (2001), I propose that Niuean is a V-prominent language. Following Alexiadou and Anagnostopoulou (1998), who argue that the EPP can be checked either by a phrasal element, as in English, or by a head element, I propose that Niuean is checked by a phrasal element. Thus, the EPP in Niuean is checked by movement of the vP to the specifier of Infl.

2.2.1 VSO Order as Predicate-Fronting

Massam (2000) demonstrates that the VSO order of Niuean is derived by means of the verb fronting to InflP, and not to CP. Rather, in Niuean, CP and TP are merged, and CP contains the pre-verbal tense and aspect marker, some examples of which are illustrated in (23).6

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6 There are also null particles.
(23)  

a.  To fano a ia.
FUT go ABS he
‘He will go.’

b.  Hā ne nonofo a mutolu i hinei.
PROG stay ABS you at this.place
‘Whilst you are staying here.’

However, these particles also vary depending on the clause type of the sentence, demonstrating that they also display some properties of complementizers. For example, the future particle to from (23a) alternates with ka in relative clauses (24a), and the progressive particle hā ne (23b) alternates with the particle ne fā e in relative clauses (24b).

(24)  

a.  Ko e tau fale fā hanei ka tā he maaga.
‘ko’ PL house four these FUT build in village
‘These are the four houses that are going to be built in the village.’

b.  e tagata ne fā e onoono hake ke he mahina.
ABS man PROG look up to PRT moon
‘the man who’s looking up at the moon’

The tense and aspect markers are also in complementary distribution with particles which do not denote tense or aspect, such as the factive particle he, shown in (25).

(25)  

Gagao foki nī a au he hifo a Maka ki tahi.
sick also EMPH ABS I COMP go-down ABS Maka to sea
‘I’m also sick of Maka going down to the sea.’

Thus, Massam (2000) proposes that the sentence-initial particles are a Complementizer and Tense combination, and that they project a CTP (Complementizer/Tense Phrase).

Massam (2000) then argues that the verb raises to some position lower than CTP, since both negation and auxiliaries can intervene between the verb and the CTP particles. An intervening negation marker is shown in (26).

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7 Ko (e) is a preposition which precedes non-argument nominals (Massam 2000).
(26) To nākai liu feleveia foki a taua.  
FUT not again meet also ABS we  
‘We will never meet again.’

The negation head must also be an independent head, since it can host verbal clitics. For example, there is a perfective clitic *tuai* which appears after the verb (27a), or after NEG in negative sentences (27b).

(27) a.  Kua fano tuai a ia.  
PERF go PERF ABS he  
‘He has gone.’

b.  Kua nākai tuai fano a ia.  
PERF not PERF go ABS he  
‘He has not gone.’

If the particles, negation, verb, and auxiliaries form some sort of verbal complex, we would not expect there to be a word order change within it. Rather, the verb must raise to InflP, a position lower than both CTP and NEG, but higher than the external argument, in order to derive the VSO order.

There is evidence that not just the verb head raises, but the entire VP. Massam (2000, 2001) demonstrates that the Niuean construction which she terms Pseudo Noun Incorporation (PNI), illustrated in (28a), is derived by means of predicate fronting. The PNI construction in (28a) is contrasted with the equivalent transitive sentence in (28b).

(28) a.  Takafaga ika tūmau nī a ia.  
hunt fish always EMPH ABS he  
‘He is always fishing.’

b.  Takafaga tūmau nī e ia e tau ika.  
hunt always EMPH ERG he ABS PL fish  
‘He is always fishing.’

The PNI sentence displays a different word order, with the incorporated nominal preceding the post-verbal adverbial particle *tūmau* and the emphatic particle *nī*. The case markings are also different. The incorporated nominal in (28a) is not marked for case, and the
sentence patterns with intransitives, as the agent in the sentence receives absolutive case. Furthermore, Niuean PNI constructions cannot be instances of traditional head incorporation, as the incorporated nominals are phrasal, optionally taking modifiers (29a), and can even contain grammatical morphemes, such as the case markings in (29b).

(29)  
a. Ne inu kofe kono a Mele.  
PST drink coffee bitter ABS Mele  
‘Mary drank bitter coffee.’  
(Massam 2001: 158)

b. Ne kai sipi mo e ika mitaki a Sione.  
PST eat chip COM ABS fish good  
ABS Sione  
‘Sione ate good fish and chips.’  
(Massam 2001: 160)

Massam (2000, 2001) therefore argues that the incorporated nominal is an NP complement to the verb, instead of the DP complement that would normally be found in transitive clauses. Consistent with this analysis, the incorporated nominals never appear with determiners, case, or number marking. Massam argues that, in regular transitive clauses, the direct object moves out of the complement of V to AbsP, which has a strong [D] feature. Then, the entire remnant predicate, which now consists of the verb head and argument traces, moves to the specifier of Infl. This is illustrated in the tree in (30).

(30)  
(adapted from Massam 2001: 163)
For PNI constructions, on the other hand, the object is an NP, and therefore can neither check Case, nor raise to AbsP. Instead, it remains in the VP as complement to V. When the predicate moves to the specifier of InflP, the NP object goes with it, as shown in the tree in (31). Absolutive case is checked by the agent argument.

![Tree diagram](adapted from Massam 2001: 165)

The PNI constructions can thus be derived straightforwardly under an approach where the entire predicate undergoes fronting, rather than just the verb head.

And yet, it is not only verb phrases which front. Massam (2000) shows that both nominal (32a-b) and prepositional elements (32c) can also front.

(32) a. Ko Mele e faiaoga. (Massam 2000: 104)
   ‘ko’ Mele ABS teacher
   ‘The teacher is Mele.’

   b. Ai ko e faiaoga a Mele.
   not ‘ko’ teacher ABS Mele
   ‘Mele’s not the teacher.’

   c. Hā he fale a ia. (Massam 2000: 105)
   PRED in house ABS she
   ‘She is in the house.’

This illustrates that, in fact, it is predicates which front, and not simply VPs. Massam (2000, 2001) suggests that a strong [PRED] feature in Infl is what causes the VP, DP and PP predicates to raise. However, rather than positing an additional feature [PRED], I contend
that the same projection fronts for all these different types of predicates, namely vP. The problem with this approach is that, with the exception of nominal predicates, as shown in (33), predicate raising does not target a constituent containing an external argument. However, external arguments are traditionally considered to be in the specifier of vP, and thus should be part of the constituent that raises.

(33) [Ko e pok-a-aga he tama e maka] ati matakutaku ai e kući.
    ‘ko’ push-ING GEN child ABS rock reason fear PRONi ABS dog
    ‘The reason the dog was afraid was the child’s pushing the rock.’
    (Massam 2000: 112)

However, Massam (2000) argues that even DP predicates, such as that shown in (33), are not truly DP predicates with external arguments. Rather, ko is a preposition, and the predicate in these phrases is a PP. Although the DP has an external argument, the constituent that is targeted for movement, the PP headed by ko, does not.

If the subject moves out of the thematic domain before predicate fronting occurs, just as the object does, then raising the entire vP to Infl would remain consistent with the attested VSO word order. This is exactly what happens. Massam and Smallwood (1997, citing Seiter 1980 and Massam 1985, 1995) use raising constructions, such as the one in (34) to show that the surface position of subjects cannot be their thematic position.

(34) Kua mukamuka e moa ki a au [ke kai lima <e moa>]
    PERF easy ABS chicken to PERS me SUBJ eat hand
    ‘Chicken is easy for me to eat with the hands.’
    (M&S 1997: 3)

In (34), an argument of the embedded clause, e moa ‘chicken,’ raises to the subject position in the matrix clause. This position, however, cannot be the specifier of v, since the raised argument does not receive a θ-role in the matrix clause. Therefore, the subject cannot occupy the specifier of v, a θ-position.
Furthermore, there is evidence that the raised predicate is larger than the VP, as it optionally contains adjuncts (Massam 2001). This is illustrated in (35), which includes the emphatic *a* within the raised constituent.

\[(35) \text{[ko e motu kehe a] e nai ne nonofo paea ai a taua} \]
\[\text{‘ko’ ABS island foreign EMPH ABS this NFUT dwell exile there ABS we} \]
\[\text{‘This is just a foreign land where we live in exile.’} \]
\[(\text{Massam 2001: 185})\]

Directional and manner adverbial particles can also be a part of the raised constituent. Example (36) below illustrates the manner adverbial *lahi* ‘greatly’ in (a), and the directional particle *mai* ‘towards us’ in (b) and (c).

\[(36)\]
\[\text{a. Kua hoge lahi e motu.} \]
\[\text{PERF starve greatly ABS island} \]
\[\text{‘The island is greatly starving.’} \]
\[(\text{Massam 2000: 109})\]

\[\text{b. Ne ō mai a lautolu ki hinei.} \]
\[\text{PST go.PL DIR 1 ABS they to this.place} \]
\[\text{‘They came here.’} \]

\[\text{c. Mumui mai nī a lautolu he motakā ha lautolu.} \]
\[\text{follow.PL DIR 1 EMPH ABS they in car of them} \]
\[\text{‘They’ll just follow (us) in their car now.’} \]

Massam (2000) considers these particles to be adjoined to VP. That they are fronted in predicate raising, then, is consistent with either a VP or a vP raising approach. Evidence that these particles do indeed raise with the predicate, and are not base generated high in the structure, comes from example (36c), where the directional particle *mai* precedes the emphatic particle *nī*, although the latter has sentential scope (Massam 2000).

Since the particle *ko* is necessary for all DP predicates, and the particle *hā* on all PP predicates (Massam 2000), one might be tempted to argue that these two particles are instances of vº. Although it is not so clear for *hā*, there is evidence that *ko*, at least, is not a vº. Principally, it has a far wider distribution than simply marking predicative DPs,
occurring also on topics, in titles (37a), on appositional NPs (37b), in conjunctions, and on deverbal nouns in the progressive aspect (37c), among many others (Massam and Smallwood 1997).

(37)  
b. Hifo a ia ke he maaga ia ko Alofi.  
go ABS he to ART village that ‘ko’ Alofi  
‘He goes down to that village Alofi.’  
c. Ko e kumi agaia ua he tama haau.  
PRES ART seek still I at child your  
‘I’m still looking for your child.’

Thus, it seems likely that $v^0$ is in fact null, at least for DP predicates.

Hence, we can conclude that the VSO order of Niuean is derived by means of phrasal predicate raising to Infl, likely in the form of remnant vP-raising.

2.2.2 Predicate-Fronting as a form of EPP-checking

Massam and Smallwood (1997) and Massam (2000) suggest that, rather than an English-like EPP, which is checked by means of a nominal element, Niuean has an EPP which is checked by a verbal element. They claim that there is no distinct grammatical subject in Niuean, but rather that processes such as raising, discourse governed null arguments, quantifier float, and resumptive strategies all affect both subjects and objects the same. Any asymmetries between subjects and objects in Niuean can be explained by their hierarchical position, either through Locality (i.e. control) or through c-command (i.e. binding asymmetries) (Massam and Smallwood 1997). There is no special status for subjects in Niuean, and no expletives. Rather, in Niuean, all clauses must have an Infl projection, as shown by the absence of small clauses in the language (Massam and
Smallwood 1997). Just as in English, the EPP in Niuean is satisfied by the movement of a maximal projection that is grammatical in nature. This maximal projection lands in the specifier of Infl, the locus of the EPP. Just as the English D-feature EPP causes a rigid SVO order, the Niuean v-feature EPP produces a rigid VSO order. Thus, predicate raising in Niuean seems to be equivalent to DP-movement in English, with both movements being triggered by the EPP.

2.3 Dº-EPP: Italian

We have now shown that the EPP can be checked by both verbal and nominal elements. Thus, in a language such as Italian, in which overt subjects are optional, and verb movement is obligatory, it appears as though the EPP is checked by the verb. On the other hand, Alexiadou and Anagnostopoulou (1998) suggest that, in Null Subject Languages (NSLs), such as Italian, the EPP is checked by a D-feature on the verb, through head-movement. Evidence from Italian suggests that it is the D feature on the verb which is crucial for EPP-checking, rather than the verb itself. This evidence comes from the subjunctive paradigm, where certain inflectional forms lack rich agreement and instead require a pronoun. In §2.3.1, I will describe the distribution of both the optional and obligatory pronouns in Italian. In §2.3.2, I will consider the development of the second singular subjunctive, demonstrating why the agreement affix in that context is not sufficient for checking the EPP. In §2.3.3 and §2.3.4, I will explain why the first person singular subjunctive and forms in the imperfect subjunctive, respectively, are sufficient for checking the EPP, although the φ-features are not overtly marked in a distinct way. Finally, in §2.3.5, I will summarize how the EPP is checked in Italian.
2.3.1 Optional and Obligatory Pronouns

As is well-known, Italian is a null-subject language (NSL). Barbosa (2011) classifies it as a consistent NSL, as it has rich subject agreement and it allows subjects to be dropped freely under the appropriate discourse conditions. This is illustrated in (38).

(38) a. pro ha parlato.
     have.PRES.3SG spoken
     ‘He has spoken.’

b. pro sono arrivato tre ragazze.
     be.PRES.3PL arrived.3PL.F three girls
     ‘There have arrived three girls.’

However, in the present subjunctive, the second person singular subjunctive pronoun is obligatory, even if it is recoverable from context, as pointed out by Cardinaletti (2004). 8

(39) a. Spero che *(tu) vinca.
     hope.1SG.PRES that 2SG win.PRES.SBJ.SG
     ‘I hope that you win.’

b. Spera che *(tu) vinca.
     hope.3SG.PRES that 2SG win.PRES.SBJ.SG
     ‘S/he hopes that you win.’

The first person singular subjunctive pronoun is also preferred; however, grammaticality judgments against sentences where it is omitted, such as (40), are not quite as strong as for the omission of the second person singular, when it is recoverable from context. 9

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8 This may not be true for all dialects of Italian. Conversations with one of my language informants, from Parma, seemed to indicate that, for her, this was a prescriptive rule.

9 It appears that there may be some variation in whether the first singular pronoun may be omitted or not. Cardinaletti (2004) mentions only the second person pronoun being obligatory. One of my language consultants, after some discussion, accepted that the first person pronoun may be omitted if it is recoverable from context. Ippolito (p.c.), on the other hand, considers subjunctive clauses with omitted first person singular pronouns to be marginal at best, although she did say that they were improved in an echo question context, and that they were definitely less ungrammatical than the omission of the second person singular pronoun.
As can be seen in (39)-(40) above, the first and second singular subjunctive inflectional forms are syncretic. The third singular form is as well. However, the pronoun remains optional.

The requirement of a pronoun cannot be attributed simply to ambiguity resolution, as we would then expect any of the first, second, or third person interpretations to be acceptable in the cases where there is no overt pronoun. Instead, the third person interpretation is strongly preferred (Ippolito p.c.).

The fact that some pronouns are obligatory in Italian is quite surprising and requires an explanation. I contend that in those contexts where the pronoun is obligatory, they are required by the EPP. Normally, in Italian, the EPP is checked by a D feature on the verb, as argued for by Alexiadou and Anagnostopoulou (1998). However, in the second person singular subjunctive, this D feature is lacking, and so a pronoun must be inserted in order to check the EPP. This anomalous deficiency is straightforwardly explained when we consider the historical development of the subjunctive in Italian.
2.3.2 The Development of the Second Singular Subjunctive

The homophony of the second and third person singular subjunctive forms in Italian is easily explained when we consider their historical development. Their development also provides an explanation as to why the pronoun is obligatory in the second person. In Classical Latin (CL), the second person singular was marked with \(-s\) in most verbal paradigms (Maiden 1995). CL stressed front vowel-[s] sequences have become [e] or [i] in most varieties of Italo-Romance. Maiden (1995) shows two possible routes through which this change may have occurred. First, Sabatini (1965, in Maiden 1995) proposed that the [s] could have caused the preceding vowel to raise before being subsequently deleted. Alternatively, Reichenkron (1939, in Maiden 1995) and Lausberg (1965, in Maiden 1995) propose that word final [as] and [es] sequences became [ai] and [ei], which then monophthongized to [e] and [i]. This sound change affected the second person singular in most verbal paradigms in Italian, and, combined with the changes that affected the first and third person, as discussed below, led to the homophony of all three singular subjunctive forms in the first conjugation. Maiden (1995) suggests that the homophony of these three forms in the first conjugation led to the change, by analogy, of the second person in the other conjugations, as well. I propose that, at this point, the changes had extended beyond simple sound change; the loss of person marker in the second singular was accompanied by a reanalysis of the feature specifications of the verb. Since any morphological indication that the verb was marked for second person was lost during the analogical levelling, the feature specification for person and the D feature on the verb head were also lost. The verb then took the default third person singular agreement. Since there was no longer any D feature on the verb, the verb was no longer able to check the EPP via verbal head
movement. Thus, in the case of the second person singular subjunctive in Italian, a pronoun became obligatory in order to check the EPP.

2.3.3 The Development of the First Singular Subjunctive

Morphologically, the only synchronic indication that the second person singular subjunctive lacks the D feature and therefore cannot check the EPP is its homophony with the default third singular form. One might, therefore, expect that other homophonous forms, such as the first singular, are also lacking a D feature and should also be unable to check the EPP. However, although the first singular form is also homophonous with the default, its homophony arose by means of regular sound change, without any analogical levelling, and, therefore, reanalysis of its formal syntactic feature specifications did not necessarily take place. Therefore, for at least some speakers, it remains able to check the EPP. In most paradigms, including the subjunctive, the first singular form was marked by $-m$ in CL, and the third singular form was marked by $-t$. Both word final [t] and [m] were lost in late CL (Maiden 1995), leading to the homophony of the first and third person in the Italian subjunctive and in the verbal paradigms of many other Romance languages, as well. Since this homophony arose through sound change alone, I propose that, unlike with the second person singular, the syntactic features were unaffected, and so the EPP could still be checked by a D feature on the verb, and no pronoun was obligatory. However, the ungrammaticality of an omitted pronoun for some speakers may have arisen due to influence from the second person form. There is little that overtly distinguishes the two, synchronically, and so this distinction would not be stable, explaining the variation across speakers as to the requirements for a first person singular pronoun.
2.3.4 The Imperfect Subjunctive

There is one other case where there is syncretism in the person markers in Italian. The first and second person singular forms are syncretic in the imperfect subjunctive in Italian, as shown in (42).

(42) The Italian Imperfect Subjunctive  

<table>
<thead>
<tr>
<th></th>
<th>amare</th>
<th>dire</th>
<th>fare</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘to love’</td>
<td>‘to say’</td>
<td>‘to do’</td>
<td></td>
</tr>
<tr>
<td>1SG</td>
<td>amassi</td>
<td>dicesi</td>
<td>facessi</td>
</tr>
<tr>
<td>2SG</td>
<td>amassi</td>
<td>dicesi</td>
<td>facessi</td>
</tr>
<tr>
<td>3SG</td>
<td>amasse</td>
<td>dicesse</td>
<td>facesse</td>
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<tr>
<td>1PL</td>
<td>amassimo</td>
<td>dicessimoi</td>
<td>facessimo</td>
</tr>
<tr>
<td>2PL</td>
<td>amaste</td>
<td>diceste</td>
<td>faceste</td>
</tr>
<tr>
<td>3PL</td>
<td>amassero</td>
<td>dicessero</td>
<td>facessero</td>
</tr>
</tbody>
</table>

However, pronouns are never obligatory in the imperfect subjunctive (Ippolito p.c.). That there is syncretism between the first and second person, to the exclusion of the third person, shows that these are not in their default forms, but that, rather, they are both specified for person. The forms of the Italian imperfect subjunctive were derived from the CL pluperfect subjunctive. The first person singular takes \( –i \) as its person marker on analogy with the remote past, shown in (43).

(43) a. amai  

‘I loved.’  

b. finii  

‘I finished.’

Although this change happened by analogy, the \( –i \) morpheme was originally a person marker, and so no change in its features is expected. Thus, homophony in person markings does not necessarily mean that those features are unspecified, which explains why the first person singular pronoun in present subjunctive clauses is not obligatory for all speakers.
2.3.5 EPP-Checking Mechanisms in Italian

This pattern in the Italian subjunctive, in which obligatory pronouns and person features on the verb are in complementary distribution, demonstrate that, in Italian, the verb is not sufficient to check the EPP, unlike in Niuean. Instead, a D feature, which is morphologically realized as rich subject-verb agreement, is required by the EPP, and if that D feature is missing, a pronoun must be inserted as a repair strategy.

2.4 Vº-EPP: Irish

We’ve seen how the EPP can be checked by a D element, both by phrasal movement (English) and by head-movement (Italian). We’ve also seen that the EPP can be checked by a V element by phrasal movement (Niuean). It thus follows that there ought to be some language in which the EPP is checked by a V element, by means of head movement. I propose that Irish is just such a language. In §2.4.1, I will give an overview of the structure of an Irish clause. In §2.4.2, I will present some arguments which have been used to argue that Irish does not have an EPP, and show that all of these arguments demonstrate only that Irish doesn’t have a DP-EPP. In §2.4.3, I will describe my approach to EPP-checking in Irish, which involves head movement of the verb to Infl. Finally, in §2.4.4, I will consider V-to-Infl movement in French, Italian, and Irish, and demonstrate that, although this movement checks the EPP in Italian and Irish, V-to-Infl movement is independent from the EPP in French.
2.4.1 The Structure of an Irish Clause

As is well known, Irish is a VSO language, as shown in (44).

(44) Leanann an t-ainmní an briathar i nGaeilge  
follow.PRES the subject the verb in Irish  
‘The subject follows the verb in Irish.’

McCloskey (1996b) shows that the clause-initial verbal complex, consisting of complementizer, inflectional and verbal elements, forms a phonological word. For example, in (45), the complementizer go combines with the past tense marker –r to form the past tense complementizer gur.

(45) Creidim gu-r fhill sé ar an bhaile.  (McCloskey 1996b: 50)  
I-believe COMP-PST return he on home.  
‘I believe that he returned home.’

McCloskey (1996b) argues that the verbal complex is derived by V-to-Infl raising and C-to-Infl lowering. Verb raising to Infl also explains the VSO surface word order.

McCloskey (2001) also shows that, although they surface post-verbally, subjects raise out of their thematic positions in Irish, most likely for case reasons. There are several arguments supporting this conclusion, including the structure of unaccusatives and the distribution of adverbials.

Irish has two unaccusative constructions, the salient unaccusatives (46a) and the putative unaccusatives (46b).

(46)  
a. Neartaigh ar a ghlór.  (McCloskey 2001: 170)  
strengthened on his voice  
b. Neartaigh a ghlór.  
strengthened his voice  
‘His voice strengthened.’

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10 The particulars of his analysis are beyond the scope of this paper. It is interesting to note, however, that the C-to-Infl lowering McCloskey argues for is consistent with the PF process of Local Dislocation as described within the Distributed Morphology framework by, for example, Embick (2007) or Embick and Noyer (2007).
The salient unaccusatives take a PP complement, such as the PP headed by *ar* in (46a), whereas the argument of a putative unaccusative is a DP. Asymmetries between the behaviour of these two types of unaccusatives provide evidence that DP arguments must raise to check case.

McCloskey (1996a) shows that the particles preceding the argument in the salient unaccusatives are prepositions, rather than case markers, as seen by their semantics and by their morphology. First of all, the prepositions that appear in salient unaccusatives can be morphologically complex, as in (47).

(47) Théigh fá dtaobh do 
warmed about-the girl
‘The girl became agitated.’

The preposition *fá dtaobh* can be shown to have internal syntactic structure, much like English *in spite of* or *with reference to* (McCloskey 1996a: 244). It would be rather unexpected if a case marker was found to have internal structure. Secondly, some of the prepositions have semantic restrictions. For example, as shown in (48), the preposition *idir* must take a semantically plural complement.

(48) a. idir na bailte 
between the towns
‘between the towns’

b. idir Corcaigh agus Baile Átha Cliath 
between Cork and Dublin
‘between Cork and Dublin’

c. *idir an teach 
between the house
‘between the house’

In salient unaccusatives, this semantic restriction still holds, as shown in (49).
(49) a. Thosaigh idir na fir.  
    began between the men  
    ‘The men quarreled.’  

  b. *Tosaionn idir mé.  
    begins between me  
    ‘I quarrel.’  

That this is a semantic restriction on the preposition, and not on the class of verbs of fighting, can be shown in the contrast in (50).

    began between Owen with Ciaran  
    ‘Owen quarreled with Ciaran.’  

  b. Throid Eoghan le Ciarán.  
    Fought Owen with Ciaran  
    ‘Owen fought with Ciaran.’  

(McCloskey 1996a: 244)

This is easily accounted for if idir is a preposition, but remains unexplained if idir is a case marker.

There are a number of asymmetries between salient and putative unaccusatives, all of which can be explained if the arguments of salient unaccusatives get their case checked by the preposition, and so remain in situ, while the arguments of putative unaccusatives must raise to check case. One example of this is in the progressive aspect, as in (51).

(51) a. Tá ag neartú ar a ghlór.  
    is PROG strengthen on his voice  

  b. Tá a ghlór ag neartú.  
    is his voice PROG strengthen  
    ‘His voice is strengthening.’

(McCloskey 2001: 170)

In the salient unaccusative in (51a), the argument remains low, whereas, in the putative unaccusative in (51b), the argument raises to the standard post-verbal subject position (associated with tú). Another asymmetry can be seen in the clefting of progressive
constructions. The verb and its complements can be fronted, but not the subject, as shown in (52).

(52) a. (Is) [ag tógáil tithe] a bhí siad <i>.  
COP.PRES PROG raise houses COMP be.PST they
‘It was building houses that they were.’

b. *Is [na daoine ag imeacht] a bhí <i>.  
COP.PRES the people PROG leave COMP be.PST
‘It’s the people leaving that were.’

(McCloskey 1996a: 249)

The arguments of salient unaccusatives pattern with objects, in that they can undergo clefting (53a), but the arguments of putative unaccusatives cannot (53b).

(53) a. [Ag éirí ar an leanbh] a bhí <i>.  
PROG rise on the child COMP be.PST
‘It was becoming more agitated that the child was.’

(McCloskey 1996a: 249)

b. *Is [mo shaibhreas ag méadú] a tá <i>.  
COP.PRES my wealth PROG increase COMP is
‘It’s increasing that my wealth is.’

(McCloskey 1996a: 252)

This shows that the arguments of putative unaccusatives have moved out of the complement position of the verb, where it receives its θ-role.

Further evidence that arguments raise out of their thematic position in Irish is found in the distribution of adverbials. Irish has a class of adverbials which surface following the subject but preceding any complements and other adverbials, as shown in (54).

(54) Fásann na préataí i gcónaí sa lagan.  (McCloskey 2001: 173)
grow.PRES the potatoes always in-the hollow
‘The potatoes always grow in the hollow.’

McCloskey (2001) suggests that these adverbials must be adjoined at the VP or higher, and that, therefore, in sentences such as (54), the complement of the verb, na préataí ‘the potatoes,’ must have raised out of the VP, since it precedes the adverbial.
Overall, then, an Irish clause is structured as follows. The verb raises to Infl, and the complementizer also lowers and adjoins to Infl, forming a clause-initial verbal complex. The arguments raise out of their thematic positions to some position lower than Infl, where they check case.

### 2.4.2 Arguments against an EPP in Irish

McCloskey (1996a) argues that there is no EPP in Irish by showing how, although there are constructions in Irish in which we would expect expletives, there are no expletives in Irish; by demonstrating that, in certain constructions, there is no DP-raising at all; and by the existence of salient unaccusatives, whose structures are impossible in a language with an EPP.

First of all, there is evidence that, in certain constructions in Irish, there is no argument raising at all. These constructions include salient unaccusatives, perfective passives, dative subjects, and certain complementation structures. We have already discussed the salient unaccusatives in the preceding section, and noted that, since the single verbal argument receives its case from the preposition, it does not need to raise out of the complement position of the verb. Therefore, in sentences such as (46a), repeated here as (55), there is no DP argument of the verb in Infl, or even one that raises at all. It cannot even be argued that the PP argument satisfies the EPP, as it does not raise, either.

(55) Neartaigh ar a ghlór.

strengthened on his voice

‘His voice strengthened.’

(McCloskey 2001: 170)

Another construction in which there are instances where raising does not occur is in the perfective passive, illustrated in (56).
Although the perfective passive construction is, syntactically, almost identical to passive constructions in other languages, its discourse and rhetorical functions are very different. In Irish, the perfective passive is used to express recent perfective or completive aspect. It is used productively in every dialect in Modern Irish (McCloskey 1996a). Verbs which take a PP complement can be used productively in the perfective passive, as in (57). This, in effect, derives a salient unaccusative, with no DP argument available to check the EPP.

(57) Bhí cuínithe agam rót air. (McCloskey 1996a: 256)
be.PST thought by-me before-you on-it
‘I had thought of it before you.’

Even salient unaccusatives can occur in perfective passive constructions, as in (58).

(58) Bhí briste ar a fhoighid. (McCloskey 1996a: 257)
be.PST broken on his patience
‘His patience had given out.’

Again, there is no DP available to check the EPP in such sentences.

There also appears to be no expletives in Irish. For example, the existential construction, which in most languages takes some sort of expletive, does not have an expletive in Irish. This is exemplified in (59).

(59) a. Tá taibhsí ann. (McCloskey 2001: 166)
be.PRES ghosts in-it
‘There are ghosts.’

b. Bhí cuid mhór bidh ann.
be.PST a lot food.GEN in-it
‘There was a lot of food.’
The only element in these sentences which could be an expletive is the locative *ann*.

McCloskey (2001) shows that *ann* is the predicate of a small clause,\(^{11}\) not an expletive. It is a PP meaning literally ‘in it.’ Irish has a predicative copula construction, illustrated in (60a).

Existential *ann* can appear in the predicate position of these constructions, as shown in (60b).

\[(60)\]
\[\begin{align*}
    & a. \quad \text{Is as Doire dó.} \\
    & \quad \text{COP.PRES out-of Derry to-him} \\
    & \quad \text{‘He’s from Derry.’}
\end{align*}\]
\[b. \quad \text{Ní ann dúinn a thuilleadh.} \\
   \quad \text{COP.NEG in-it to-us any more} \\
   \quad \text{‘We don’t exist anymore.’}\]

That *ann* has semantic content can also be shown by the fact that it can appear in clefting constructions, as in (61).

\[(61)\]
\[\text{Be ann a bhí an saol neamh-bhuartha an t-am sin.} \\
   \text{COP.PST in-it COMP be.PST the life untroubled that time} \\
   \text{‘It really is true that there was an untroubled life at that time.’}\]

(McCloskey 2001: 168)

McCloskey (2001) indicates that (61) is difficult to render in English, but that it contrasts the notions of existing and not existing in a focus construction. Furthermore, unlike the existential expletives in other languages, *ann* does not seem to be associated with a definiteness restriction, occurring alongside proper names, pronouns, and other definite DPs, as shown in (62).

\[(62)\]
\[\begin{align*}
    & a. \quad \text{Tá tú ann.} \\
    & \quad \text{be.PRES you in-it} \\
    & \quad \text{‘You exist.’ / ‘There’s you.’}
\end{align*}\]

\(^{11}\) As discussed in footnote 15, the small clauses discussed by McCloskey (1996a, 2001), such as those found in the existential constructions discussed here, are a type of Carnie’s (2011) predicative verbal nouns, which are discussed more in depth in §2.4.4.
b. Táimse ann ó roimh Abraham a bheith ann.  
be.PRES.1SG in-it from before Abraham be.NFIN in-it  
‘There was me before there was Abraham.’

c. Bhi an dara cogadh domhanda ann na blianta sin.  
be.PST the second war global in-it those years  
‘There was the Second World War in those years.’

Therefore, *ann* appears to have the characteristics of a predicate, and not of an expletive.

There is one other element that appears to have some of the characteristics of an expletive, the pronoun *sé*, meaning ‘it’ or ‘he.’ This pronoun may optionally fill the subject position of verbs which take no external argument but do take a clausal complement, as illustrated in (63).

\[(63)\]  
a. Caithfidh (sé) go bhfuil sé broite.  
must it COMP is he ill  
‘It must be that he is ill.’

b. Tharla (sé) go raibh siad ann.  
happened it COMP were they there  
‘It happened that they were there.’

(McCloskey 1996a: 262)

It is the case in Irish that clausal complements, such as those found in (63), must be on the right edge (Ó Siadhail 1989). They must be to the right even of post-posed pronouns, as in (64), suggesting that clausal complements will move, if necessary, in order to be right-peripheral. Example (64a) shows the basic word order, example (64b) shows the same sentence with both the pronoun *é* ‘it’ and the clausal complement shifted to the right, and example (64c) shows that the pronoun *é* cannot be post-posed independently of the clausal complement.
McCloskey (1996a) thus argues that the pronoun *sé* is not an expletive, but rather a pronominal copy of the moved clause. Irish also has other pronouns which are the phonological reflex of a copy of a clause, such as *de* in (65a) and *dhá* in (65b).

(65)  

a. Tá mé cinnte de go mbeidh sí i láthair.  
be.PRES I sure of-it COMP be.FUT she present  
‘I am sure that she will be present.’

b. Bhí siad dhá rá ar an nuacht go…  
be.PST they it say.PROG on the news COMP  
‘They were saying on the news that…’

(McCloskey 1996a: 263)

These, also, are optional in certain conditions (McCloskey 1996a). Thus, neither *sé* nor *ann* appear to be expletives.

In section 2.4.1, I described the structure of salient unaccusatives. One of the examples I provided, (45a), is repeated here as (66).

(66) Neartaigh ar a ghlór.  
strengthened on his voice  
‘His voice strengthened.’

(McCloskey 2001: 170)

McCloskey (1996a) notes that this construction is rather rare cross-linguistically, but also that Burzio (1986), in his discussion of unaccusatives, mentions that the existence of an unaccusative selecting for a PP might be expected. However, Burzio (1986) also observes that, in order to derive such a construction while still satisfying the EPP, either the preposition would have to be stranded or a pleonastic would have to be inserted which is
not linked to a nominal or to a clause. The second possibility is attested in the Italian expression in (67), which satisfies the EPP by use of the impersonal *si*, which takes no θ-role.

\[(67) \quad \text{Si tratta di tuo figlio.} \quad \text{(Burzio 1986: 73)}\]

(it) itself treats of your son

‘It’s about your son.’

As Irish does not allow preposition stranding, nor does it have any expletives, whether they require linking or not, there is no way to satisfy the EPP, at least in its traditional sense, in these constructions, even covertly.

It is clear from these facts that there is no obligatory D-element which must appear in Infl in Irish. However, all of these arguments target specifically a DP-style of EPP, such as what is found in English. It is therefore possible that the EPP is checked in Irish in some other way.

In fact, Irish is also characterized by a rigid VSO order. With the exception of the verbal noun construction (see §2.4.4 for a discussion of verbal nouns), the verb precedes all arguments. This strict ordering is reminiscent of the strict VSO order in Niuean and the strict SVO order in English. Although the EPP can be shown to apply in languages where there is no strict word ordering, as is the case for Italian and Arabic (see §2.5), rigid word ordering does appear to be one possible effect of the EPP. Therefore, although it is rather clear that the Irish EPP is not checked by a DP, as in English, it is not at all necessary that there be no EPP at all in Irish.
2.4.3 EPP-Checking Mechanisms in Irish

Quite generally, the EPP, as presented in this paper, is characterized simply as the mandatory movement of some element into somewhere within the projection of Infl. In the prototypical Irish clause, the only element which appears to move into Infl is the verb. The verb is therefore a likely candidate for EPP-checking. So far we have seen two different EPP-checking mechanisms which involve verb movement: the Italian type, where the EPP is checked by the D features on the V, and the Niuean type, where the EPP is checked by vP-movement.

Irish cannot have an Italian-like EPP, checked by D features on V, because Irish does not have rich enough inflection. Although there is person agreement on the verb, the verbs do not inflect for all persons in any tense—only a subset. Ó Siadhail (1989) lists the person inflection morphemes in the table in (68). The shaded cells are cases where an inflectional morpheme is not listed, presumably because it is unattested.

<table>
<thead>
<tr>
<th></th>
<th>Past Habitual</th>
<th>Past</th>
<th>Future</th>
<th>Present Habitual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>-nn</td>
<td>-s</td>
<td>-d</td>
<td>-m</td>
</tr>
<tr>
<td>2SG</td>
<td>-á</td>
<td>-s</td>
<td>-r</td>
<td>-r</td>
</tr>
<tr>
<td>3SG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1PL</td>
<td>-mís(t)</td>
<td>-mair</td>
<td>-m</td>
<td>-míd</td>
</tr>
<tr>
<td>2PL</td>
<td></td>
<td>-bhair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3PL</td>
<td>-dis(t)</td>
<td>-dar</td>
<td>-d</td>
<td>-d</td>
</tr>
</tbody>
</table>

Furthermore, Irish has both a ‘synthetic’ form (69a), specified for person, number, and tense, and an ‘analytic’ form (69b), specified for tense alone.

(69) a. D’ éiriodar.  
PST rise.PST.3PL  
‘They rose.’   (McCloskey 1996a: 272)
If, in Italian, the lack of distinctive person features in a single form would cause the EPP to insert a pronoun, then it hardly seems possible for Irish, with so many gaps in its person agreement morphology, to check the EPP through a D feature on V.

Irish does not have an EPP checked by vP-movement, as in Niuean, either. Although, as discussed earlier, arguments in Irish do seem to move out of their thematic positions within the vP in order to check case, creating a vP remnant containing only a verb, much as in Niuean, there is evidence that it is the verb alone that fronts in an Irish clause. First of all, McCloskey (1996b) demonstrates how the clause-initial verbal complex, consisting of V, Infl, and C elements, behaves like a phonological word. If verb-fronting in Irish were really vP-fronting, the presence of phrasal material within a phonological word would have to be explained. There is some recent work which may account for such phenomena (cf. Piggott and Travis 2012), but it still remains a difficulty. Secondly, vP-movement would presumably target the specifier of Infl. Thus, we would expect the verb to precede Infl°; instead, the attested order of the elements within the verbal complex is C-Infl-V,\(^\text{12}\) as shown in (45) above, and repeated here as (70).

\[(70)\text{ Creidim gu-r phill sé ar an bhaile. (McCloskey 1996b: 50)}\]
\[\text{I-believe COMP-PST return he on home.}
\[\text{‘I believe that he returned home.’}\]

Perhaps the most convincing evidence for vP-fronting rather than V-fronting would be a lack of pied-piping, where other elements within the vP move to Infl along with the

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\(^{12}\) On the other hand, the derivation suggested by McCloskey (1996b), with V-to-Infl head movement, followed by lowering of C to Infl, should also surface with the verb preceding Infl, if normal patterns of head movement were to apply.
verb. We have already discussed at length two constructions in Irish in which the verbal complement appears to remain in its thematic position, the salient unaccusative and the perfective passive. If the entire vP were raising to Infl, we would expect these complements to raise as well, as in Niuean PNIs. There is, however, a construction in Irish in which apparent pied-piping occurs. Carnie (1995) shows that complex nominal predicates raise in their entirety, as shown in (71).

(71) a. Is dochtúir capall é. (Carnie 1995: 183)
    COP doctor horses GEN him
    ‘He is a doctor of horses.’

    b. Is amhrán a bhuailfidh an píobaire “Yellow Submarine.”
    COP song COMP play FUT the bagpiper “Yellow Submarine”
    ‘“Yellow Submarine” is a song which the bagpiper is going to play.’

However, Carnie (1995) argues that these are not cases of phrasal movement, but rather morphologically phrasal material undergoing syntactic head movement. He argues that the head or phrase status of any linguistic object is not basic, but rather determined on the basis of its behaviour. Their behaviour as heads in these cases can then explain why they surface in the same position as inflected verbs, in between particles and subject agreement. Carnie (1995) shows that wh-extraction is not permitted out of these raised predicates, although wh-extraction is generally permitted out of all types of phrases in Irish, and argues that this is because, after a phrase undergoes head-movement, its internal material is no longer accessible. Carnie (1995) also demonstrates that predicates behave as heads in responses to questions. Irish has no words for yes or no, so, when responding to a yes-no question, Irish speakers will typically repeat the sentence with everything following the verb elided. In copular constructions, the predicate remains when responding to questions, demonstrating that the predicate patterns with the verb head. Carnie’s (1995) analysis of complex nominal
predicates is consistent with my typology. In Irish, the predicate must raise in order to check the EPP. However, the EPP requires head movement, like in Italian, but unlike Niuean. Therefore, the EPP forces the entire predicate, even if it is phrasal, to undergo head movement to Infl.\(^{13}\)

As such, our typology of EPP checking mechanisms, so far, includes instances of the EPP being checked by both V, in Niuean, and D elements, in English and Italian, and instances of it being checked by head movement, in Italian, and phrasal movement, in English and Niuean. We would thus expect it to also be possible for the EPP to be checked by movement of \(V^0\) into Infl. As this movement does in fact occur in Irish, I propose that this is how the EPP is checked in Irish.

2.4.4 V-to-Infl Movement and the EPP in Italian, French, and Irish

Italian, French, and Irish all have V-to-Infl movement, which is what I am arguing checks the EPP in Irish. However, for French, it is rather uncontroversially assumed that the EPP is checked by a DP element and that V-to-Infl movement is triggered by tense features, and, for Italian, as I have already argued, the EPP is checked by a D element on V. Thus, V-to-Infl movement in these three languages necessarily has different triggers, according to my analysis, and, therefore, we would expect there to be differences in their

\(^{13}\) Note that Oda (2002) argues that Irish is a VP-fronting language, on the basis of a lack of subject-verb agreement morphology, a lack of VSO-SVO word order alternations, and the presence of nominal predicate fronting. However, of these arguments, the first two only provide evidence that there is no Dº-EPP, not that there is VP-fronting. Furthermore, Oda also notes that Irish lacks constructions similar to PNI in Niuean, which would be expected under a VP-fronting approach. However, as previously stated, both the salient unaccusative and the perfective passive are constructions where we would expect pied-piping of verbal complements to occur under a VP-fronting approach. Oda does, however, agree that Irish is consistent with an EPP which targets the predicate rather than a D- or \(\varphi\)-related element.
distribution. Specifically, V-to-Infl movement must be related to the EPP in both Irish and Italian but must be independent of the EPP in French. A possible diagnostic for these different triggers for movement may be non-finite clauses. In non-finite clauses, there is no valued tense feature, and so any movement which is triggered by the checking of tense features should not occur. On the other hand, the EPP needs to be checked at every instance of Infl, even in non-finite clauses.

It has often been noted that V-to-Infl movement is correlated with agreement morphology on the verb, leading many to suggest that it is this agreement morphology which triggers the movement (such as Vikner 1997). On the other hand, Biberauer and Roberts (2008) suggest that, in at least some cases, the Probe-Goal relationship established between Infl and the verb is actually based on tense features. Their arguments are supported by the observation that there are languages which have only poor agreement, but still V-to-Infl movement, such as French and Middle English, but that there are no languages with both V-to-Infl movement and few tense distinctions. Instead, in their typology, it is the null-subject parameter which is associated with rich inflection. In their typology, there is, however, an unexplained gap: languages with rich agreement inflection, and therefore null subjects, but poor tense inflection, and therefore no V-to-Infl movement. If, on the other hand, we assume that there can be more than one possible trigger for V-to-Infl movement—that verb raising can be associated with either rich agreement or with tense features—then this gap is explained. Verb raising that is associated with rich agreement, in these cases, would be the pattern that is expected in Dº-EPP languages such as Italian.
As is well known, French has an expletive *il*, which indicates that French has a DP-EPP, just as in English, as illustrated in (72).

(72) \[ \text{Il est arrivé trois filles.} \]  
(Burzio 1986: 85)  
\textit{it is arrived three girls}  
‘There have arrived three girls.’

On the other hand, as is also well known, French has V-to-Infl movement, as exemplified by the fact that the lexical verb can precede negation (73a), adverbs (73b), and floating quantifiers (73c), and because lexical verbs undergo subject-verb inversion in question formation (73d).

(73) a. Jean (n’) aime pas Marie.  
(Pollock 1989: 367)  
\textit{John NEG like.3SG.PRES not Mary}  
‘John doesn’t like Mary.’

b. Jean embrasse souvent Marie.  
\textit{John kiss.3SG.PRES often Mary}  
‘John often kisses Mary.’

c. Mes amis aiment tous Marie.  
\textit{my.PL friend.M.PL like.3PL.PRES all.M.PL Mary}  
‘My friends all like Mary.’

d. Aime-t-il Marie?  
\textit{like.3SG.PRES-EXPL-3SG.M Mary}  
‘Does he like Mary?’

Thus, if V-to-Infl movement were a possible way to check the EPP cross-linguistically, it would appear that, in French, the EPP gets checked twice: first, by V-to-Infl movement, as in Irish, and second, by the DP in the specifier of Infl, as in English.

Some have argued that, in at least some dialects of French, what have traditionally been analysed as subject pronouns, have actually developed into being subject agreement clitics on the verb (Roberts 2007). In that case, French would be considered a Null Subject Language (Roberge 1986), and its EPP ought to be checked in the same way as for Italian.
However, the appearance of expletives in sentences such as (72) would remain to be explained under such an approach. Furthermore, Davies and Dubinsky (2001) demonstrate that, in French, non-nominal subjects have many properties of DPs, just as discussed for English in §2.1.2, indicating that, in French, the EPP is checked by a DP.

There is some evidence that V-to-Infl movement in French is independent from the EPP, arising most likely simply to check finite tense features on Infl. This evidence comes from the behaviour of non-finite clauses. In all the languages we have considered so far, the EPP has been an obligatory requirement, occurring in clauses of all types. In French, however, V-to-Infl movement does not occur in non-finite clauses. This is illustrated in (74), as the lexical non-finite verb follows the negation marker.

(74) Ne pas posséder de voiture…

‘Not owning a car…’

Likewise, adverbs can precede non-finite verbs, as shown in (75).

(75) Souvent paraître triste…

‘To often look sad…’

Floating quantifiers precede lexical non-finite verbs, as well.

(76) J’ai vu mes étudiants tous sortir en même temps de la salle.

‘I saw my students all leave the room at the same time.’

As V-to-Infl movement does not occur in non-finite clauses, it cannot check the EPP, at least in non-finite clauses. As we will see for Arabic, in §2.5, there are mixed systems, where the EPP is checked differently in different types of clauses. However, if this were

14 This includes non-finite clauses; however, the EPP need not be checked by overt elements in non-finite clauses. This is discussed in more detail in §3.2.
the case for French, we would expect there to be structural changes indicating that the EPP is checked differently in non-finite clauses. Thus, we conclude that, for French, the EPP is checked by DPs in the specifier of Infl, and that V-to-Infl movement is an independent process, unrelated to the EPP.

As previously discussed, the Italian EPP is checked by a D feature on the verb. In order for the EPP to get checked, then, the verb must be in Infl. We would therefore expect the verb to raise in all types of clauses, including non-finite ones. This is in fact the case; the word order is the same in both finite and non-finite clauses in Italian, as shown in (77).

(77)  
(a) Gianni non mangia più.  
John NEG eat.3SG.PRES no more  
‘John no longer eats.’  

(b) per non mangiare più…  
for NEG eat.NFIN no more  
‘in order to no longer eat…’

In the second person singular subjunctive, on the other hand, the verb does not appear to raise, as it occurs after adverbs, such as solitamente in (78).

(78) Crede che tu solitamente esca alle due.  
(he) think.3SG.PRES that 2SG usually exit.3SG.SBJ at two  
‘He thinks that you usually exit at two.’  

This demonstrates that, in Italian, verb raising occurs only in those contexts where it is required by the EPP.

According to my analysis so far, we would predict that, in Irish non-finite clauses, verbs should be required to raise to Infl in order to check the EPP. This is, unfortunately, not the case. Rather, they stay in their base position. However, non-finite clauses in Irish
take the form of predicative verbal nouns (PVNs)\(^{15}\) (Ó Siadhail 1989, Carnie 2011). Carnie (2011) argues that PVNs do not have the full functional structure of a clause, and, most importantly, that they lack any tense projections. His arguments centre mostly on the case marking of the arguments, as he demonstrates that some arguments in PVNs receive genitive case as a last resort operation due to the lack of functional structure in these constructions. Based on Carnie’s arguments, non-finite constructions in Irish are not full clauses. They do not have an Infl projection, and since Infl is the locus for EPP-checking, then it makes sense for there not to be EPP checking in Irish non-finite clauses. There is thus no Infl projection in Irish without a V moved into it, and so the universality of the EPP is preserved. Although this argument would be much stronger if there were fully fledged non-finite clauses with verbs raising to Infl just as in Irish tensed clauses, the fact that full non-finite clauses don’t exist at all could also be attributed to some conflict between the requirements of the EPP and the requirements of a non-finite verb.

---

\(^{15}\) In this section, I am discussing what, in traditional descriptive Irish linguistics, is termed \textit{a verbal noun} (cf. Ó Siadhail 1989). Carnie (2011) terms these constructions \textit{predicative verbal nouns} (PVNs) to contrast them with \textit{argument verbal nouns}, illustrated in (i), and which he argues are nominalized verb phrases.

(i) Chuala mé an tseinm.

\textsc{heard I the play.VN}

‘I heard the playing.’

Carnie (1995: 87) states that non-finite clauses appear with verbal noun morphology, and also that verbal nouns are found in some periphrastic tense constructions. Both the small clauses and the non-finite clauses discussed by McCloskey (1996a, 2001), then, are subtypes of Carnie’s PVNs. Irish PVN constructions function as participles when preceded by auxiliaries or aspectual markers, and as infinitives when in non-finite clauses. It appears, then, as though McCloskey’s small clauses are PVN constructions in aspectual contexts and his non-finite clauses are PVN constructions in non-finite contexts. I will follow Carnie in calling them PVNs.
English gerunds in some ways mirror Irish PVNs. Just as for PVNs, English gerunds are frequently assumed to lack inflectional projections. As such, overt subjects are optional in English gerunds, as shown in (79).

(79)  
   a. Breaking the speed skating record isn’t possible.  
   b. Her winning the speed skating is something I’d like to see.  

(Harley 2000: 32)

Likewise, not only is the expletive there not required in gerunds, it is also ungrammatical.

(80)  
   a. Its being obvious that he would lose didn’t seem to bother him.  
   b. *There’s being a riot didn’t seem to be of concern to the police.  

(Harley 2000: 32)

Thus, clauses without an Infl projection lack the EPP. Irish PVNs are therefore entirely consistent with a V⁰-EPP.

That V-to-Infl movement occurs cross-linguistically with a variety of different triggers provides an explanation for why a generalization describing such a trigger has been so difficult to determine (cf. Biberauer and Roberts 2008, Vikner 1997¹⁶). Thus, in languages like Italian, where V-to-Infl movement is required to check the EPP feature with its D feature, agreement must be fully specified, but in languages such as French, where V-to-Infl movement is triggered by a need to check tense features, it is the tense features which must be fully specified, and, finally, in a language such as Irish, where V-to-Infl movement is required to check the EPP by a V feature, no inflection at all is necessarily associated with this movement (but see §3.1 for further discussion).

¹⁶ Vikner (1997) does, eventually, determine a trigger that accounts for V-to-Infl movement in all of the languages he considers, namely that V-to-Infl occurs iff tense morphology always is accompanied by person morphology, and there is person morphology in every tense. However, this generalization does not account for Irish, which, as shown in (68)-(69) above, does not always have rich inflection.
Although the facts here are consistent with either there not being an EPP in Irish, or with the EPP being checked by V^o movement, the latter analysis is preferable under the assumption that the EPP is part of Universal Grammar. Based on my analysis of a variety of languages here, where the EPP takes a variety of forms, but is always present, and based on the simple difficulty syntacticians have in providing the EPP with an underlying purpose, it seems most likely that the EPP is required by UG. The most elusive elements of grammar are what are most likely to be part of UG, if only because they are also what would be extremely difficult for children to acquire. There may be more to Irish EPP-checking than presented here; however, the main purpose of this section was to illustrate that Irish is consistent with my typology of EPP-checking mechanisms. Further research in Irish, in order to discover evidence distinguishing these two analyses, and cross-linguistically, to find a language that has less ambiguous V^o-checked EPP, are both necessary.

2.5 **Mixed Systems: Arabic**

Alongside DP-EPP systems like English, D^o-EPP systems like Italian, VP-EPP systems like Niuean, and V^o-EPP systems like Irish, mixed systems are also attested cross-linguistically. An example of such a system is Arabic, which alternates between the D^o-EPP system and the DP-EPP system. As is well known, Arabic exhibits different possible word orders, which are associated with different agreement patterns. These different word orders and agreement patterns correlate with different modes of EPP-checking. In the primary word order in Arabic, VSO, which generally has only partial subject-verb agreement, the EPP is checked by means of a DP. In both the SVO order and in null-
subject constructions, which have full subject-verb agreement, the EPP is checked by means of a D feature on V, through V-to-I movement, much like in Italian.

2.5.1 Post-Verbal Subjects

Many sentences in Arabic have a surface VSO word order, as shown in (81).

(81) mša dāk l-ʕabd ʕndha (Brustad 2000: 316)
went-he that the-slave to-her
‘The slave went to her.’

Brustad (2000) claims that the VSO order is primary in Arabic, based on prominent VSO word order in narratives, where the topic is more likely to remain constant from sentence to sentence, and based on typological patterns that are frequently associated with verb-initial languages, such as left-headedness for a variety of word categories and default VS word order in embedded relative clauses. Other word orders are preferred in certain discourse and pragmatic contexts.

Arabic VSO sentences are derived by means of verb movement to F, a position higher than Infl but lower than C, and movement of the subject to the specifier of Infl, as shown by Aoun, Benmamoun, and Choueiri (2010). First, the verb must be lower than C, since it surfaces after it, as shown in the Moroccan Arabic example in (82).

(82) tanDənn belli ža ʕomar (Aoun et al. 2010: 66)
think.1SG that came.3M.SG Omar
‘I think that Omar came.’

On the other hand, Aoun et al. (2010) demonstrate that the verb does not remain in the vP-domain, as shown by its interaction with sentential negation and by the existential construction.
Sentential negation is marked in Arabic by the combination of a pro-clitic *ma* and an en-clitic š, as shown in (83).

(83) Šomar ma-qra-š la-ktab (Aoun et al. 2010: 67)
Omar NEG-read.3M.SG-NEG the-book
‘Omar did not read the book.’

Benmamoun (1992, in Aoun et al. 2010) argues that *ma* is the Neg head, while š is a verbal adjunct. Both morphemes cliticize to the verbal head as it passes through the Neg projection during V-to-Infl movement. When there is no verb in the sentence, as in present tense copular constructions, the two negative morphemes cliticize to each other, as shown in (84).

(84) Šomar ma-ši mriD (Aoun et al. 2010: 68)
Omar NEG-NEG sick
‘Omar is not sick.’

Although the negation markers can be independent in cases such as illustrated in (84), V-to-Infl movement, and the subsequent cliticization, is obligatory when a verb does appear in the clause, as shown by the ungrammaticality of (85).

(85) *Šomar ma-ši qra la-ktab (Aoun et al. 2010: 68)
Omar NEG-NEG read the-book.
‘Omar did not read the book.’

Rather, as expected, the subject can either precede or follow the verb and negation complex, shown in (86).

(86) a. Šomar ma-qra-š la-ktab (Aoun et al. 2010: 68)
Omar NEG-read.3M.SG-NEG the-book
b. ma-qra-š Šomar la-ktab
NEG-read.3M.SG-NEG Omar the-book
‘Omar did not read the book.’

The word order in (86a) can be derived if the verb has moved up through and adjoined to the negation head, and surfaces in Infl, with the subject in its specifier. To derive the word
order in (86b), then, it could be argued that the subject remains in the vP-domain. However, if that were the case, then we would expect that the movement of the subject to the specifier of Infl to be optional in Arabic. And yet, in copular constructions, the subject cannot surface after negation, as shown in (87) (cf. 83).

\[(87)\]
\[\text{a.} \quad \text{NEG-NEG Omar sick} \]
\[\text{‘Omar is not sick.’} \]

This shows, then, that the subject must move out of the vP-domain in copular constructions, to some position higher than the Neg head. Assuming that the subject must likewise raise in all sentences, we can derive the VSO order demonstrated in (86b) as being derived by further movement of the verb to a projection higher than Infl, which Aoun at el. (2010) label as FP. Thus, the sentence in (86b) would be structured as follows.

\[(88)\]
Arabic also has an existential construction, which can surface with an overt auxiliary as illustrated in (89).

(89) kaana hunaaka Taalib-un fii l-hadiiqati  
was.3M.SG there student-NOM in the-garden
‘There was a student in the garden.’

If we assume, as is generally assumed for English, that the expletive is inserted into the specifier of Infl in order to satisfy the EPP, then the auxiliary verb must be in some position higher than Infl. These existential constructions with auxiliaries that precede the expletive can also occur with complementizers, as shown in (90).

(90) samiʔtu ?anna-hu kaana hunaaka Taalib-un fii l-hadiiqati
heard.1SG that-it was.3M.SG there student-NOM in the-garden
‘I heard that there was a student in the garden.’

(Aoun et al. 2010: 71)

This, again, suggests that, in existential constructions, the auxiliary surfaces in some projection between Infl and C, Aoun et al.’s (2010) FP. The sentence in (89) would then be structured as in (91).
In Standard Arabic, as well as in some other dialects, there is only partial subject-verb agreement when the verb precedes the subject, whereas there is full agreement for pre-verbal subjects (Aoun et al. 2010, Aoun et al. 1994, Brustad 2000, Holes 2004). For human subjects denoted by a full DP, the verb will agree in gender with a post-verbal subject, but will surface in the singular form regardless of the subject’s number features, as shown in (92).

\[(91)\]

\[
(92)\quad a. \quad \text{ʔakala l-μuṣallim-uun} \quad \text{(Aoun et al. 2010: 76)}
\]
\[
\text{ate.3M.SG the-teacher-M.PL.NOM}
\]

\[
b. \quad *\text{ʔakal-uu l-μuṣallim-uun}
\]
\[
\text{ate-3M.PL the-teacher-M.PL.NOM ‘The teachers ate.’}
\]

There is debate as to whether or not there is person agreement for post-verbal subjects (Aoun et al. 2010). Non-human subjects undergo an independently motivated process of agreement neutralization and surface in the feminine singular (Brustad 2000, Aoun et al.)
1994). Full agreement still applies with pronouns when they are post-verbal (Aoun et al. 1994), as shown in (93).

(93)  a. Naamuu hum slept.M.PL they

b. *Naama hum slept.3M.SG they

‘They slept.’

These agreement patterns contrast with the SVO word order, in which there is always full agreement for human subjects, as shown in (94).

(94)  a. l-muʕallim-uunʔakal-uu the-teacher-M.PL.NOM ate-3M.PL

b. *l-muʕallim-uunʔakala the-teacher-M.PL-NOM ate.3M.SG

‘The teachers ate.’

Default singular number agreement occurs in the VSO word order, where, as we have previously established, there is an overt subject in the specifier of Infl. That, when expletives occur, they surface in the VSO order, indicates that the EPP is satisfied by phrasal DPs in the VSO order, just as in English. Full agreement is not necessary in this word order since the EPP is satisfied by the phrasal DP in the specifier of Infl. Gender agreement is not affected by word order since it is not EPP-related.

Thus, we see that the VSO order in Arabic is derived by movement of the verb to F, a position higher than Infl but lower than C, and of the subject to the specifier of Infl, which checks the EPP. The VSO order is associated with partial subject-verb agreement; number agreement is defective.
2.5.2 Pre-Verbal Subjects

Pre-verbal subjects are also common in Arabic, although their distribution is more limited than the post-verbal subjects. Holes (2004) claims that SVO order is used most commonly to provide additional information about specific entities involved in the event, in contrast to the VSO order, which is used to describe the event itself, and further the narrative. Aoun et al. (2010) show that, while definite subjects can occur both pre- and post-verbally, indefinite subjects cannot appear preverbally, as shown in (95).

(95) a. ḏaʔa walad-un came.PST.3M.SG boy-NOM.INDEF
b. *walad-un ḏaʔa boy-NOM.INDEF came.PST.3M.SG
‘A boy came.’

The limited distribution of pre-verbal subjects, alongside their specialized discourse function, supports the conclusion that SVO is not the primary word order in Arabic.

The properties of pre-verbal subjects in Arabic have led some researchers to suggest that they are topics, or some sort of left-dislocated element, rather than true subjects. Aoun, Benmamoun and Choueiri (2010) refute that claim, by showing that certain types of indefinite DPs can occur as pre-verbal subjects, such as modified indefinite DPs (96a) and certain NPIs (96b).

(96) a. walad Tawiil ḏaʔa came.PST.3M.SG
boy tall ‘A tall boy came.’

b. ħatta waḥad ma-ḏa
even one NEG-came.PST.3M.SG
‘No one came.’

---

17 Note that this word order alternation appears to be similar to the contrast between thetic, predicated, and contrastive sentences discussed in §1.2 for Italian.
18 Both examples in (96) are Palestinian Arabic.
As mentioned earlier, pre-verbal human subjects always agree in person, number, and gender in Arabic (Aoun et al. 2010, Aoun et al. 1994, Brustad 2000, Holes 2004), as shown in (94) above, repeated here as (97).

(97)  

a. l-muʕallim-uun ʔakal-uu  
the-teacher-M.PL.NOM ate-3M.PL  

b. *l-muʕallim-uun ʔakala  
the-teacher-M.PL-NOM ate.3M.SG  
`The teachers ate.'

It has been proposed that the agreement morphemes on verbs in Arabic VSO clauses are in fact incorporated pronouns. Aoun et al. (2010) present both syntactic and morphological evidence that challenge this account. First of all, in sentences with auxiliaries, both the auxiliary and the lexical verb agree with the subject. Thus, in (98a), although the auxiliary has only partial agreement, as we would expect since it precedes the lexical subject, both an overt phrasal subject and full agreement on the lexical verb co-occur. In (98b), an overt phrasal subject and full agreement on both the auxiliary and the lexical verb co-occur.

(98)  

a. kaanat T-Taalibaat-u ya-drus-na  
be-PST-3F.SG the-student.F.PL-NOM 3-study-F.PL  

b. T-Taalibaat-u kunna ya-drus-na  
the-student.F.PL-NOM be.pst.3F.PL 3-study-F.PL  
`The students were studying.'  

(Aoun et al. 2010: 78)

Thus, if full agreement were actually incorporated pronouns, these sentences would then both have multiple reflexes of the same DP. Secondly, there is obligatory full agreement in relative clauses when the subject is relativized, as shown in (99).

(99)  

ʔiʃtaraytu l-kitaaba llaðii katabta  
bought.1SG the-book that wrote.2M.SG  
`I bought the book that you wrote.'

(Aoun et al. 2010: 79)
In the incorporated pronoun analysis, the agreement morpheme could be considered a resumptive pronoun. However, when objects are relativized, there is no resumptive pronoun (100).

(100)  raʔaytu l-kuttaaba  llaʔiina  zaar-uuu  l-žaamišata
       saw.1SG  the-authors who.M.PL  visited-3M.PL the-university
       ‘I saw the authors who visited the university.’

(Aoun et al. 2010: 79)

Aoun et al. (2010) claim that it is unclear why subjects would require a resumptive pronoun in these contexts if objects do not. Thirdly, for singular subjects, the agreement morpheme is identical whether the subject is pre- or post-verbal, as shown in (101).

(101) a.   naama  l-walad-u
          slept.3M.SG the-boy-NOM

(Aoun et al. 2010: 80)

b.   l-walad-u  naama
     the-boy-NOM slept.3M.SG
     ‘The boy slept.’

This pattern is consistent for all singular subjects, whether masculine (101) or feminine (102), and for both the perfective (101), and the imperfective (102).

(102) a.   ta-naamu l-bint-u
          3F-sleep the-girl-NOM

(Aoun et al. 2010: 80)

b.   l-bint-u  ta-naamu
     the-girl-NOM  3F-sleep
     ‘The girl is sleeping.’

Under the incorporated pronoun account, the morpheme in question would be a pronoun when occurring with a pre-verbal subject but only an agreement morpheme when occurring with a post-verbal subject. In that case, the correspondence between the two would be only coincidental. Finally, agreement on imperfective verbs is realized discontinuously (Aoun et al. 2010). It is unclear why an incorporated pronoun would surface as a discontinuous morpheme.
We have a fairly clear picture of the internal structure of an Arabic VSO clause, but the structure of the SVO clauses is less certain. Particularly, it is unclear whether the FP that was posited to account for the VSO order is also present in the SVO clauses. If it is there, and the verb does move into it, then the subject must also raise in order for it to maintain its pre-verbal linear position. If FP is not projected in SVO clauses, then the subject would surface in the specifier of Infl or higher, and the verb in Infl$^n$ position. Hopefully, discovering the nature of FP might clarify this issue.

There is another type of clause which patterns with Arabic SVO clauses: those with null-subjects, as shown in (103)

\[
\begin{align*}
\text{(103) } & \quad \text{ya-drus-uun} \\
& \quad \text{3-study-M.PL} \\
& \quad \text{‘They study.’} \\
\text{b. } & \quad \text{ya-drus-na} \\
& \quad \text{3-study-F.PL} \\
& \quad \text{‘They study.’}
\end{align*}
\]

The null-subject sentences pattern with SVO sentences in that, for both, full agreement is obligatory, as shown by the plural marking in (103). Despite its surface differences, the SVO word order has much in common with conventional null-subject languages. For example, just as null-subject languages, the SVO order is characterized by a topic or topic-like meaning attributed to pre-verbal subjects, rich inflection, the optionality of overt subjects, and a lack of expletives, since constructions with expletives, such as the existential construction discussed earlier, surface in the VSO order. As such, it seems likely that these Arabic sentences have some underlying structure in common with the canonical pro-drop languages, such as Italian. Thus, I propose that, for the SVO sentences in Arabic,
the EPP is checked in the same way as for the other pro-drop languages, namely, by a D element in the agreement morpheme.\footnote{It is unclear why sentences such as those in (98), repeated here as (i), have full agreement on the lexical verbs. Presumably, in (ia), the auxiliary originates in some aspectual head, passes through Infl and surfaces in F. This being, then, a VSO word order, the phrasal subject, in the specifier of Infl, should check the EPP. Full agreement on the lexical verb would thus not be required by the EPP. In (ib), it is the auxiliary that is in Infl, and thus the agreement on the auxiliary that ought to check the EPP. Thus, likewise, the agreement on the lexical verb ought not to be required, at least not by the EPP. The agreement cannot be some sort of concord between the auxiliary and the lexical verb, either, since, in (ia), they have different markings.

\begin{verbatim}
(i) a. kaanat T-Taalibaat-u ya-drus-na be-PST-3F.SG the-student,F.PL-NOM 3-study,F.PL
b. T-Taalibaat-u kunna ya-drus-na the-student,F.PL-NOM be,pst.3F.PL 3-study,F.PL
\end{verbatim}

\footnote{(Aoun et al. 2010: 78)}

Some alternate explanation must be sought to account for the agreement marking on the lexical verbs in these cases. This is discussed again in more detail in §3.1.1.}

2.5.3 EPP-Checking Mechanisms in Arabic

The different word orderings possible in Arabic, and the agreement patterns that accompany them, have interesting implications for an account of the EPP. First, I demonstrated that the VSO word order is derived by means of head-movement of the verb to a projection between C and Infl, called F, and that the subject of the clause is found in the specifier of Infl. The VSO word order is also characterized by partial subject-verb agreement. I then argued that the EPP is checked in Arabic VSO sentences by the phrasal DP subject in the specifier of Infl. I then demonstrated that the SVO order has much in common with canonical pro-drop languages, such as rich verbal inflection and topic-like semantics attributed to the subject. I then argue that, in Arabic SVO sentences, the EPP is checked by a D feature on the agreement morpheme. Regardless of the particular analysis
used to account for the underlying structure of Arabic sentences, the possibility of expletives in the VSO order makes it clear that, in those sentences, the EPP is checked by means of a phrasal DP, whereas the optionality of subjects in sentences with full agreement makes it clear that the EPP is checked in some other way in SVO sentences. The possibility of languages in which the EPP is checked differently intra-linguistically indicates that the EPP does indeed have multiple mechanisms by which it can be checked. This variety in Arabic likely stems from two different Infl heads, with different feature complexes, the choice of which is governed by discourse and pragmatic factors—leading to the differences in distribution, as documented, for example, by Brustad (2000), and to the intuitions about the topic-like nature of pre-verbal subjects, also documented by Brustad (2000).

Arabic clearly demonstrates that a single language may alternate between phrasal and head EPP checking. Whether a single language can alternate between verbal and nominal EPP checking, as well, is a matter for future research.

3 Further Issues

3.1 Features and Values

Although, so far, we have a rough idea of which element in which language checks the EPP, we must consider whether it is the word category itself which checks the EPP, or some subset of its features. Chomsky (1995), as discussed earlier, suggested that it was a D feature which checks the EPP.
3.1.1 The EPP Checked by Phi-Features

Let us consider again the present subjunctive paradigm for Italian, a portion of which is shown in (104) (cf. also (39)-(41) in §2.3.1).

(104) a. Speri che ??(io) vinca. (Ippolito p.c.)
   hope.2SG.PRES that 1SG win.PRES.SBJ.SG
   ‘You hope that I win.’

   a. Credo che *(tu) sia ricca. (Maria Giulia Salvia)
   Believe.1SG that 2SG be.PRES.SBJ.SG rich.F.SG
   ‘I believe that you are rich.’

   b. Credo che (lei) sia ricca.
   Believe.1SG that 3SG.F be.PRES.SBJ.SG rich.F.SG
   ‘I believe she is rich.’

   e. Credo che (noi) siamo ricchi.
   Believe.1SG that 1PL be.PRES.SBJ.1PL rich.PL
   ‘I believe we are rich.’

   d. Credo che (voi) siate ricchi.
   Believe.1SG that 2PL be.PRES.SBJ.2PL rich.PL
   ‘I believe you are rich.’

   f. Credo che (loro) siano ricchi.
   Believe.1SG that 3PL be.PRES.SBJ.3PL rich.PL
   ‘I believe they are rich.’

As can be seen, although the person distinction is lost in the singular forms, the number distinction remains. As such, it would appear that the loss of a person feature alone is sufficient to require an alternate means of EPP-checking. As such, I would suggest that, in Italian, it is the person feature in particular, rather than the D feature, which checks the EPP.

Along those same lines, Alexiadou and Anagnostopoulou (1998: 519, footnote 29) suggest that, if the EPP were to be checked by either person or number alone, it would be checked by person. However, the two pieces of evidence they cite, from Arabic and diachronic Swedish, both seem to give conflicting evidence upon closer inspection. As
stated in §2.5.1, there is debate as to whether there is person agreement on the verb in Arabic when the EPP is checked by means of a phrasal subject.

On the other hand, Falk (1993) discusses several syntactic changes that occur in Swedish in the 15th-17th centuries. In Old Swedish, verbs agreed with person and number with their subjects. The past and present paradigms for the strong verb *vika* ‘bend’ are shown in (105).

(105)

<table>
<thead>
<tr>
<th></th>
<th>1SG</th>
<th>2SG</th>
<th>3SG</th>
<th>1PL</th>
<th>2PL</th>
<th>3PL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present</strong></td>
<td>vik-er</td>
<td>vik-er</td>
<td>vik-er</td>
<td>vik-um</td>
<td>vik-in</td>
<td>vik-a</td>
</tr>
<tr>
<td><strong>Past</strong></td>
<td>vek</td>
<td>vek-t</td>
<td>vek</td>
<td>vik-um</td>
<td>vik-in</td>
<td>vik-u</td>
</tr>
</tbody>
</table>

(Falk 1993: 155)

Old Swedish was also a Null Subject Language, shown in (106).

(106)  

Är grauit vnder syll is dug under sill

(Falk 1993: 144)

Finally, Old Swedish had V-to-Infl movement, as shown in (107).

(107)   

som K. Mtt: skulle inthett hafwe waritt där as if His Royal Mejesty should not have been there

In the 15th century, person agreement was lost in Swedish, resulting in the paradigm in (108).

(108)

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present</strong></td>
<td>vik-er</td>
<td>vik-a</td>
</tr>
<tr>
<td><strong>Past</strong></td>
<td>vek</td>
<td>vek-o</td>
</tr>
</tbody>
</table>

(Falk 1993: 156)

Number agreement, however, was not lost until the 17th century. At the same time number agreement was lost, null subjects and V-to-Infl movement were lost, resulting in the word order in (109) (cf. (107)).

(109)  

att bussarna intet skulle äta frucht that the soldiers not should eat fruit

(Falk 1993: 158)
Presumably, Old Swedish was much like Italian, with the EPP being checked by a D-related $\phi$ features on the verb. When person agreement was lost, the underlying syntactic structure remained the same, suggesting that the EPP was still being checked by whatever features were on the verb. However, once the number features were lost, there were no longer sufficient features on the verb to check the EPP, and phrasal subjects began to be needed. The facts from diachronic Swedish, therefore, contrary to what Alexiadou and Anagnostopoulou (1998) suggest, seem to indicate rather strongly that the EPP in Old and Early Modern Swedish was not checked by a person feature on the verb, but rather by a number feature.

An alternative analysis of the Italian data could be that singular marking is default. Thus, number is only marked when it is plural. This would account for the apparent contrast between present and singular forms in Italian—the contrast would be between plural and unmarked. At the same time, however, the second singular form would lack all $\phi$-features. It would not be marked for second person due to its historical development, as previously determined, and it would not be marked for number, as the singular is unmarked. This complete lack of $\phi$-features would thus be the cause for the need of a pronoun to check the EPP. Based on these facts, it appears that, for Arabic, Italian, and Swedish, the presence of either valued person or number features may be sufficient to check the EPP.

Likewise, we know from examples such as (15) in §2.1, repeated here as (110), that, for English, non-nominal subjects still agree with the verb in number, and thus, that the null DP shell bears $\phi$-features, or at least number features.

(110) a. [That the march should go ahead] and [that it should be cancelled] have both been argued by the same people at different times.  
(McCloskey 1991: 564)
b. [Down the hill] and [across the river] are both good places for a picnic.

c. [Very brawny] and [very studious] are what Cindy aspires to be.
   (D&D 2001: 249)

Perhaps, then, the null DP shell around non-nominal English subjects is required, not in
and of itself, but rather, to host other features.

It seems, however, that, in Italian and Arabic, subject-verb agreement happens
independently and then checks the EPP since it is already there. This accounts for the
alternations between D-head and DP-EPP in those languages. When subject-verb
agreement does not independently occur, such as in the Italian second person singular
subjunctive, the EPP cannot force it to; rather, it must resort to some repair mechanism,
such as the insertion of a pronoun. Furthermore, this accounts for the problematic Arabic
sentences in (98), repeated here as (111).

(111) a. kaanat T-Taalibaat-u ya-drus-na
     be-PST-3F.SG the-student.F.PL-NOM 3-study-F.PL

b. T-Taalibaat-u kunna ya-drus-na
     the-student.F.PL-NOM be.pst.3F.PL 3-study-F.PL
     ‘The students were studying.’
   (Aoun et al. 2010: 78)

In these sentences, there is full agreement on both the auxiliary and the lexical verb. The
agreement on the lexical verb cannot be required by the EPP, as the EPP ought only to be
checked once per clause. However, if we assume that subject-verb agreement happens
independently, and only checks the EPP as a secondary function, since it is already there,
these sentences are no longer problematic.
3.1.2 The SCOPA

The idea that person marking might be what checks the EPP has some interesting implications. It has been noted that person marking behaves somewhat differently than the marking for other φ-features. Baker (2011, and several earlier works) shows how person agreement only occurs in certain contexts. For example, predicative adjectives can agree with the subject in gender and number, but not in person, as illustrated in the Spanish example in (112).

(112) (Nosotras) somos gord-as/*gord-amos. (Baker 2011: 876)
we.F.PL are.1PL.SUB fat-F.PL/fat-IPL
‘We are fat.’

Another example comes from Icelandic when the subject receives quirky case. In these cases, the verb can agree with a nominative-marked object, but only in number, as shown in (113).

(113) a. Henni leiddust þeir. (Baker 2011: 889)
her.DAT was.bored.by.3PL.SUB they.NOM
‘She was bored with them.’

b. Henni leiðist bókin sín.
her.DAT was.bored.by.3SG.SUB book self’s
‘She was bored with her own book.’

c. *Henni leiddumst við.
her.DAT was.bored.by.1PL.SUB we.NOM
‘She was bored with us.’

Baker (2011, and several earlier works) accounts for this pattern with the Structural Condition on Person Agreement (SCOPA), which states that a head can only agree in person with a phrase that is within its projection.

It is interesting to note that Person is the feature that acts differently than the others in terms of the SCOPA, as well as the surface pattern of the EPP in Italian. However, the
SCOPA is not constrained to the subject position in Infl, and thus cannot be a characteristic of the EPP. For example, the SCOPA affects agreement with the objects in ditransitive verbs. In the ditransitive Nahuatl example in (114), there is full person and number agreement with both the subject and the goal, but only agreement for number with the theme.

(114) \text{Xi-nēch-im-maca huēhuēxōlō.} \hspace{1cm} (Baker 2011: 876)
\hspace{1cm} 2SG.SUB.IMPER-1SG.OBJ-PL-give turkeys
\hspace{1cm} ‘Give me some turkeys.’

This pattern of, at most, two-and-a-half agreement occurs robustly cross-linguistically. Furthermore, the EPP cannot be a consequence of the SCOPA, either. For one, the pattern in the Italian subjunctive, when there is no person agreement on the verb, is exactly the configuration where the SCOPA would predict agreement to occur. The pronoun is in the specifier of Infl, and so Infl should be able to agree with it in person. However, despite these differences, it is clear that the person feature behaves somewhat differently than the other φ-features, in many cases of agreement. However, that person features behave differently in terms of EPP checking is not so clear.

3.1.3 The EPP Checked by Temporal Elements

If D-head and DP-EPP are not checked by the D category itself, but rather by valued φ-features, then we would expect there to be some equivalent to that in the V-head and vP-EPP languages. One set of features that V elements have which get valued are the tense features. In Irish, at least, that the EPP is checked by valued tense is plausible. Irish verbs are overtly marked for tense; Harley (2000) even proposes that Irish verbs raise to Infl in order to check [finite] Tense. Furthermore, this approach explains why non-finite
clauses in Irish cannot have an Infl projection. If there were an Infl projection, then the verb would need to raise to check the EPP; however, since the verb is non-finite, it cannot raise, as it does not have the requisite features. In Niuean, however, this is more problematic. Tense in Niuean is marked on clause initial particles which are merged with the complementizer. These particles are outside of the vP that raises to Infl, and, as such, we would not expect them to participate in EPP-checking. Despite the difficulty in accounting for Niuean under an approach in which it is valued features which check the EPP, this analysis is consistent with, and even preferable for, all of the other languages we have considered.

3.2 The Overtness Requirement

Some have posited that there is an overtness requirement associated with the EPP. This has been posited, for example, to account for why an overt expletive is required in English, despite it being semantically empty, instead of a pro, as in some other languages. Italian, as well, seems to have an overtness requirement, since pro is not sufficient to check the EPP in the subjunctive, where, instead, an overt pronoun is required, as discussed in §2.3. In keeping with the overtness requirement, one might speculate that the EPP is a PF requirement, as discussed in §1.2.

Harley (2000) and Harley and Carnie (1997) suggest that the EPP governs the distribution of PRO in languages with an EPP, like English. They posit a [±overt]20 diacritic feature on the EPP, governing when an overt subject is required and when one is disallowed. It is thus the EPP which licenses PRO in infinitivals.

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Formerly, it was argued that the distribution of PRO was determined by case assignment. PRO occurred in non-finite clauses since non-finite T assigns null case instead of nominative case (Chomsky and Lasnik 1993). However, evidence from Icelandic shows that PRO does not take null case, since floating quantifiers agree in case with the nominal to which they are associated (Siggurðson 1991). This is true even if they are associated with PRO, as in (115)-(116).

(115) Strákarnir vonast til [að PRO leiðast ekki öllum í skóla].
The boys-NOM hope for to PRO-DAT bore not all-DAT.PL.M in school
‘All the boys hope to not be bored in school.’
(Siggurðson 1991: 331)

(116) Strákunum leiddist [að PRO verða kosnir í]
The boys-DAT bored-DFLT to PRO-NOM be elected-NOM.PL.M to the
board
‘The boys were annoyed at being elected to the board.’
(Siggurðson 1991: 337)

In (115), PRO gets quirky dative case from the verb, as can be seen by the agreement on the floating quantifier öllum. In (116), on the other hand, PRO gets structural nominative case. In these cases, PRO cannot have null case, because then we would expect some morphological reflex of the null case, rather than dative or nominative, to surface on the floating quantifier.

Evidence that subjects of infinitivals in English are required to be null, rather than specifically PRO, come from sentences such as those in (117)-(119).

(117) a. *John wagered the grey horse to win. (H&C 1997: 82)
    b. Which horse did John wager <which horse> to win?

(118) a. *Mary assured me the woman to be intelligent. (Harley 2000: 29)
    b. The woman that Mary assured me <the woman> to be intelligent.
(119)  

a. Mary seems [<Mary> to like Sue]. \hspace{2cm} \textit{(Harley 2000: 28)}

b. Jennilee believed Sue [<Sue> to have left].

In (117b), there is a \textit{wh}-copy in the subject position of the infinitival verb \textit{win}. An overt subject is not allowed in the same position in (117a). Likewise, in (118b) the copy of \textit{the woman} is in the subject position of the non-finite clause, whereas an overt copy of the same DP is not grammatical in (118a). In (119), the copy of a DP which raises to the matrix clause is sufficient to check the EPP. These are in contrast with sentences such as those in (120).

(120)  

a. I wonder who is crying. \hspace{2cm} \textit{(Massam, p.c.)}

b. *Who do you wonder is crying?

In (120b), a \textit{wh}-trace is not sufficient to check the EPP in the embedded present progressive clause, although an overt \textit{wh}-word is sufficient in (120a). However, there are also problems with these observations. For one, \textit{wh}-traces can also satisfy the [overt] EPP of finite clauses.

(121)  

Which man did Susan think <which man> liked Bill? \textit{(Harley 2000: 29)}

We would not expect \textit{wh}-traces to be able to check both the overt and null EPPs. Harley (2000) suggests that raising clauses are only vPs, and thus, that there is no EPP to be satisfied in these cases.

Harley (2000) adopts McCloskey’s (1996a) conclusion that there is no EPP in Irish, and shows that the distribution of PRO is free in Irish. First of all, she shows that there are overt subjects in Irish non-finite clauses, as shown in (122).

(122)  

\begin{verbatim}
Níor mháith liom [é a theacht abhaile]  \hspace{2cm} \textit{(Harley 2000: 9)}
\end{verbatim}

\begin{verbatim}
NEG please to.1SG 3SG come.NFIN home
‘I wouldn’t like for him to come home.’
\end{verbatim}
PRO can also appear in finite Irish clauses (Stenson 1989, in Harley 2000), as in (122). In these cases, PRO takes an arbitrary or an impersonal interpretation, and co-occurs with impersonal marking on the verb.

(123) Deirtear PRO go bhfuil droch-aimsir in Éirinn  
      say.PRES.IMP PRO COMP be.PRES bad weather in Ireland  
      ‘(They) say that Ireland has bad weather.’  
      (Harley 2000: 11)

Stenson (1989, in Harley 2000) shows that there is a subject, albeit a null one, in such constructions. First, the inchoative interpretation is unavailable in the impersonal construction, shown in (124).

(124) a. Bhris an fhuinneog  
      break.PST the window  
      ‘The window broke.’  

b. Briseadh PRO an fhuinneog  
      break.PST.IMP PRO the window  
      ‘They broke the window.’

Secondly, passives can also appear with impersonal marking, in which case the derived subject receives an arbitrary interpretation, as shown in (125).

(125) Táthar PRO buailte again  
      be.PRES.IMP PRO beaten by.1PL  
      ‘(They) have been beaten by us.’  
      (Harley 2000: 11)

And, finally, verbs which cannot take arbitrary interpretations also cannot take impersonal morphology.

(126) *Cuireadh PRO sneachta  
      put.PST.IMP PRO snow  
      ‘(They/One) snowed.’  
      (Harley 2000: 11)

Stenson (1989, in Harley 2000) also shows that these constructions differ from pro constructions. For one, the verb does not take personal agreement in these constructions. It thus appears that PRO can appear in both finite and non-finite clauses in Irish.
Although Irish has overt subjects in its infinitival constructions, we previously argued that Irish infinitivals, a type of PVN, are not full clauses. There is, however, another language which has overt subjects in its non-finite clauses—Spanish.

(127) a. Sin yo saber-lo Pedro se compró un coche.  
   Without I know. NFIN-3SG Pedro REFL bought a car  
   ‘Without me knowing it, Pedro bought himself a car.’

b. Interrogar el fiscal al testigo no era tarea fácil.  
   Ask. NFIN the public prosecutor to. the witness NEG was task easy  
   ‘It was not an easy task for the public prosecutor to question the witness.’

(Pöll 2007: 95)

Presumably, the Spanish EPP is checked similarly to the Italian one, since the two languages are so closely related. Both are NSLs with rich subject agreement and V-to-Infl movement. However, it is also plausible that Spanish is a V-EPP language, as we do not have the overt evidence of phrasal DPs alternating with subject agreement in Spanish, as we do in Italian. That infinitivals can have overt subjects in Spanish is straightforward under an analysis where it does not have a DP-EPP and where the distribution of PRO is determined by the EPP. If Spanish is a D-EPP language just like Italian, then the EPP should not govern the overtness of phrasal subjects, but rather, if anything, the overtness of agreement on the verb. And, just as would be expected, there is no subject agreement on infinitival verb forms in Spanish, nor in Italian.

However, it seems that only a subset of languages exhibit a [±overt] EPP alternation. Niuean appears to show no alternation between overt and null vPs. Likewise, Irish shows no alternation between null and overt Vs. Perhaps this is due to other restrictions on verbs, however, as null verbal elements just don’t seem to occur in the same way as null nominal elements do. Therefore, it appears that the overt-null alternation is specific to nominal-EPP
languages. Overall, these facts seem to indicate that the EPP is affected by the interaction of person, tense, and number features, as well as clause type, in the domain of Infl.

This analysis, however, with the EPP having both an overt and null counterpart, leaves us with more questions than answers. If there is some sort of diacritic on the EPP determining its overtness, as Harley (2000) and Harley and Carnie (1997) argue, then what are the implications for the syntax-phonology interface? In particular, it is unclear why the syntax would care about an overtness feature. Rather, this seems to be something that should happen later in the derivation of a sentence, such as at PF.

3.3 Deixis

So we see that the EPP is checked by a DP in English, a vP in Niuean, a D feature in Italian, the verb in Irish, and either a DP or a D feature in Arabic. These are a wide range of elements. Since they all pattern together as EPP-checking elements, we would expect them to share other characteristics in common. Harbour (2012) shows that deictic elements such as personal pronouns, agreement, demonstratives, and directionals all pattern together in that the attested cross-linguistic deictic inventories can be predicted making use of the features [±author] and [±participant]. The types of EPP-checking elements we have considered thus far could include two of the three main deictic categories. Person deixis is demonstrated to a certain extent through the D features in English, Italian, and Arabic. Time deixis could be the crucial element in Irish and Niuean, when verbal elements, and their associated tense features, are what is checking the EPP. Even locative deixis could marginally be included if we consider locative inversion in English and the origins of the expletive there, which seems to have been derived from the demonstrative pronoun.
3.3.1 The Parametric Substantiation Hypothesis

Ritter and Wiltschko (2009) propose the parametric substantiation hypothesis, which states that the specific realization of a functional category is subject to parameterization, but that the various forms that category may take are constrained by a universally determined core function. They illustrate this through the Infl head, which is realized as Tense in English, Location in Halkomelem, and Person in Blackfoot. They show that these forms of inflection are in complementary distribution and propose that they all fulfill a deictic function, anchoring the eventuality described by an utterance to the utterance itself, by denoting whether the eventuality coincides with the utterance (as with present tense, proximate location, or 1st or 2nd person) or not (as is the case for past tense, distal location, and 3rd person).

In Halkomelem, rather than there being a distinction between tenses, there is a distinction in where the eventuality described occurred, as illustrated in the Upriver dialect Halkomelem sentences in (128).

(128) a. í qw’eyílex tú-tl’ò
    PROX dance he
    ‘He is/was dancing (here).’

b. li qw’eyílex tú-tl’ò
   DIST dance he
   ‘He is/was dancing (there).’

This can sometimes result in a temporal interpretation, as can be seen in the sentence in (129), from the Downriver dialect of Halkomelem.

(129) ni cən čéčəw-ət
    DIST 1SG help-TRANS
    ‘I was helping him.’
This sentence receives a past tense interpretation as the speaker cannot be in two places at once, simultaneously producing the utterance in one location and performing the action denoted by the utterance somewhere else. Thus, the action described must have occurred in the past. A sentence with a distal auxiliary and a third person subject, however, does not have to be interpreted as past tense, as a third person can be in a different location than the speech act, as shown in (130), from the Upriver dialect.

(130) li álhtel te swíyeqe  
DIST eat DET man

‘The man is/was eating.’

Ritter and Wiltchsko (2009) also provide further evidence that location in Halkomelem is the functional equivalent of tense in languages like English.

Likewise, Blackfoot verbs appear to inflect for person rather than for tense or location. Verbs in Blackfoot matrix clauses are marked with a person prefix, as demonstrated in (131).

(131) a. nitsikákókimimmawa nitána (R&W 2009: 17)  
nit-iik-áakókimimm-a-wa n-itán-wa  
1-very-love.TRAN.AN-DIR-3SG 1-daughter-3SG

‘I love my daughter.’

b. kitsikákókimimmawa nitána  
kit-iik-wákókimimm-a-wa n-itán-wa  
2-very-love.TRAN.AN-DIR-3SG 1-daughter-PROX

‘You love my daughter.’

c. otsikákókimimmoka nohkówa otáni  
ot-iik-wákókimimm-ok-a n-ohkó-wa w-itán-yi  
3-very-love.TRAN.AN-INV-3SG 1-son-3SG 3-daughter-OBV

‘Her daughter loves my son.’

This is distinct from Blackfoot agreement; agreement in Blackfoot is marked by means of a series of suffixes. The suffixes mark number and some other features along with person, whereas the prefixes mark only person.
Furthermore, the person prefixes in Blackfoot do not distinguish between the grammatical or semantic role of the person they are marking for, but indicate only that that person is involved in the eventuality. Thus, in (132), we see the person prefixes are realized regardless of the role of the associated argument (cf. also (131a), above).

(132)  

a. nitsikákomimmokinnaani kitániksi (R&W 2009: 21)  
nit-iik-wákomimm-ok-innan-yi  k-it-an-iksi  
1-very-love.TRAN.AN-INV-1PL-3PL  2-daughter-PL  
‘Your daughters love us.’

b. kitsikákomimmawa nitána  
kit-iik-wákomimm-a-wa  n-it-an-wa  
2-very-love.TRAN.AN-DIR-3SG 1-daughter-3SG  
‘You love my daughter.’

c. kitsikákomimmoka nitána  
kit-iik-wákomimm-ok-wa  n-it-an-wa  
2-very-love.TRAN.AN-INV-3SG 1-daughter-3SG  
‘My daughter loves you.’

If both the first and second person are involved in the eventuality, only the second person can be marked, as shown in (133).

(133)  

a. kitsikákomimmoki  
kit-iik-wákomimm-oki  
2-very-love-2:1  
‘You love me.’

b. kitsikákomimmoo  
kit-iik-wákomimm-o  
2-very-love-1:2  
‘I love you.’

c. *nitkitsikákomimmoki  
nit-kit-iik-wákomimm-oki  
1-2-very-love-2:1

d. *kitnitsikákomimmoki  
kit-nit-iik-wákomimm-oki  
2-1-very-love-2:1
Ritter and Wiltschko (2009) argue that this is because of the uniqueness requirement; that is, Infl can only be realized once. The second person is realized rather than the first person due to the internal hierarchical structure of the Infl projection.

Finally, Blackfoot has two morphemes which indicate which role the argument that the person prefix represents takes. The direct sign \(-a\) is used when the person prefix is the agent and the inverse sign \(-ok\) is used when the person prefix is the theme.

(134)  a. nitáawayakiaa  
\(\text{nit-waawayaki-a-wa}\)  
1-hit-DIR-3SG  
‘I hit him.’

b. nitáawayakioka  
\(\text{nit-waawayaki-ok-wa}\)  
1-hit-INV-3SG  
‘He hit me.’

Ritter and Wiltschko (2009) suggest that these morphemes might be the equivalent to aspect markers in languages which inflect for tense.

Ritter and Wiltschko (2009) also suggest that there might be other correlates that pattern with the different types of Infl heads. Alongside different forms of aspect, as discussed for Blackfoot, they suggest that the licensing of nominal arguments might vary with the different forms of Infl. Specifically, temporally based systems license their nominals by means of case, whereas spatially and participant based systems such as Halkomelem and Blackfoot might license their nominals by means of location and participant marking, respectively.
3.3.2 Similarities and Differences

Both my characterization of the EPP and Ritter and Wiltschko’s (2009) description of the Infl head, then, centre the notion of deixis on the Infl projection. Ritter and Wiltschko (2009) provide some formal diagnostics for identifying the Infl projection, since, according to their hypothesis, the Infl projection will not be identifiable by means of semantic content alone. They provide two sets of tests; first, whether the material in question is a head or something else, and, secondly, whether it is in Infl position. Interestingly, the EPP-checking mechanisms described in this paper are consistent with the diagnostics described by Ritter and Wiltschko. Even the diagnostics which are meant to identify heads are consistent with the EPP-checking mechanisms, although the material which checks the EPP is not in all cases a head. One might, on the basis of that fact, argue that at least some of the EPP-checking mechanisms described here are really the Infl head, rather than the ‘subject’ of the clause; however, the fact that some of these elements are clearly phrasal, and that the head material in Arabic and Italian alternates with phrasal material in some contexts, challenges that approach.

Ritter and Wiltschko (2009) argue that two main characteristics of heads are that they are unique and obligatory. In all the languages discussed so far, the EPP has been checked by a single element in each clause. In fact, that the EPP can only be checked once has been assumed throughout this paper. Likewise, obligatoriness is a defining characteristic of the EPP, as well. Furthermore, Ritter and Wiltschko (2009) identify two other characteristics which follow from syntactic obligatoriness. Elements which are syntactically obligatory can, in certain contexts be semantically or phonologically empty. This is, in fact, the case. We have already discussed at length the distribution of
phonologically empty subjects, particularly PRO, in §3.2. It is clear that such subjects exist, and that their distribution is tightly controlled. Obviously, the existence of expletives in DP-EPP languages demonstrates the existence of semantically empty EPP-checking elements. Since predicates are independently required, vP-EPP languages, such as Niuean, do not demonstrate this property. D-head EPP languages, such as Italian, and, to a lesser extent, Arabic, also do not appear to have this characteristic; however, it is possibly because, rather than inserting an expletive in these languages, it is preferable for the D feature on V to alternate with a phrasal subject. Thus, all of Ritter and Wiltschko’s diagnostics for head elements apply to at least some of the languages we have discussed thus far. Furthermore, although these are supposed to be diagnostics for heads, the EPP-checking elements which best fulfill them are those which are most clearly phrasal in nature.

In order to verify that the element under consideration is in Infl, Ritter and Wiltschko (2009) suggest looking for interactions with C. In particular, they consider Infl-to-C head movement and whether C selects a particular form of Infl. It is clear that the EPP interacts with C in all of the languages we have discussed thus far. Phrasal elements cannot normally undergo head movement and none of the head-EPP languages we have considered have C-to-Infl movement; however, Irish, as discussed in §2.4.1, does demonstrate C-to-Infl lowering, which results in a verbal complex containing both the EPP-checking element and C. Likewise, the tense particles in Niuean are merged with the complementizer, as discussed in §2.2.1. The type of clause also affects the way in which the EPP is checked in both Italian and Arabic. In Italian, only the subjunctive clauses can have the EPP checked by a phrasal element, as discussed in §2.3. Likewise, the alternation
between the two clause structures in Arabic, and their associated EPP-checking mechanisms, seems to be associated with some form of information packaging.

Finally, Ritter and Wiltschko (2009) demonstrate that all of their different substantiations of Infl are unmarked in infinitivals and imperatives. This is demonstrated for Tense in English in (135), and for Location in Halkomelem in (135). The infinitivals are shown in (a-b) and the imperatives in (c-d).

(135) a. He wants to walk. (R&W 2009: 13)
   b. *He wants to walked.
   c. Walk!
   d. *Walked!

(136) a. l-stl’i kw’-el-s qw’eyílex (R&W 2009: 14)
   1SG.POSS-want DET-1SG.POSS-NOM dance
   ‘I want to dance.’
   b. l-stl’i kw’el-s li qw’eyílex
   1SG.POSS-want DET-1SG.POSS-NOM DIST dance
   ‘I like it when I used to dance.’ (≠ ‘I want to dance.’)
   c. qw’exílex-lha (R&W 2009: 14)
   dance-IMPER
   ‘Dance!’
   d. *li qw’eyílex-lha
   DIST dance-IMPER

In Blackfoot, there are no infinitives (Ritter and Wilschko 2009). But we can still see that there are no person prefixes in the imperative, as shown in (137).

(137) a. ooyit! (R&W 2009: 19)
   ooyi-t
eat.AN.INTR-2SG.IMPER
   ‘Eat!’

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b. ooyik!
ooyi-k
eat.AN.INTR-2PL.IMPER
‘Eat!’

Likewise, there is also a lack of overt EPP-checking mechanisms in both of these same contexts in at least some languages. For example, English lacks overt DP subjects in both of these contexts, as shown in (138).

(138) a. It is important to be well rested.
    b. Eat your vegetables!

Therefore, we see that there is some type of interaction between the EPP and C. This interaction is unsurprising if we assume, following Chomsky (2008), that Infl (or, in Chomsky’s terms, T), inherits all of its features from C.

However, despite the fact that the EPP-checking elements satisfy all of Ritter and Wiltschko’s diagnostics, there are still some crucial differences between these elements and how they describe the different substantiations of Infl. For one, Ritter and Wiltschko suggest that the form Infl takes will have consequences elsewhere, including aspect and case, for example. The EPP does not seem to affect the architecture of a clause in the same way. Although certain EPP-checking mechanisms may pattern with other aspects of the language, such as the use of null subjects, PRO, and expletives, there is no reason to posit any interaction with the aspectual head, or the mechanism for licensing DPs. Perhaps most importantly though, it is clear that the Person marking on Blackfoot which instantiates Infl is distinct from the person marking on Italian which checks the EPP. For one, the prefix in question in Blackfoot marks for person alone, whereas the agreement morphemes in Italian typically contain entire feature bundles. In this way, the Italian agreement morphemes pattern with the Blackfoot agreement suffixes rather than the Person prefix which Ritter
and Wiltschko (2009) argue substantiates Infl in that language. Although there is some evidence that, in Italian, it may be the person feature alone which is crucial for EPP-checking, as discussed in §3.1, the fact that this feature is bundled up with other φ-features and tense features still remains as a distinction between these two languages. More importantly, though, where Blackfoot can make use of the prefix to mark for any participant, Italian can only mark for the subject. Thus, although the EPP-checking mechanisms discussed in this paper, as a whole, meet the diagnostics described by Ritter and Wiltschko for the different substantiations of Infl, there is clearly a functional and semantic difference between the person substantiation of Infl described by Ritter and Wiltschko for Blackfoot and the use of person agreement as a form of EPP-checking described in this paper.

Thus, despite the widespread similarities between Ritter and Wiltschko’s (2009) parametric view of Infl and my analysis of the EPP as a deictic requirement, they are still fundamentally distinct. Perhaps these similarities arise from the universal characteristics of the Infl head, specifically, and the formal characteristics of functional elements in the syntax, in general, which both the EPP and the Infl head are subject to.

### 3.3.3 Reconciling a Parameterized Infl with the EPP

One language that clearly distinguishes a Parameterized Infl from the EPP is English. Ritter and Wiltschko (2009) argue that Infl is substantiated as tense in English, showing how tense is marked but once in each English clause, how there can be tense marking without a corresponding semantic tense interpretation, how the tense marker can raise to C position, and how tense can be marked by phonologically null elements.
However, English also clearly has an EPP, which is most certainly independent from tense. Italian, also, seems to differentiate the two, substantiating Infl with tense markings and checking the EPP by means of a D element. However, on the other hand, both Irish and Niuean do not have a clear dichotomy between the Infl head and the EPP. I have argued that, in Irish, tense checks the EPP, and, presumably, it also substantiates Infl. In Niuean, there are no markers in Infl which could be taken to substantiate Infl. Niuean, which checks the EPP with a vP, has a set of verbal markers; however, these are not obligatory, nor do they always mark for tense, but also for aspect and mood. Both of these cases are difficult to reconcile with the principles of uniqueness and obligatoriness. For Irish, it must be asked whether the same element, in this case, tense, can both check the EPP and substantiate Infl. Niuean, on the other hand, appears to have a more subtle substantiation of Infl that is difficult to determine.

Overall, it seems that the function of Infl is to use deixis to anchor the eventuality to the utterance. There are multiple mechanisms to do this, all obligatory, including the EPP and the substantiation of Infl. They are, however, fundamentally different, although they interact with each other, and overlap in many ways.

4 Conclusion

In this paper, I have described a typology of EPP-checking mechanisms which is cross-linguistic. These EPP-checking mechanisms obligatorily require either a nominal or a verbal element within the domain of Infl. In English, the EPP is checked by a DP in the specifier of Infl. In Niuean, it is checked by a vP, also in the specifier of Infl. In Italian, the EPP is checked by an affix with a D feature on the verb head, except in the second person
singular subjunctive, where it is checked by a phrasal pronoun in the specifier of Infl. In Irish, it is checked by V°, which undergoes head movement into Infl. Finally, in Arabic, the EPP can be checked either by a DP in the specifier of Infl or by a D feature on V°.

The EPP appears to require the nominal or verbal element to bear a valued feature: a φ-feature in the case of nominal elements, and possibly a tense feature in the case of verbal elements. These valued features seem to be deictic in nature, and thus help to fulfill Infl’s role in anchoring the utterance to the eventuality. Finally, the EPP also appears to play a role in the distribution of PRO in DP-EPP languages, showing that the type of clause Infl belongs to has the ability to affect the way the EPP is checked.

We started out with two main problems with the EPP: its existence being no more than a stipulation and its cross-linguistic behaviour. We have spent a significant amount of time considering the latter, and have come up with a possible solution. As for the first problem, the EPP’s status as a stipulation, we still have many questions. However, studying the EPP as a deictic element may prove illuminating.

References


