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PRO, the EPP and Nominative Case: Evidence from Irish Infinitivals

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1 . Introduction

Recent work in the Minimalist Program has made use of the Extended Projection Principle as a licensing feature for subject nominals, a feature which is explicitly separate from abstract nominative Case (Chomsky 1995). Both features are checked in Chomsky's system by the Tense head. Chomsky adopts the case system for licensing PRO proposed in Chomsky and Lasnik (1993), whereby PRO receives null case from an appropriate infinitival Tense head. This approach essentially maintains the intuition of the EST that the appearance of PRO is the result of a fact about the Case system.

In this brief paper, we argue against this approach, adopting instead the ideas of McCloskey (1996), who claims that the EPP and nominative Case are features checked by two distinct heads T and Agr respectively, which crucially can be separately active or inactive. Similar claims are found in Carnie (1995) and Harley (1995).

In this paper we demonstrate that if the clausal architecture argued for by McCloskey is correct, we are forced to rework the standard account of the distribution of PRO. In particular, we draw the following three conclusions, in I:

I Conclusions:

- i) Case assignment may not be dependent upon or linked to Tense.
- ii) Since the distribution of PRO in languages like English *is* linked to tense, the conditioning factor governing its distribution can not be Case.
- iii) The conditioning factor governing the distribution of PRO in infinitivals is the EPP.

If the above conclusions are correct, we make two strong predictions, listed in II:

II Predictions:

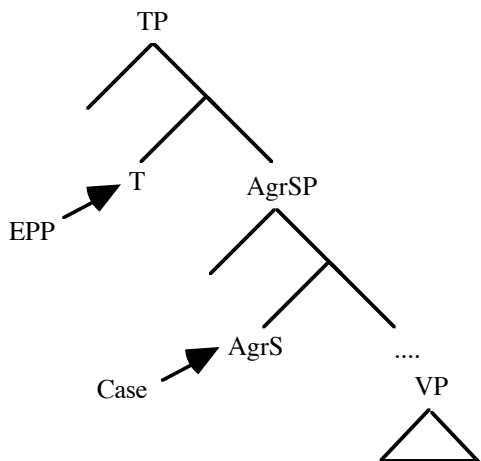
- i) Languages demonstrating no EPP effects will permit overt nominals in the subject position in infinitivals.
- ii) PRO is case marked in the same manner as any overt NP.

We show that the first prediction is true of Irish, where overt nominals are always possible in the subject position of infinitivals. The second conclusion is borne out by evidence from case agreement facts in Icelandic (Siggurðson 1991).

2. Case and the Extended Projection Principle in Irish

First let us quickly review the analysis of McCloskey (1996) which provides the initial basis for separating the locus of subject case-checking and satisfaction of the EPP. The clausal architecture he proposes can be seen in (1) below, where the functional head which checks the EPP dominates that which checks nominative Case and subject phi-features.

(1)

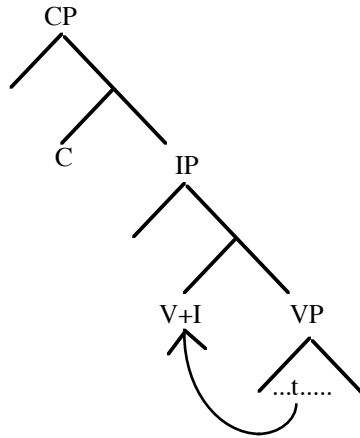


Recall that the basic word order of Irish is verb, subject, object, as you can see in the example in (2).

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

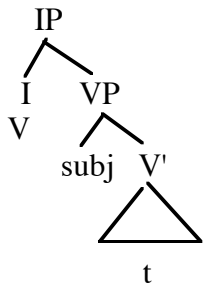
The derivation of the position of the verb is shown by McCloskey (1992) to result from moving the verb leftward out of VP through any intervening inflectional heads to the leftmost head in IP, illustrated in (3):

(3)

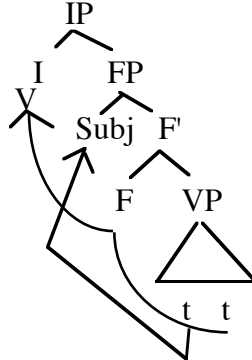


McCloskey (1996) argues against the widely accepted view that subjects in VSO languages are VP internal at spellout. McCloskey and Chung (1987), Duffield (1991,1995), Chomsky (1993) assume that only the verb moves out of VP, and the subject and object remain in situ inside VP (4) A contrasting line of analysis, suggested in Bobaljik and Carnie (1992) and Carnie (1995) among others, holds that in addition to the verb's movement to the head of a high functional projection, the subject and object move to the specifiers of lower functional projections outside of VP(5):

(4)



(5)



On the basis of Irish unaccusative clauses, McCloskey argues for the second line of analysis. In Irish there are two large classes of semantically

unaccusative verbs. The first class, what McCloskey dubs the “salient” unaccusatives, are those whose single internal argument appears in a prepositional phrase. The second class is termed the “putative unaccusatives”, whose internal argument, like that of unaccusatives in more familiar languages, is a simple NP (DP). Some verbs can belong to either class, taking their single argument in a PP or as a simple DP, like the one in our example (6). An example of a “salient” unaccusative construction can be seen in (6a); a “putative” unaccusative in (6b).

- (6) *Salient unaccusative*
- a. Neartaigh ar a ghlór
 strengthened on his voice
 “His voice strengthened”
- Putative unaccusative*
- b. Neartaigh a ghlór
 strengthened his voice
 “His voice strengthened”

In these examples, the VS word order does not indicate any obvious structural difference (other than the presence of the preposition) between these two sentences. There are several tests, however, indicating that the argument in the salient unaccusative cases is VP-internal, while the argument in the putative unaccusative cases has undergone movement outside the VP to the position in which canonical Irish subjects appear. The cluster of properties which distinguishes the position of the single argument in constructions of the salient type from constructions of the putative type can be seen in the table below in (7), corresponding to examples in (8a-d). In every case, the single argument in putative unaccusatives behaves exactly like a canonical subject in an Irish transitive clause (indicated by the shading of that column), while the argument in the salient unaccusative behaves like a canonical VP-internal PP.

In this short paper we will not recapitulate all these arguments, but will discuss one. Please refer to McCloskey's work for the other arguments. In Irish, as noted above, unmarked finite clause order is VS. By contrast, in non-finite clauses and small clauses, the order is SV. This is generally assumed to be because the verb does not move to the left edge of IP in non-finite clauses, either remaining in VP or only moving partially. In (8a) one can see that the PP of a salient unaccusative appears to be in the VP, as it follows the verb even in a non-finite clause, like objects and PPs in transitive non-finite clauses. It thus appears to be VP-internal. In putative unaccusative non-finite clauses, however, the single argument precedes the verb, like a canonical subject (8b).

(7)	Salient Unaccusative	Putative Unaccusative
Prepositionally case-marked	Yes	No
Postverbal argument in non-finite and small clauses (6a)	Yes	No
Argument can be clefted with the verb (6b)	Yes	No
Highest Subject Restriction applies (6c)	No	Yes
Argument appears to the left of VP adverb (6d)	No	Yes

(8) *Non-finite clauses*

a) Salient unaccusatives

I ndiaidh fealladh air fiche uair
 after fail [-finite] on-him twenty time
 “After he had failed twenty times”

b) Putative unaccusatives

I ndiaidh a shaibhreas méadú
 after his weath increase [-finite]
 “After his wealth had increased”

Similar evidence from, clefting, restrictions on subject resumptive pronouns, and adverbial placement are shown in (9a-f). We refer you to McCloskey for more details.

(9) *Clefting with the verb*

a) Salient unaccusatives

[Ag éirí ar an leanbh] a bhí *t*
 [rise [PROG] on the child] COMP was *t*
 “It was becoming more agitated that the child was”

b) Putative unaccusatives

*[Is mo shaibhreas ag méadú] a tá *t*
 [Cop my weath increase[PROG]] COMP is *t*
 “*It's increasing that my wealth is”

Highest Subject Restriction

c) Salient unaccusatives

an cnapán ar laghdaigh air
 the lump COMP lessened on-it
 “The lump that shrank”

d) Putative unaccusatives

*an cnapán ar laghdaigh sé
 the lump COMP lessened it
 “The lump that shrank”

VP-adjoined adverbs.

e) Salient unaccusatives

Mhéadaigh i gcónaí ar mo shaibhreas
 increased always on my wealth
 “My wealth always increased”

f) Putative unaccusatives

Mhéadaigh mo shaibhreas i gcónaí (tréis mo ghuí-se)
 increased my wealth always (after my prayer)
 “My wealth always increased (after my prayer)”

McCloskey's argument is straightforward. The single argument of an unaccusative verb moves out of the VP only when it cannot receive Case from a preposition. This movement for Case-checking is clearly still lower than the highest inflectional head in expanded Infl, as the verb still appears to the left of the subject in finite clauses. If, on the other hand, the single argument receives Case from a preposition, as in the case of the salient unaccusatives, the whole prepositional phrase remains within the VP in its base-generated position.

Notice that in the Salient Unaccusative case, we have sentences without any subject NP, as the PP is a complement. This means that it is not essential that an argument appear in “subject” position in Irish. This entails that either the feature associated with this position is optional, or that the position itself is only projected optionally, the sort of behavior which in a Minimalist system is associated with AgrPs. We will assume then, with McCloskey, that movement of Irish subjects out of the VP is motivated for Case reasons, and that such movement is to the specifier of an AgrSP projected within expanded Infl. This corresponds to the fact that Irish has movement of NPs for case reasons in passives, as you can see in the example in (10):

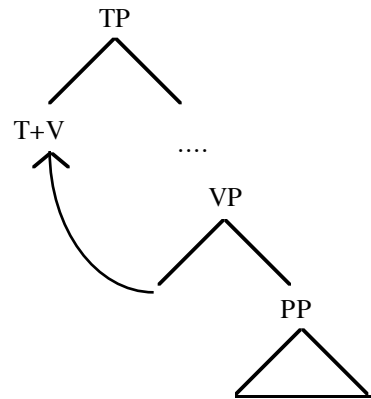
- (10) Bhí an obair críochnú
 was the work done
 “The work has been done/The work was done”

Let us now consider the identity of the highest functional projection which is overtly occupied by the finite verb in Irish. The obvious candidate is T, since the verb moves to this position in finite clauses but doesn't in non-

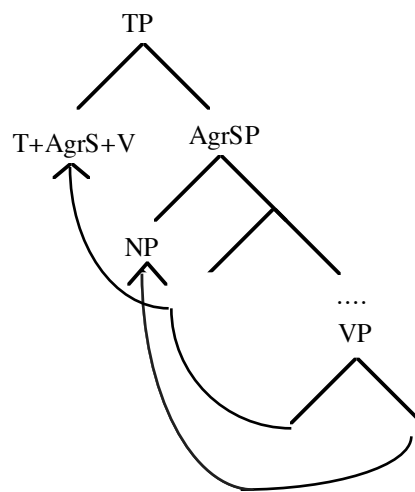
finite clauses. This entails that the strength of the V-feature of T correlates with finiteness. This gives us the clause structure in (1) for Irish, and the structures in (11) for the salient and putative unaccusatives.

(11)

a) Salient unaccusative



b) Putative unaccusative



The explanation for the lack of movement to the specifier of TP in Irish is evident: the EPP feature of T is weak in Irish, and movement to this position before Spell-out is hence ungrammatical. Further, if insertion of expletives, as commonly assumed, is to satisfy the EPP, McCloskey's claim that Irish entirely lacks expletives anywhere (as in (12)) is explained.

- (12) *Mhéadaigh sé i gcónaí ar mo shaibhreas
 increased it always on my wealth
 "it increased always, my wealth"
 (cf. Fr. *Il est arrivée trois hommes*).

For these reasons, we assume with McCloskey that Irish does not obey the EPP.

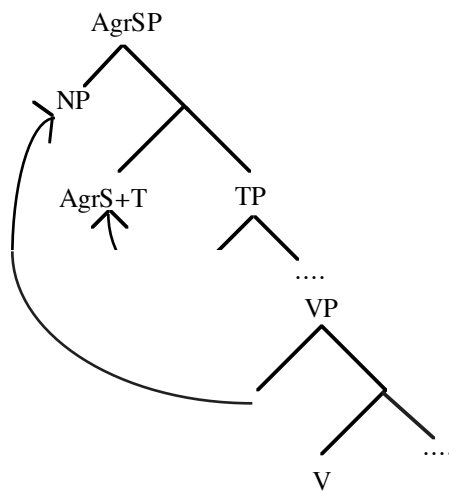
3. TP Above AgrSP, Case and the EPP

Let us consider, then, the effect that McCloskey's reversed clausal architecture has on the system of feature values developed in the Minimalist Program of

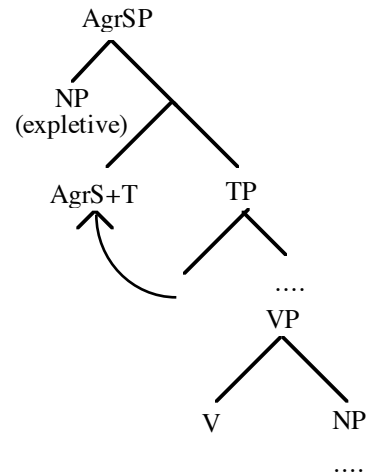
Chomsky (1995). The standard assumption about the order of the functional projections in the Minimalist Program is in fact the reverse of what is motivated by McCloskey's facts: AgrSP dominates TP (see also Ouhalla (1993)). The derivation of an English finite clause under Minimalist Program assumptions is illustrated in (13). The EPP feature of T on this system can be checked in one of two ways: either by an NP occupying the specifier of AgrSP to whose head T has adjoined (13a), or by an expletive chain formation with covert movement of the NP at LF (13b).

(13)

a) John walked



b) There was a chair (in the room)

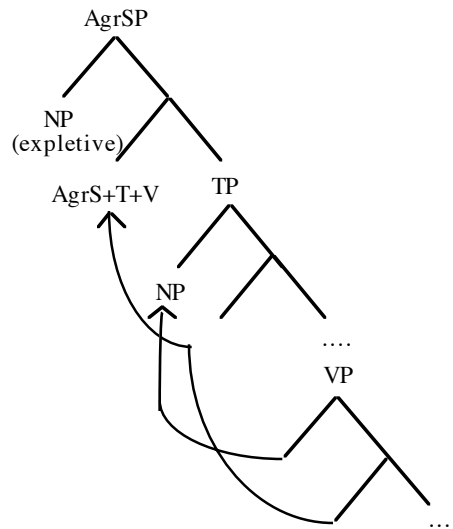


Another way of checking the EPP feature is available in the Minimalist Program in a language like Icelandic, as seen in the transitive expletive construction in (14) below. Unlike English, in Icelandic, subjects can appear overtly in Spec-TP, checking its EPP feature, as long as an expletive is inserted in initial position in Spec-AgrSP. This clausal analysis is proposed in Bobaljik and Jonas (1996).

(14) Icelandic Transitive Expletive Construction

- a) það lauk einhver verkefninu
 there finished someone the.assignment

b) Bobaljik and Jonas (1995)

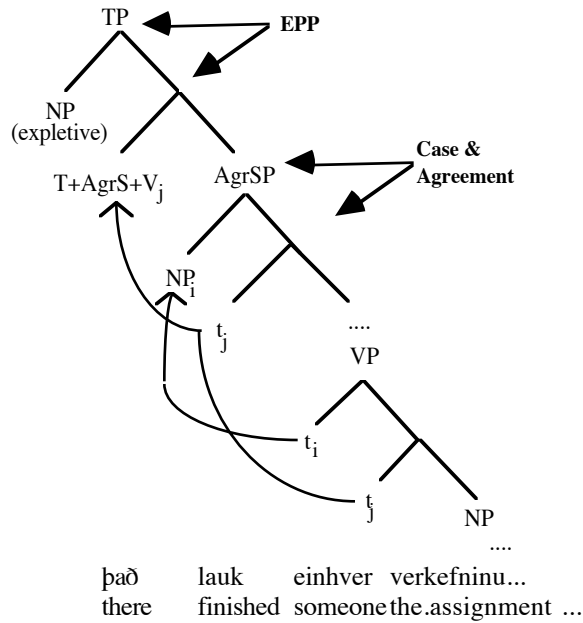


However, this analysis, while obtaining the correct word order facts, has an undesirable consequence: the expletive *það* is inserted in Spec-AgrS to check strong phi-features, not to satisfy the EPP, which is checked in Spec-TP by the indefinite subject. Note that this entails that the properties of the Icelandic expletive are strongly different from that of the English expletive *there*, which is inserted to satisfy the EPP. Given the similar nature of their discourse functions and the expletive-argument chains which they form, this difference between the two expletives seems unmotivated. Further, despite the fact that its phi-features are checked by an expletive, the finite verb in Icelandic TECs agrees with the indefinite subject in Spec-TP, just as the case with constructions using the English expletive *there*. For these reasons, we assume that the clausal architecture proposed by Bobaljik and Jonas is less than optimal.

The clausal architecture established for Irish by McCloskey, on the other hand, permits an elegant account of the agreement and expletive positioning in Icelandic TECs. The current analysis appears illustrated in the tree in (15). The subject appears in Spec-AgrS at Spell-Out rather than Spec-TP, and the expletive is inserted in Spec-TP to satisfy T's strong EPP feature (exactly as is assumed by Chomsky for English expletive *there*)¹.

¹As pointed out to us by John O'Neill, on this account there is no non-arbitrary

(15)



4. Tense Cannot Affect Case

There is one serious consequence of such a move for Chomsky's case-assignment system. Under the clausal architecture proposed here no dependence between the T head and the case-assigning Agr head can exist.

On the MP proposal, the nominative case feature is a property of the lexical T head. The AgrP which dominates TP serves merely as a facilitator, providing a locus for the establishment of the necessary spec-head relationship between the NP and the T head which is checking its nominative case.

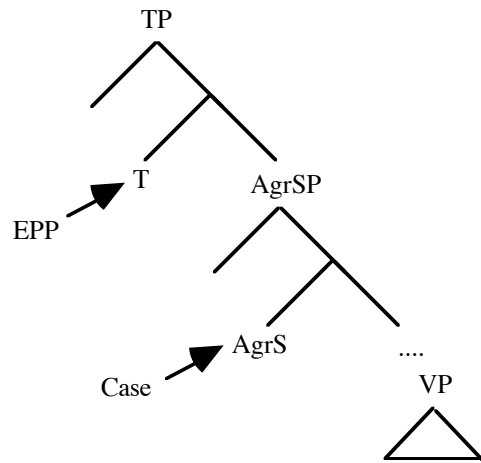
Consider the present proposal, with the architecture in (16).

way to rule out the equivalent of a Transitive Expletive construction in English, when an auxiliary is present:

i) *There had a doctor examined Billy.

At the moment, we leave an account of the existential/locative restriction on English expletive *there* for later explorations of the consequences of this structure.

(16)



T here dominates Agr. If it were necessary for the Agr head to combine with T to permit T to assign case, McCloskey's account of Irish would be impossible. Thus on this system, nominative Case is crucially not a feature of T. Rather, the Case feature of an NP must be satisfied purely by the content of the Agr head alone, without support from T one way or the other. T's only feature, then, is the EPP feature. The feature specifications for English and Irish in the current system are listed in (17).

(17)

	English	Irish
D-feature of T	Strong	Weak
D-feature of Agr	Weak	Strong

5. The Distribution of PRO: the EPP and Irish Infinitivals

So far we have reached the conclusion that T is not a case-assigner. Not only that, T cannot affect the case-assignment possibilities of the Agr head it dominates. Hence, we cannot assume that finiteness will affect case-assignment possibilities at all. In this system, then, in infinitival clauses the Agr head will be able to assign case exactly as usual.

What this means is that no account of the distribution of subjects in infinitival clauses can depend on Case. For instance, we cannot accept the Minimalist Program's assertion that the appearance of PRO is conditioned by

the assignment of a special non-finite “null” case. Nor is any other Case-based account of the distribution of PRO tenable if the clausal architecture we argue for here is correct. How, then, can we account for the appearance of PRO in non-finite clauses?

The feature which could presumably be affected by the finiteness of T is precisely the EPP feature, since it's the only D-feature T has. We will claim that there are two possible variants of the strong EPP feature, which we will call for the moment [+phonological] (in finite clauses) and [-phonological] (in non-finite clauses).² These variants can be seen in (18):

(18)

Variants of the strong EPP feature	
Finite clauses	[+Phon]
Non-Finite clauses	[-Phon]

[+] and [-] phon are intended to indicate a restriction on whether or not the EPP-satisfying NP can be phonologically spelled out. In finite clauses, the EPP-satisfying NP can be spelled out, while in non-finite clauses, it cannot, forcing the appearance of PRO. Note that this variation can only affect a *strong* EPP feature, as only NPs satisfying the EPP before Spell-Out will be phonologically realized in that position.

This set of assumptions makes an interesting prediction about Irish non-finite clauses. If, as we have argued, the EPP is weak in Irish, the [+/-phonological] variation cannot be relevant in that language. In Irish, then, there is nothing to force the appearance of the phonologically null PRO in non-finite clauses. Further, as outlined above, nothing prevents the Agr head from checking the case feature of a subject NP in a non-finite clause.

Thus, in Irish, overt subjects should be possible even in non-ECM infinitivals. This prediction is borne out. In (19a) we see a non-ECM verb taking an overt subject in its complement. Example (19b) shows a root

²This feature is similar to a requirement proposed for elements appearing in functional projections in Mohawk by Baker (1996); these elements are restricted to *pro*, *wh*-traces or parasitic gaps; that is, essentially those which are not overtly realized. Evidence that this is perhaps relevant for the English case comes from the paradigm of *wager*-class verbs which take an infinitival complement. Such verbs accept a *wh*-trace in the subject position of their complement, where an overt subject is unacceptable:

- i) *John wagered the grey horse to win
- ii) Which horse did John wager to win?

Thanks to Norvin Richards for pointing these cases out to us.

infinitival with an overt subject (Guilfoyle 1993). This is true of any embedded or root infinitival in the language.

- (19) a) Ní thaitheann liom [mé an abairt a^L scríobh]
 Neg please with.2 me the sentence tran write
 “you are not pleased (for) me to write the sentence”
 b) Tú a bheith ‘do luí...
 you prt be.inf in.2 lying
 “You to be lying there...”

To repeat, on this system, a language without EPP effects is predicted to permit overt subjects in non-finite clauses, since the [+/-phonological] feature is irrelevant when the EPP is weak. The possibility of overt subjects in infinitival clauses in Irish thus follows from the fact that Irish lacks the EPP.

6. PRO with Case: Icelandic (Sigurðson 1991)

Independent evidence for the assertion of our analysis that case is available in infinitivals comes from Icelandic (a strong EPP-feature language, as shown above) where it is clear that PRO receives morphological case (Sigurðson 1991). Recall that Icelandic nominals may bear inherent, or “quirky” case assigned to them by a particular verb. Floated quantifiers and verbal participles always show case agreement with the NP with which they are affiliated.

Now, consider the examples in (20). Case agreement with floated quantifiers or participles in an infinitive clause is always with the PRO subject. In both (20a and b), you will see that the quantifier bears the quirky case that the subject argument would bear if it were overt, rather than, for instance, the case of PRO's controller.

- (20) a) Strákarnir vonast til [að **PRO** leiðast ekki **öllum** í skóla]
 the boys-N hope for [to **PRO-D** bore not **all-D**plm in school]
 “All the boys hope to not be bored in school.”
 b) Strákanum leiddist [að **PRO** verða **kosnir** í stjórnina]
 The boys-D bored-dflt [to **PRO-N** be **elected-N**plm to the board].
 “The boys were annoyed at being elected to the board.”
 (Sigurðson 1991)

This clearly suggests that PRO bears morphological case, and mitigates again against a case-based treatment of the distribution of PRO³.

7. PRO in Finite Clauses (Stenson 1989)

The system so far outlined here, as the reader may have noticed, offers no way to rule out *finite* clauses in Irish containing a PRO subject. That is, if case is available in finite clauses, which it clearly is, and Irish lacks the [\pm phon] feature, then PRO should appear freely in finite clauses in Irish. In fact, there is a plausible candidate construction which seems to meet just these requirements: that of the “impersonal passive”, extensively discussed in Stenson (1989). In this construction, illustrated in (21), no overt subject appears, and the interpretation of the null subject is roughly that of arbitrary “they.”

- (21) a. Buaileadh PRO Ciarraí sa gcluife deireanach
 beat.Pst.Imp PRO Kerry in the game last
 “*They* beat Kerry in the last game.”/ “Kerry was beaten...”
- b. Siúilfear PRO abhaile
 walk.Fut.Imp PRO homeward
 “One will walk home.”
- c. Deirtear PRO go bhfuil droch-aimsir in Éirinn.
 say.Prs.Imp PRO that be.Prs bad weather in Ireland.
 “They say that Ireland has bad weather.”

³Note that throughout we have not discussed the structure of the functional complex which we assume exists between the VP and the AgrSP. In Carnie (1995) and Harley (1995) a Chomsky (1995)-style split-VP is adopted, which we continue to assume although we have not indicated its presence here as it is not relevant to the discussion of the topmost two functional projections in Infl. However, it must be noted that in ECM and Raising infinitival complements in strong-EPP languages like English and Icelandic, the upper TP head must not be present or else we will force the appearance of PRO in the infinitival, incorrectly. Hence we assume an impoverished complement clause is selected for by ECM and raising verbs, containing no CP nor TP, nor AgrSP. Raising and ECM verbs take a vP infinitival complement. This assumption is borne out by facts from Icelandic which demonstrate that verb-raising of infinitivals takes place in control clauses but not in ECM or raising clauses; if it is a strong V-feature on T which forces the raising of an Icelandic verb, the absence of T will account for the lack of raising in Raising and ECM infinitival complements. For discussion see Harley (1995).

Stenson argues that the only reasonable phonologically null candidate for the subject of these constructions is in fact PRO. Further investigation of this construction is necessary before a firm conclusion is drawn; however, the preliminary result is promising for the proposed line of research.

8. Summary and Conclusion

We have sketched a clausal architecture which follows directly from the conclusions reached in McCloskey (1996), and demonstrated that it has a number of desirable consequences. First, it unifies the treatment of expletives across English and Icelandic, and explains the observed lack of expletives in Irish. Secondly, it argues in favor of an EPP-based approach to the distribution of PRO, and makes the correct prediction that overt subjects can always be licensed in infinitivals in Irish. Thirdly, it provides a straightforward account of the case agreement with PRO in control clauses in Icelandic.

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