

Abstract

The distribution of PRO has been understood as constrained by the Case system since the work of Chomsky and Lasnik 1993. Here, evidence is presented in favor of discarding this approach and treating the distribution of PRO in finite and non-finite clauses as constrained by a parametrically varying Extended Projection Principle. McCloskey 1996 argues convincingly that Irish is a language which shows no EPP effects. If PRO's distribution is dependent on the EPP, the free distribution of PRO in Irish can be understood as another aspect of Irish syntax which is connected to the absence of EPP effects in that language. In languages that show EPP effects like English and Icelandic, the finite/non-finite distribution of PRO is constrained, not by case, but by the EPP: evidence is presented that PRO receives case in Icelandic. A theory of Control along the lines of [Larson, 1988 #652], in combination with the Reflexivity of [Reinhart, 1993 #51] is adduced to explain PRO's restriction to subject position. An EPP-controlled PRO has positive consequences for the treatment of English gerunds and Icelandic Transitive Expletive Constructions.

1. Introduction

In recent work in the Minimalist program (Chomsky 1995 and later), the former structural distinction between AgrP and TP has disappeared. TP directly checks two D-features: the nominative Case feature of the subject DP and its own Extended Projection Principle feature. Formerly, although TP hosted both these features, mediation by an AgrP was necessary for the Case feature to be checked; now, however, AgrP has been eliminated from the clausal architecture.

A strong empirical case against the elimination of AgrP is made by McCloskey 1996, who demonstrates the existence of purely Case-motivated movement of subjects in Irish, where EPP-feature checking must independently be ruled out. In this paper, taking McCloskey's analysis of Irish as a starting point, we relate a peculiar property of PRO in Irish to the absence of the EPP. Drawing on the analysis of Stenson 1989, we show that the distribution of PRO in subject position is free in Irish, rather than correlated with finiteness as in languages like English and Icelandic.

We are thus led to a novel approach to the licensing of PRO in which PRO is dependent upon the EPP feature, rather than case. In Irish, which has no EPP, we see no finiteness restrictions on the distribution of PRO. On the other hand, in languages which exhibit EPP effects like English and Icelandic, we propose that PRO's distribution is constrained by the strong EPP feature of [-finite] Tense, which requires a null subject. On this approach, PRO receives case, like any other DP. The morphological reality of case on PRO has been demonstrated with case-agreement effects in

Icelandic by Sigurðsson 1991. We depart from the Null Case-based treatments of PRO most recently instantiated in Chomsky and Lasnik 1993, Chomsky 1995 and Martin 1996.

The paper is organized as follows. In Section 2, we present McCloskey's arguments for the absence of the EPP in Irish, and adopt the clause structure he proposes. In section 3 we outline another aspect of Irish syntax, which we will argue is dependent upon the generalization from section 2: the free distribution of PRO and overt DPs in both finite and non-finite clauses. Here we follow the work of Stenson 1989 closely. In section 4 we present evidence against a case-based theory of PRO, arguing in favor of an EPP-based treatment, drawing on evidence from Sigurðsson 1991. In section 5 the EPP-based theory of PRO is fully spelled out: it essentially involves adapting the null Case feature account to the EPP feature. We also address other theoretical consequences of a non-case-based theory of PRO's distribution, including the question of ECM and Raising infinitives and PRO in object position. In particular, removing null Case from the scenario means that the usual restriction of PRO to subject position must be accomplished by other means; we tentatively propose that this restriction is produced by the interaction of Binding Theory with a theory of Control along the lines of [Larson, 1988 #652]. In section 6 we point out two favorable consequences of the analysis for the treatment of subjects of English gerunds and the nominative object in Icelandic dative-nominative constructions.

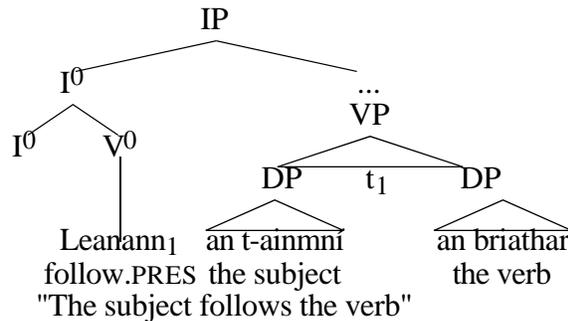
2. McCloskey 1996: The clause structure of Irish

In this section, we review McCloskey's account of the clause structure of Irish, and recapitulate his key argument that Irish is not subject to the EPP.

The basic word order of Irish is VSO. See Carnie 1995 for a useful summary of the long history of debate concerning the derivation of this word order. With respect to the position of the verb, we simply accept the conclusions of McCloskey 1996 and Carnie 1995. There, it is shown that the verb in Irish raises out of the VP via head-to-head movement to adjoin to some projection in the Infl complex, while the subject and object remain in positions lower in the clause. This movement occurs only in finite clauses, and is therefore understood as triggered by [+finite] Tense,

like verb raising in, e.g., French. Crucially, McCloskey 1996 demonstrates that the verb does not raise all the way to C^0 , but remains in Infl. This gives us an initial picture of the Irish clause like (1) below:

(1)



2.1. *The position of the subject*

The clausal architecture of GB theory (and post-1995 Minimalist theory) admits no functional projections between IP (TP) or VP (vP). If the finite verb is not in C^0 , then it must be in I^0 , and if the subject is lower than I^0 , then it can only be in Spec-VP. However, in the expanded Infl of Pollock 1989 and Chomsky 1991, 1993 and much other work, it is conceivable that the verb might appear in any of two to four head positions between V and C, with an equal number of possible locations for the subject in the corresponding specifiers. McCloskey 1996 argues that there must be at least two functional projections between V and C, the uppermost of which hosts the verb, and the lower of which hosts the subject DP, which has moved out of the VP as well. We will see that the trigger for movement of the subject out of the VP is its need to check Case.

We will review two arguments from McCloskey 1996 that show that the subject DP is not in Spec-VP, but rather in the specifier of some higher projection outside the VP and below the position of the verb. First, McCloskey notes that a small class of temporal adverbs, of the type which Pollock 1989 used as markers of the left edge of the VP in his treatment of French, appear between the subject and the object in Irish:

- (2) Nior shaothraigh Eoghan ariamh pingin
 NEG earned Owen ever penny
 "Owen never earned a penny".

Evidently, if the adverb *ariamh*, 'ever', is adjoined to VP, the subject *Eoghan* must appear in a position higher than Spec-VP¹.

A second piece of evidence comes from the movement of thematic objects when a verb is passivized in Irish, also treated by Carnie 1995. The objects appear to the left of the passive participle, as can be seen in the example in (3) below. Assuming base-generated SVO order, this demonstrates that the derived subject of a passive construction has moved from its base position to the right of the verb into a surface position to the left of the verb.²

- (3) Beidh an tráchtas críochnaithe agam amárach
 Be.FUT the thesis finished at me tomorrow
 "The thesis will be finished by me tomorrow/I'll have finished the thesis tomorrow"

The conclusion that the subject has moved is further strengthened when we observe that the derived subject of passives moves to the left of the temporal adverbials described above, as in (4) below.

(Objects of transitive clauses never appear to the left of these adverbs.)

- (4) Tá abairtí móra go minic scríofa agam
 Be.pres sentences big-pl adv often written at-me
 "I have often written big sentences/Big sentences are often written by me"

We may safely assume that the derived subject of a passive clause, still to the left of the verb, appears in a non-theta position. These derived subjects then, must be moving leftwards for some functional reason. If derived subjects move for some functional reason to a position higher than the VP, then the default assumption is that non-derived subjects also move overtly to this

¹ Note that on a restrictive theory of adverbial adjunction, according to which adverbs must adjoin to semantically contentful categories (cf. e.g. [Koizumi, 1993 #507], but pace [Ernst, 1998 #444]), this is evidence in favor of a Split-VP hypothesis, where intervening between AgrS and AgrO is a contentful category, e.g. vP or AspP. In a framework like that of [Chomsky, 1992 #551], or alternatively [McCloskey, forthcoming #1746], AgrOP is the only potential XP to which the adverb could adjoin, and AgrOP arguably has not got the semantic content that would make it an appropriate adjunction site for such an adverb. vP or AspP, on the other hand, would be likely candidates.

²The "passive" in Irish, though formally identical to a standard English passive, for example, is not used to express the same rhetorical or discourse functions that the English passive is. Rather, it expresses perfective aspect, and is hence termed the "perfective passive".

- (6) a. *Salient unaccusatives*
 Neartaigh ar a ghlór
 strengthen.PAST on his voice
 "His voice strengthened."
- b. *Putative unaccusatives*
 Neartaigh a ghlór
 strengthen.PAST his voice
 "His voice strengthened."

Prima facie, the VS word order does not indicate any obvious structural difference, other than the presence of the preposition, between these two sentences. McCloskey provides several tests, however, that demonstrate that the PP argument in the case of the salient unaccusatives is VP-internal, while the DP argument in the putative unaccusative case is VP-external. Here are two of McCloskey's four tests.

The first we've seen above: with respect to VP-adjoined adverbs, the DP subject of the putative unaccusatives appears to the left of the adverb, but the PP subject of the putative unaccusative appears to the right of the adverb, as seen in (7):

- (7) a. *Salient unaccusatives*
 Mhéadaigh i gcónaí ar mo shaibhreas (tréis mo ghuí-se)
 increase.PAST always on my wealth (after my prayer)
 "My wealth always increased after my prayer."
- b. *Putative unaccusatives*
 Mhéadaigh mo shaibhreas i gcónaí (tréis mo ghuí-se)
 increase.PAST my wealth always (after my prayer)
 "My wealth always increased after my prayer."

The second test concerns the behavior of the single argument of the unaccusative in cleft constructions. The PP argument of salient unaccusatives may cleft together with a verbal participle as a unit, demonstrating that it forms a constituent with the participle, while the DP argument of putative unaccusatives may not cleft with a verbal participle (8):

- (8) a. *Salient unaccusatives*
 [Ag éiríar an leanbh]₁ a bhí *t*₁
 [rise.PROG on the child]₁ COMP be.PAST *t*₁
 "It was becoming more agitated that the child was"
- b. *Putative unaccusatives*

³We here abstract away from the question of whether the object has also moved. For discussion, see Bobaljik and Carnie 1996, Carnie 1995, and Carnie and Harley 1999.

*[Is mo shaibhreas ag méadú]₁ a tá t₁
 [COP my wealth increase.PROG]₁ COMP be.PRES t₁
 *"It's increasing that my wealth is."

This pattern is naturally explained if the DP argument has moved outside the VP, destroying the base-generated constituent, while the PP argument remains *in situ*, as a complement to the V.

The answer to the question of what is triggering movement outside the VP then becomes clear: the difference between the two types of unaccusatives is simply that one marks its internal argument with a preposition while the other does not. The relevant distinction then is that prepositions assign case to their complements. The bare DP argument of the putative unaccusatives is therefore moving to Spec-FP2 to check its unchecked Case feature, and by extension, all DP subjects in Irish, which all appear in SpecFP2, move to this position to check Case. Note that this accords well with a standard analysis of movement in the passive construction, illustrated above in (3) and (4). (The reader is referred to McCloskey 1996 for the other arguments).

Given that movement of the verb to adjoin to F1 is triggered by finiteness, as noted above, a natural interpretation of the above facts is that FP1 corresponds to T(ense)P, while FP2 is AgrSP. AgrSP checks case, and TP checks the tense features of the verb.

2.3. Irish without the EPP

There are two things worth noting about the clausal architecture McCloskey has arrived at. The first is that since these data the uppermost functional projection is Tense, which dominates the Agr functional projection, he has motivated inverting the usual Chomskyan assumptions about the relative order of these phrases, in Minimalist architectures which exploit AgrPs.

The second is that, as McCloskey notes, this architecture entails some unusual typological conclusions about Irish. In particular, the existence of the class of salient unaccusatives, whose sole argument is a PP which remains inside the VP at Spell-Out, lead to the conclusion that there is no

"subject" requirement on an Irish finite clause, that is, there is no EPP in Irish. In terms of checking theory, Tense does not bear an EPP feature in Irish⁴.

This is a surprising result, since the EPP is widely held to be a cross-linguistic universal, uniformly instantiated across languages. In support of this conclusion, McCloskey points to the general lack of expletive constructions in Irish. There is no analogue to the expletive-DP associate construction instantiated in English by sentences like *There is a man in the room* or in French by *Il est arrivé trois hommes*, 'There arrived three men'.⁵ If the insertion of an expletive in such a construction is motivated by the need to satisfy the EPP, a language without an EPP should not exhibit any evidence of such a construction. This seems to be the case for Irish.

2.4. Not even a weak EPP: [Alexiadou, 1998 #1151]

Note that it is important that the EPP be completely absent in Irish, rather than simply 'weak'. In the unaccusatives with PP complements, no DP is available to check even a weak EPP feature at LF. No treatment where the EPP is present but checked only at LF will be able to account for the truly subjectless constructions that McCloskey presents.

At this point it is worth considering whether the data we have so far examined is compatible with the treatment of Alexiadou and Aganostopoulou 1998. They propose that the EPP *is* active in Irish, but rather than being checked by A-movement of DP subjects, it is checked by V-raising with pronominal-type agreement. The default agreement on subjectless unaccusatives with PP complements, then, must be able to check the D-feature of AgrS that they claim is the exponent of the EPP in languages like Irish. That much is relatively unproblematic.

However, in their proposal as well as the present one, the EPP must crucially be active in non-finite as well as finite clauses. For A&A's typology, it is important that verb-raising of the infinitive verb is possible (p.523-4) in *pro*-drop/VSO order languages, to check the EPP feature in non-finite clauses. While this approach may be viable for Greek/Spanish/Italian type languages (we

4

⁵Irish *does* contain constructions where an *it*-expletive is associated with a CP clause, as in *It seemed that Sue had left*, but there are independent reasons to doubt that these are true instances of EPP-satisfying, Last Resort expletive insertion even in English. See McCloskey 1991 for discussion.

return to an adaptation of A&A's account for *pro*-drop languages below), in Irish non-finite verbs do not raise (cf., e.g. example (14)b). Even in a verb-raising account of the EPP, then, it is at least the case that non-finite clauses do not satisfy the EPP in Irish, and we will conclude with McCloskey that the EPP is simply absent in that language.

3. Subjects in Irish: PRO vs. overt DPs

Following McCloskey, we have arrived at a structure for Irish clauses in which TP dominates AgrSP, unlike the earlier Minimalist architecture of Chomsky 1992-1995. This change in the dominance relation between AgrSP and TP means that we cannot simply advocate wholesale return to the earlier AgrP system.

Before considering in detail the theoretical consequences of this clause structure, however, let us first examine another unusual property of Irish clauses which we will ultimately argue derives from their EPP-free nature. This property is the free distribution of PRO and overt subject DPs in both finite and non-finite clauses. The familiar correlation between PRO subjects and non-finite clauses and overt subjects in finite clauses appears not to hold in Irish.

3.1. Overt subjects in non-finite clauses

First, consider the question of overt subjects in non-finite clauses. As shown by [Guilfoyle, 1993 #1745; McCloskey, 1985 #1743; McCloskey, 1988 #1744], whether an infinitive clause appears as a complement to a non-ECM verb or as a subject infinitival, an overt DP subject is possible:

- (9) a. *Complement infinitive clause (non-ECM)*
 Ní thaithníonn leat[mé an abairt a^L scríobh]
 NEG please with.2SG 1SG the sentence TRAN write.INF
 "You are not pleased (for) me to write the sentence."
 b. Níor mhaith liom [é a theacht abhaile]
 NEG please to.1SG 3SG come.INF home
 "I wouldn't like (for) him to come home."

- c. *Subject infinitival*
 Tú a bheith do luí
 2SG PRT be.INF in.2SG lying
 "You to be lying there ..."
 Guilfoyle 1993

In the words of McCloskey and Sells, "non-finite clauses show lexical subjects in every syntactic environment, and there is no correlation at all between the presence of an external governor and the appearance of a lexical subject."

These facts are unexpected given the standard account of PRO's distribution, according to which infinitival Tense can only assign null Case and hence forces the subject argument to be PRO, the only DP which can bear/check null Case⁶. In Irish, infinitival Tense obviously does not force the subject argument to be PRO.

3.2. *PRO subjects in finite clauses*

The converse situation, although considerably more difficult to demonstrate, also holds in Irish: a PRO DP may appear as the sole subject of a non-finite clause. Stenson 1989⁷ provides extensive argumentation that this is the correct analysis of the forms which traditional Irish grammars refer to as the Autonomous Impersonal construction. The null subject in these constructions has the same range of interpretations which non-controlled PRO usually does: impersonal "they", arbitrary "one".

Some examples may be seen in (10) below. In the Autonomous Impersonal construction, the verb takes a special conjugation which is glossed as IMP, different from the forms for any other person. The null subject is glossed as PRO, in keeping with Stenson's proposal.

(10) *Autonomous Impersonals*

- a. Buaileadh Ciarraísa gcluife deireanach
 beat.PST.IMP PRO Kerry in the game last.
 "(They) beat Kerry in the last game"/"Kerry was beaten..."

⁶ For discussion of infinitivals in Breton and Welsh, which exhibit both significant similarities to and differences from the Irish case, see Tallerman 1997; Tallerman 1998. In particular, in Welsh, Tallerman proposes a treatment that may very well be compatible with that presented here: Welsh also exhibits an identical distribution for PRO and overt subjects in non-finite clauses. Tallerman proposes that all subjects in Welsh clauses, finite or non-finite, receive case clause-internally, and relates the case-assignment properties of the Welsh clause to Agreement.

⁷ Thanks to Seth Kulick for pointing out the relevance of this article.

- b. Siúilfear abhaile
walk.FUT.IMP PRO homeward
"(One) will walk home"
- c. Deirtear go bhfuil droch-aimsir in Éirinn
say.PRES.IMP PRO that be.PRES bad weather in Ireland
"(They) say that Ireland has bad weather."

Stenson makes it clear that the subject argument must be present in the autonomous impersonal construction; that is, the external argument is not "suppressed" or "absorbed" as in a passive construction. This is clear for several reasons, three of which we will present here. First, the impersonal forms of causative/inchoative alternating verbs necessarily imply the causative construction when an overt argument appears, and may not receive the agentless inchoative interpretation — that is, they behave as if they had two arguments, not one:

- (11) a. Bhris an fhuinneog
break.PAST the window.
"The window broke."
- b. Briseadh an fhuinneog
break.PAST.IMP PRO the window
"They broke the window."

Second, verbs whose subject does not admit of a possible arbitrary interpretation are ungrammatical with Impersonal morphology, such as weather verbs:

- (12) a. Chuir sé sneachta
put.PAST it snow.
"It snowed"
- b. *Cuireadh sneachta
put.PAST.IMP PRO snow
"(They/One) snowed."

And third, impersonal morphology may appear on passives, with an arbitrary interpretation for the null derived subject. It is clear here that there must be a subject DP position for the thematic object to move to, and a base-generated DP object argument to do the moving:

- (13) Táthar buailte againn.
be.PRES.IMP PRO beaten by.1PL
"(They) have been beaten by us."

For other arguments that the subject argument is syntactically present in this construction, see Stenson 1989.

The next obvious question is whether or not this null subject could be treated as a 3pl *pro* argument, rather than PRO. Stenson shows that there are numerous differences between autonomous impersonal constructions and *pro* constructions. For our present purposes, it suffices to note that the impersonal conjugation differs from the 3pl agreement form used with *pro* in Irish, or indeed any other personal verbal agreement. Again, we refer you to Stenson 1989 for a full exposition, adopting her conclusion that the subject of these finite clauses is PRO, not *pro*.

3.3. *Case in non-finite clauses in Irish*

The data in this section present an obvious challenge to the standard treatments of PRO and tense in Irish. It further raises a question about nominative case assignment in finite clauses in Irish: if there are PRO subjects in finite clauses, as argued above, what becomes of the nominative case which is normally assigned by a finite verb?

To compound the question for case assignment raised by these data, let us return to McCloskey's argument about the movement of overt DP arguments outside the VP. Recall that in the minimal pair provided by the salient and putative unaccusatives, the crucial difference between the two is that one marks its internal argument with a preposition, while the other takes a bare DP as its internal argument. Movement is evident in the latter case, but not the former, which leads McCloskey to conclude that movement of subject arguments outside the VP in Irish is triggered by the Case requirements of the subject.

The reader may have noticed above that in the examples of overt DP subjects with non-finite verb forms, the subject preceded the verb, rather than following it. We have attributed this to the failure of the non-finite verb to raise to T, which was cited above as a central reason for assuming that Tense is the upper FP in the Infl complex. In order to detect whether or not the subject remains in its base-generated position in the specifier of VP, we need to examine McCloskey's paradigm case of unaccusatives.

Unaccusatives take one internal argument, which is base-generated as a complement to the verb, rather than in its specifier position. Hence if the single argument of an unaccusative remains in its base-generated position in an infinitive, it should appear to the right of the infinitive verb. McCloskey shows that this is the case with the salient unaccusatives, whose single argument is case-marked with a preposition (14)a. Surprisingly, however, the single overt argument of a putative unaccusative appears to the *left* of the infinitive verb (14)b.

- (14) a. *Salient unaccusative*
 I ndiaíð méadú ar mo shaibhreas...
 after increase.INF on my weath...
 "After my wealth increased..."
 (Lit: "After to increase on my wealth...")
- b. *Putative unaccusative*
 I ndiaíð a shaibhreas méadú
 after his wealth increase.INF
 "After his weath had increased"
 (Lit: "After his wealth to increase...")

Accepting the logic of McCloskey's argument, then, the overt DP subject of an infinitive verb in Irish moves outside the VP to the specifier of AgrSP to check nominative case, exactly as in finite clauses. It appears, therefore, as if case assignment to both PRO and overt DP subjects in Irish is generally possible, no matter the tense of the clause.

A reviewer points out that our claim that the subject of the infinitival is receiving *nominative* case is questionable, given the morphological form of third person pronouns in this construction.

An example was seen in example (9)b) above, repeated here as (15):

- (15) Níor mhaith liom [é a theacht abhaile]
 NEG please to.1SG 3SG come.INF home
 "I wouldn't like (for) him to come home."

Morphological case in Irish is apparently marked overtly only on 3rd person pronouns, and the so-called 'nominative' pronouns have the same shape as the 'accusative' pronouns preceded by *s-*. The two different forms are illustrated in (16) below; the subject of the embedded clause in (15) is the accusative 3sgm form in the second column:

(16)		NOM pronouns			ACC pronouns	
3sgm	sé	'he'		é	'him'	
3sgf	sí	'she'		í	'her'	
3pl	siad	'they'		iad	'them'	

Traditional grammars have termed the accusative form the "default" case, as it shows up in a number of environments where strictly objective accusative case would not be expected. Of particular relevance to the present situation, it shows up in the few environments where nominals which are unquestionably subjects (and hence receiving nominative case) become separated from the finite verb for one reason or another. The first set of pronouns, with the *s-* prefix, then, are not exhibiting morphological nominative, but a morphophonological effect of right-cliticization to the finite verb.

For example, Carnie 1995 p. 161, shows that when a full NP is coordinated with the pronoun (which in this construction must take the emphatic suffix *-isean*), separating it from the finite verb, the *s-* form does not occur:

- (17) Chuir Troí agus **e**-isean an ríomhaire sa réaltlong
 Put.PAST Troi and **him**-EMPH the computer in.the starship
 "He and Troi put the computer in the starship."

Despite the fact that the whole NP is in subject position and bears nominative case, the pronoun surfaces without the *s-* prefix. (An uncoordinated emphatic pronoun in this position would have the 'nominative' form *se-isean*.)

More support for the position that the so-called nominative form is a morphophonological, not a syntactic, phenomenon comes from McCloskey (p.c.), who points out that in subject Heavy NP-shift environments, where the subject head of the shifted NP is a pronoun, the pronoun surfaces in the shifted position as 'accusative', while it would have been 'nominative' in its unshifted position:

- (18) Tháinig t_i isteach ina dhiaidh sin [**iad** sin a bhí le daoradh chun báis] $_i$
 Came t_i in after-that [**them** DEM C were-to-be-condemned-to death] $_i$
 "Those who were to be condemned to death came in after that."

Since *s-* only appears when the pronoun is immediately right-adjacent to a finite verb, and does not appear otherwise even if the pronoun is known to bear syntactic nominative case, we can assume that it is not an indicator of nominative case marking, but of right-cliticization to the finite

verb (for further discussion of the clitic status of *s*- pronouns in Irish, see [Chung, 1987 #1747], §7.3). In the subject position of non-finite clauses, the third-person pronoun appears without an *s*-. According to the generalization we have just established, this is exactly the form we would expect, since the pronoun is not cliticized to a finite verb. There is no reason, then to assume that it is receiving anything other than the case which is usually assigned to this position, i.e. nominative. (It is clearly still in the same position as a subject in a finite clause; for further arguments, see [McCloskey, 1996 #31; McCloskey, forthcoming #1746]. Also cf. the discussion in section 4.1 below re nominative in non-finite clauses in Icelandic.)

4. Null Case vs. an EPP-based treatment of PRO

Given the data of section 3, there are two possible directions an analysis of Irish subject case might take. The first is simply to stipulate that in Irish, both null case (licensing PRO) and nominative case (licensing overt DPs) are available from AgrSP optionally in both finite and non-finite clauses. This type of approach can achieve descriptive adequacy, but fails to provide any real explanation of *why* Irish does not exhibit the correlation between finiteness and PRO familiar from so many other languages. This is essentially the approach taken by [McCloskey, 1988 #1744], updated with the theory of null Case.

Rather, we will argue that the data in section 3 is a natural consequence of the EPP generalization presented in section 2: the fact that Irish lacks the EPP is the reason that it exhibits no restrictions on the distribution of PRO and overt subjects. In example (14) above, we saw that subjects move to check nominative case in Irish in non-finite clauses. If, rather than being an Irish-specific fact, this is true cross-linguistically, we will need to search elsewhere for the factor which conditions the distribution of PRO in finite and non-finite clauses.

For the moment, let us hypothesize that nominative case is available in non-finite clauses in languages like English and Icelandic, as well as Irish. What, then, forces the appearance of PRO in infinitives in such language? The only other feature available in the checking domain of the subject

is the Extended Projection Principle feature of TP. We will therefore propose that it is the EPP which conditions the appearance of PRO.

If this is the case, then we begin to see a potential connection between McCloskey's conclusion that Irish shows no evidence of EPP effects and the apparently free distribution of PRO in Irish. If restrictions upon the appearance of PRO have their source in a strong EPP feature, rather than in the case system, then a language with no EPP feature should not be expected to exhibit any such restrictions.

In the next subsection, we present arguments from Sigurðsson 1991 for the above hypothesis that nominative case is universally available in non-finite clauses in Icelandic, a language which behaves the same as English both with respect to the EPP and the distribution of PRO. Sigurðsson 1991 clearly demonstrates that PRO subjects bear regular morphological case. Hence, the Chomsky-Lasnik account, which relies on a special "null" case for PRO in infinitives is *prima facie* implausible.

In section 4.2, we present another argument from Icelandic, this time demonstrating that McCloskey's clausal architecture for Irish results in significant theoretical benefits if applied to Icelandic as well. A reconsideration of the much-discussed Transitive Expletive Construction provides evidence that the proposed structure for Infl holds not only in Irish but also in Icelandic. We demonstrate that associating the EPP with a higher TP and nominative Case with a lower AgrSP results in a more satisfactory account of these cases. Given this conclusion, we are then prepared to move on to propose our revised theory of PRO in section 5.

4.1. *PRO with case: evidence from Icelandic*

Independent evidence that PRO's distribution is not connected to the case-marking system comes from Icelandic. Sigurðsson 1991 provides clear evidence that PRO receives morphological case, including nominative case, in infinitives.

As is well known, Icelandic DPs may bear inherent, or "quirky" case that is assigned to them by a particular verb. When not assigned inherent case, however, they are overtly marked for structural nominative or accusative case, in the same pattern as English DPs. This nominative marking is treated as the overt reflex of the abstract nominative case which assigned to all overt subject DPs by finite tense.

The crucial test which Siggurðsson uses to demonstrate that PRO bears case is the fact that in Icelandic, floated quantifiers and verbal participles show case agreement with the DP with which they are associated. When that argument is PRO, the quantifier or participle shows the same case agreement that would show up *if the subject were overt*. Consider the example in (19), from Siggurðsson:

(19) *PRO bears case independently of its controller*

Strákanum leiddist [að PRO verða kosnir í stjórnina]
 the.boys.DAT bored [to PRO.NOM be.INF elected.NOM to the.board]
 "The boys were annoyed at being elected to the board."

Here, although the controlling matrix subject bears quirky dative case, the PRO subject of the infinitive complement triggers nominative agreement on the participle *kosnir*, 'elected'. Again, it bears emphasizing that morphological nominative case on the subject of *kosnir* is usually assumed to simply be a reflex of abstract nominative, as shown, for instance, by the fact that it becomes morphological accusative in ECM constructions. The fact that it shows up here on PRO may therefore be taken as evidence that PRO bears abstract nominative case.

It cannot be argued that the null case assigned to PRO merely surfaces as nominative, as when the subject argument of verb that assigns quirky case to its subjects is realized as PRO in the infinitive, it triggers quirky case agreement on participles and quantifiers, not nominative, as shown in (20):

(20) *PRO bears morphological case*

Strákarnir vonast til [að PRO leiðast ekki öllum í skóla]
 the.boys.NOM hope for to PRO.DAT bore not all.DAT in school]
 "All the boys hope not to be bored in school."

It appears that either the treatment of morphological case in Icelandic will have to be severed entirely from the abstract case system, or that PRO must be allowed to bear the same case as any other DP. Given that the former option is mitigated against by the fact that nominative and accusative in Icelandic behave exactly like English with respect to, for instance, ECM, raising and passive, we suggest, with Siggurðsson, that the latter is the correct analysis. That is, a special null case for PRO does not exist. Infinitive clauses assign the same cases as finite clauses, even in an infinitive-PRO language like Icelandic.

It is worth noting that the conclusion that PRO receives case obviates the theory-internal motivation for Chomsky and Lasnik's null case proposal. Chomsky and Lasnik 1993, Chomsky 1995 argue that the Visibility Condition is unsatisfactory as a disjoint condition:

(21) *The Visibility Condition, pre-1993*

A chain is visible for \bar{A} -marking if it contains a Case position (necessarily, its head) or is headed by PRO.

To resolve the theoretical and empirical problems with a Caseless PRO, they propose that PRO receives null Case from infinitival Tense, resulting in the non-disjoint Visibility Condition:

(22) *The Visibility Condition*

A chain is visible for \bar{A} -marking if it contains a Case position.

In the present account, since PRO gets case like any other DP, the issue of the disjoint Visibility Condition does not arise: the later, monoclausal version of the Visibility Condition will suffice for all DPs, including PRO.

4.2. *TP dominates AgrSP in Icelandic*

Recall from section 2.3 that McCloskey asserts that Irish's lack of an EPP feature is reflected in the fact that Irish entirely lacks expletives of the expletive-DP associate type. An ungrammatical attempt at an Irish expletive is seen in (23):

(23) *Mhéadaigh sé i gcónaí ar mo shaibhreas

increased it always on my wealth
 "It increased always my wealth"
 (cf. Fr. *Il est arrivé trois hommes*).

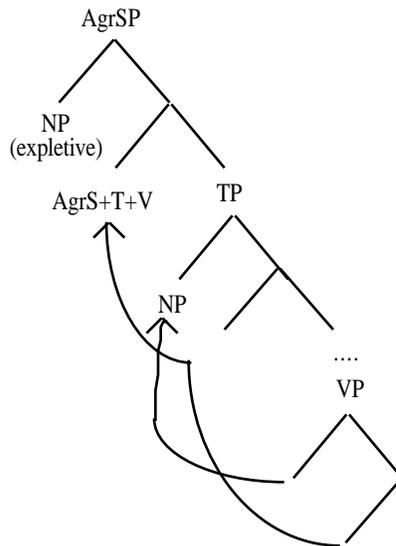
If expletive insertion is motivated by a need to check the EPP feature, the absence of this construction in Irish is straightforwardly explained on McCloskey's account, according to which the EPP feature is not checked in Irish.

Given the uncontroversial assumption that expletives are inserted to satisfy the EPP, we here suggest that the architecture McCloskey proposes provides a satisfactory account of the Icelandic Transitive Expletive Construction, which is not gracefully treated by either the earlier minimalist architecture in which AgrSP dominates TP or in the later, AgrP-less structure.

Consider the treatment of the Transitive Expletive Construction proposed by Bobaljik and Jonas 1996. An example of a TEC appears in (24)a, and the structural analysis proposed by Bobaljik and Jonas in (24)b⁸:

(24) Icelandic Transitive Expletive (Multiple Subject) Construction

- a. *thað lauk einhver verkefni...*
 there finished someone the.assignment ...
- b) Bobaljik and Jonas (1996)



⁸ A reviewer points out that the *thað* expletive is in fact a 3.sg.neuter form, i.e. morphologically like *it* rather than like *there*. However, since it occurs with an NP rather than a CP associate, it is syntactically more appropriate to treat it like English *there* instead of English *it*.

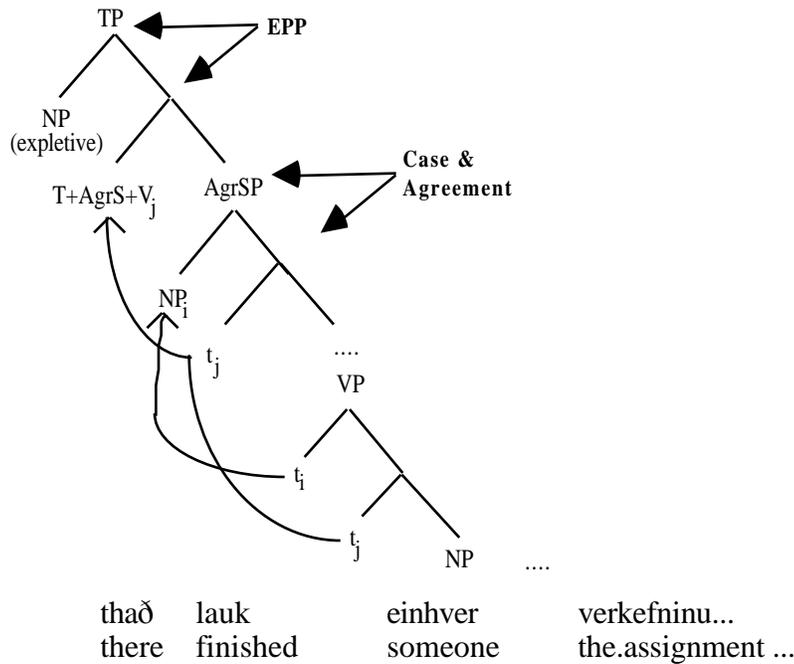
In (24)b, Bobaljik and Jonas utilize the Chomsky 1993 architecture, where AgrS dominates TP. The finite verb, as it always does in Icelandic, raises to the leftmost head in Infl, i.e. AgrS. The subject, rather than raise to the left of the finite verb, remains below the verb, yet (according to the tests provided by Bobaljik and Jonas) has raised outside the VP. It is hence in the specifier of an intermediate projection. An expletive is inserted into the specifier of AgrS, deriving the correct word order: Expletive-V-Subject.

However, this analysis has an undesirable consequence: the expletive *thað* 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 very different from those of the English expletive *there*, which according to Chomsky 1993 is inserted to satisfy the EPP, not to check phi-features. Given the similar nature of the expletive-argument chains which they form⁹, assigning distinct checking functions to the two expletives is unmotivated. 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.

However, if we adapt essentially the same account to the clausal architecture established for Irish by McCloskey, we have an elegant and consistent account of the agreement and expletive positioning in Icelandic TECs which is cross-linguistically consistent when compared to English. The revised structure appears illustrated in the tree in (25).

⁹ In both Icelandic and English, expletive associates may not be definite descriptions or proper names. In Icelandic, unlike in English, however, an anonymous reviewer points out that Icelandic associates outside VP (i.e. external-argument associates) may be universally quantified. We will assume that the difference between English and Icelandic expletive associates is simply the result of the fact that English does not license VP-external expletive associates, perhaps as a result of failing to license Spec-AgrSP as an overt landing site for DP, to adapt the Bobaljik and Jonas (1995) account to the present architecture.

(25)



The subject appears in Spec-AgrS at Spell-Out rather than Spec-TP, triggering agreement with the finite verb, 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*).

4.3. PRO and the EPP in Icelandic

In the above two sections, we have demonstrated that a) PRO receives nominative case in Icelandic infinitive clauses, and b) the clause structure we proposed for Irish above is plausible for Icelandic as well. Given these facts, what can we conclude about PRO theory?

Icelandic is a language in which PRO behaves essentially exactly the same way it does in English. It necessarily appears as the subject of non-finite clauses (cf. examples (19) and (20) above), and may not appear as the subject of finite clauses. However, we have argued that PRO is case-licensed in Icelandic like any other DP. That is, in Icelandic, null case assignment is not a property of infinitive clauses. Indeed, on the proposed clausal architecture, it is difficult to see how case assignment could be restricted by Tense, if AgrSP is below TP. AgrSP's feature-checking abilities will be independent of T if AgrSP is lower than TP in the clause.

So, given that we have no motivation for assuming a case-based treatment of PRO's distribution, how can we link PRO to Tense in Icelandic to capture its dependence on finiteness?

5. An EPP-based theory of PRO

The conclusion of the above section was that the distribution of PRO in Icelandic, dependent on a feature of Tense, must be sensitive to something other than case. The only other feature within the checking domain of Tense is, of course, the EPP. The null assumption for Icelandic, as well as English and other infinitive-PRO languages, then, is that PRO's distribution is dependent upon the EPP. We propose to essentially adapt Chomsky and Lasnik's 'null Case' featural account to a 'null EPP' featural account. The happy consequence of this approach is that we then predict the Irish facts presented in section 3 above. We then go on to address the problem of restricting PRO's distribution to subject position, and the question of whether any other phonologically empty arguments may check the [null] EPP feature.

5.1. *The proposal*

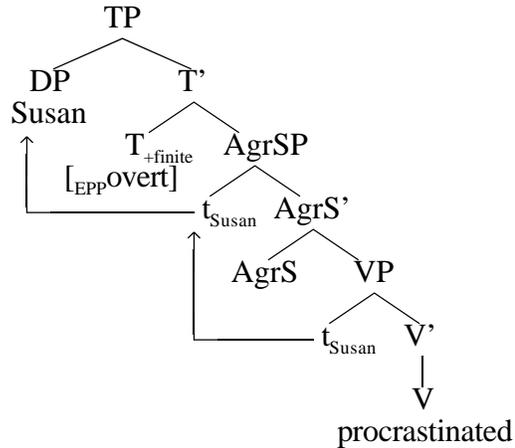
The basic idea is very simple. In a language which obeys the EPP, Tense bears an EPP feature which differs in finite and non-finite clauses, in the same way that the case feature of Tense differed in finite and non-finite clauses in the proposal of Chomsky and Lasnik 1993. That is, in finite clauses, T bears a [+overt] EPP feature, while in non-finite clauses it bears a [+null] EPP feature. The former must be checked by an overt DP, while the latter must be checked by PRO.

For concreteness, let's consider the derivation of a finite and non-finite clause in English, a language with a strong EPP feature and, according to the proposal, hence a language in which the distribution of PRO is dependent on the finiteness of Tense.

Consider a finite clause, whose derivation is shown in (26). The DP subject, generated in the specifier of vP, is attracted by the strong EPP feature of TP and moves through SpecAgrS, where it

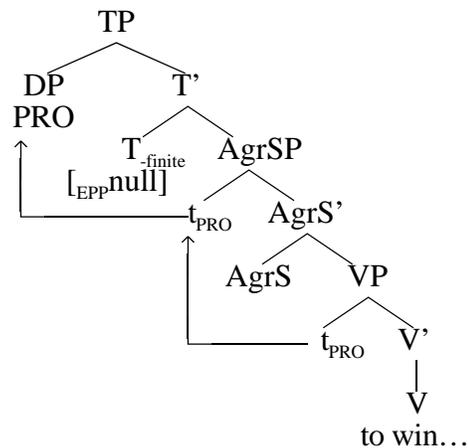
checks nominative case, to SpecTP, where it checks the [+overt] EPP feature. (In English, the V-feature on T is weak, so the V does not raise at SpellOut).

(26) Susan procrastinated.



In a non-finite clause the situation is different: the EPP feature of T is [null] rather than [overt]. The DP subject raises and checks case in SpecAgrSP and the [null] EPP feature in SpecTP, as before, but if the DP is not PRO, it will not be able to check the [null] feature and the derivation will crash.

(27) To win, [*all Graf needs to do is sit tight*]



Again, the mechanics of the solution are essentially the same as those for Chomsky and Lasnik. The difference is simply that the relevant feature is the EPP, not case. One difference between the null Case treatment and the null EPP treatment, however, does exist. The EPP feature checking

violates Greed, in that the DP which checks it does not need to do so for its own benefit; rather, it moves to spec-TP solely for the benefit of the Tense head.

5.2. *PRO in Irish*

How does this proposal predict the facts of Irish? McCloskey independently demonstrated that the EPP does not operate in Irish: there are clauses in which no DP appears in Spec-TP, expletive or otherwise.

In the account presented so far, we have proposed no constraints on the generation or distribution of PRO other than to say that if Tense has a null EPP feature, PRO must check it; if Tense has an overt EPP feature, an overt DP must check it. PRO, on this account, is simply a DP with no phi-features whatever ("the "minimal" NP argument," c.f. Chomsky 1995: 119): any restrictions on its distribution are the result of the interaction of the EPP requirement (or lack thereof) with the interpretive restrictions such a featureless DP is subject to (the theory of control; for discussion see section 5.3 below). Tense in Irish has no EPP feature whatever, according to McCloskey. Further, the highest DP in a given clause is not subject to control-based restrictions, unlike more embedded occurrences of the phi-feature-less DP (again, see section 5.3). As a consequence, the distribution of PRO and overt DPs in subject position in Irish should be free: the finiteness or non-finiteness of Tense should be irrelevant. This, we have shown, is in fact the situation in Irish. No EPP, hence no restrictions on the distribution of PRO and overt DPs in subject position finite or non-finite clauses.

5.3. *PRO in non-subject positions*

Recall that the checking of the [null] EPP feature by PRO in EPP languages violates Greed. That is, while the [null] EPP feature of Tense needs PRO to check it, PRO does not need a [null] EPP feature of Tense to license it. If it did need to check a [null] EPP feature, the conclusions about the free distribution of PRO in Irish would be invalid — there would be no way for it to be licensed in an EPP-less language. Hence, getting the EPP feature checked is a requirement of TP, not a

requirement of any DP that might do the checking, PRO or otherwise. This view of the EPP is consistent with its original formulation as a requirement that clauses have subjects, rather than vice versa.

The only featural requirement we have seen which is relevant for the satisfaction of PRO itself is case-checking: if PRO does not check case, it will not satisfy the Visibility Condition. In that case, then, we should expect that PRO, like overt DPs will occur legitimately in any position in the clause in which it can be case-licensed. In this respect, our account so far predicts a far more extensive distribution for PRO than is actually instantiated in any language. Even in Irish, PRO may apparently only appear in subject position.

Under the pre-Minimalist GB account of PRO's distribution, this followed because the subject position (in infinitives) was the only ungoverned position in a clause. PRO was subject to the binding theory, which stated that anaphors must be bound in their (G)overning (C)ategory, while pronouns must not be bound in their GC. PRO, being both a pronoun and an anaphor, could satisfy neither condition, and hence was barred from occurring in any but ungoverned positions – that is, it could only occur in the ungoverned specifier of infinitive Infl and nowhere else.

In a Minimalist account, the notion of “governing category” is no longer relevant, which in part motivated the revision of Chomsky and Lasnik 1993 to the null Case account which we have discussed. Null case, only being available in the specifier of infinitive Tense, accomplished the same restriction of PRO to subject position that the GB account derived so nicely.

To derive the apparent subject-position restriction on this account, we will again propose that the binding theory, in combination with the theory of control, is the relevant factor which independently restricts the distribution of PRO to subject position. We need a binding theory which doesn't make reference to the notion of government, in order to remain Minimalist. For the present purpose the Reflexivity account of Reinhart and Reuland 1993 is the best worked-out alternative.

As noted above, we assume with Chomsky that PRO is referentially dependent, due to its lack of phi-features. Let us further assume that its phi-features need to be specified by LF in order to satisfy Full Interpretation. In Obligatory Control (OC) contexts, PRO acquires its phi-features

from a c-commanding antecedent which occurs within a certain domain¹⁰. In non-OC contexts, it is either linked to a discourse antecedent or assigned arbitrary reference. For argument's sake, let us adopt a version of the Minimal Distance Principle of Larson 1991 as the characterization of the domain for OC¹¹.

(28) *The Minimal Distance Principle*

An infinitive complement of a predicate P selects as its controller *the minimum c-commanding noun phrase in the functional complex of P*.

According to the Minimal Distance Principle, PRO must find its antecedent in the DP which c-commands it most closely. Let us assume that when no such antecedent is available, either simply because there is none (in the case of matrix subject infinitives or gerunds) or because there is an intervening barrier (e.g. in the case of embedded subject infinitives or gerunds), PRO is assigned arbitrary reference or corefers with a discourse antecedent ("accidental" coreference). That is, non-OC contexts are exactly those contexts where a Last Resort strategy must be employed to fill in default phi-feature values for PRO¹².

Control by the nearest c-commanding DP within the functional complex is mandatory whenever such a DP exists (hence "obligatory" control). What will be the situation when PRO occurs in object position? It will necessarily be coindexed with the nearest co-commanding DP, the subject of its clause, as illustrated in (29):

(29) Susan_i likes PRO_i.

¹⁰ An anonymous reviewer points out that in sentences like (i) and (ii) below, the binding-theoretic account of PRO's non-occurrence in object positions might predict grammaticality:

(i) John said that there was PRO in the garden

Coindexation between PRO and the expletive subject would, perhaps, produce no reflexivity violation here, because PRO would move to adjoin to the expletive at LF, and the expletive would check the overt EPP feature of Tense. There are two ways to go in excluding these sentences. Either we can claim that because PRO is c-commanded by another DP at *some* stage in the derivation, it must get its phi-features from that DP — but expletive *there* has no phi-features to pass on to PRO, hence the structure violates Full Interpretation. Or, the coindexation of *there* and PRO (PRO's trace) *does* produce a Reflexivity violation, as Reflexivity looks at coindexation, not content.

¹¹ This is almost certainly inadequate as a complete theory of control; however, the exact characterization of control does not matter for our present purposes, as long as a PRO in object position is in an OC configuration. For further discussion of the MDP and a fully worked-out theory of control, see Martin 1996.

¹² See, however, Landau 1999 XX for a discussion of problems with an MDP approach to control. Nonetheless, as noted above, as long as object (and other embedded) positions for PRO are necessarily OC contexts, other aspects of the theory of control may vary. Given a theory of control with that minimal consequence, the interaction of control and binding theory will rule out non-subject PRO. The MDP approach is used here as a widely-understood approach with the requisite properties, despite its flaws.

Consider the result under R&R's Reflexivity binding theory, given below:

- (30) a. *Reflexivity Condition A*
A reflexive-marked syntactic predicate is reflexive.
b. *Reflexivity Condition B*
A reflexive semantic predicate is reflexive-marked.

Reflexive marking occurs when one of the predicate's arguments is a SELF-anaphor; a *reflexive predicate* is one which has two coindexed arguments or is lexically reflexive. When PRO occurs in object position, as in (29), *like* will be a reflexive predicate, as two of its arguments will be coindexed. However, it is not reflexive marked, as it is neither lexically reflexive, nor is one of its arguments a SELF-anaphor. Hence, (29) is ruled out.¹³

When a predicate is inherently reflexive-marked, however, PRO will be legitimate, and its mandatory coindexing will not pose a problem. This, as both Reinhart & Reuland and Hornstein 1999 note, is an attractive analysis of inherent reflexives.

- (31) John_i washed PRO_i.

The present analysis is more successful than the null Case account in that it allows this structure to arise as long as the verb is inherently reflexive, while ruling out other appearances of PRO in clause-internal positions in both Irish and English, via an interaction of independent modules of the grammar¹⁴.

5.4. The [null] feature and trace of A-movement: ECM, Raising

¹³ Ruling out PRO as object of a preposition is somewhat trickier, as is defining appropriate binding domains for locative prepositional phrases. For this reason, adopting the movement-based approach of Hornstein 1999 may be the final solution to the problem of distribution; see footnote **Error! Bookmark not defined.** for discussion.

¹⁴ An anonymous reviewer correctly points out that straight Reflexivity does not obviously rule out sentences like (i) or perhaps (ii):

- (i) John shaved PRO in PRO's bathroom.
(ii) John shaved PRO for PRO

Admitting that these are problematic constructions, we'll leave them for future work, noting only of (i) that the problem could be as simple as lack of an overt DP host for the genitive marker. Reinhart and Reuland assume that PPs at least *can* have a transitive structure, requiring a covert PRO or *pro* in their specifier, and require reflexive-marking just as in verbal structures. Reflexivity, then, may well be the reason that (ii) is bad. If transitive NPs also require reflexive-marking, provided by genitive pronominal forms, Reflexivity might rule out (i) as well. If this were the case, we might expect to find inherently reflexive N heads licensing PRO possessors. This could be an attractive account of so-called "Possessor-raising" constructions in languages like Japanese.

Let us now elaborate somewhat more thoroughly on the checking of the [null] feature. In strong-EPP languages, where the EPP must be checked by Spell-Out, we have said that PRO satisfies this checking requirement. Is PRO the only element that can satisfy it?

It seems that it is not. At the very least, it looks as if DP-trace must be able to satisfy it as well. Consider the Raising example in (32):

(32) Mary_i seems [*t_i* to like Sue].

If TP is present in the embedded infinitive, its EPP feature will again be [null], and DP-trace will fill the SpecTP position. We could conclude, then, that the trace of A-movement must be able to check the [null] feature.

Notice that this forces us to an overt Raising-to-Object analysis of ECM constructions like that in (33):

(33) Jennilee believed Sue_i [*t_i* to have left].

The object must have moved out of the SpecTP position by Spell-Out, as otherwise the overt DP would fail to check the [null] feature of the infinitival TP and the derivation would crash. Several recent proposals have argued convincingly for overt raising to a case-checking projection low in the matrix VP, including Koizumi 1993; Runner 1995; and Lasnik 1999; we will not recapitulate those arguments here.

Note that the same binding-theoretic considerations that prevented PRO from appearing in object position above will prevent it from appearing in object position here; under R&R's account, ECM objects form a syntactic predicate with their subjects and hence are subject to the Reflexivity conditions.

This could be a satisfactory account¹⁵, except that it opens a new can of worms. The way we have constructed the theory till now, PRO was the only element that could check the [null] EPP.

¹⁵ If we adopt this analysis of infinitives in raising constructions in this section, we may perhaps arrived at a happy convergence of analyses. Independently, O'Neil 1995; Lidz and Idsardi 1998; Hornstein 1999, have argued that OC-PRO is itself an instance of DP-trace, resulting in the abandonment of the \bar{A} -Criterion and changing the theory such that assignment of \bar{A} -roles to becomes \bar{A} -feature-checking. These treatments, which constitute well-worked-out theories of obligatory vs. non-obligatory control, are then immediately compatible with the present treatment.

If the trace of A-movement can check it, however, we will need to explore the question of whether or not other null elements may check it as well.

For instance, one might wonder if the trace of A-bar movement can; it is, after all, similarly a phonologically empty element. Such a treatment could have the interesting consequence of solving an old problem from *wager*-class verbs. In the infinitive complement to these verbs, an overt DP is ill-formed in subject position, but, unexpectedly, a *wh*-trace is legitimate¹⁶:

- (34) a. *John wagered the horse to win.
b. Which horse did John wager to win?
c. *Mary assured me the woman to be intelligent.
d. The woman that Mary assured me to be intelligent...

Maintaining this degree of generality runs into immediate problems, however, in that it predicts that *wh*-traces should be generally well-formed as subjects of infinitive clauses:

- (35) Which professor_i did Bill try *t*_i to like him?

And presumably, if *wh*-trace can check the [null] feature, it should not be able to check the [overt] feature, predicting that *wh*-trace should be ill-formed as the subject of finite clauses, which is of course false:

- (36) Which man_i did Susan think *t*_i liked Bill?

What is not immediately clear, however, is how non-OC PRO would then fit into the picture. In Hornstein 1999, non-OC PRO is simply *pro*. The present analysis accounts for the fact that in Irish, both in OC and non-OC infinitive contexts, overt subjects are possible, and it does so by assuming that in both contexts, the [null] EPP feature is not operative. Consequently, the [null] EPP feature *is* operative in English non-OC contexts, since the treatment of both types of context should be unified. We are then driven to the conclusion that, if Hornstein is right, *pro* should satisfy the [null] EPP feature as well.

However, it is far from clear that this is a desirable consequence. So far, we have not addressed the question of *pro*-drop languages. If *pro* satisfies the [null] EPP feature, it should *not* satisfy the [overt] EPP feature, which we have asserted must be checked by phonologically realized DP by Spell-Out in strong-EPP languages. In, e.g., Romance *pro*-drop languages, however, there is free alternation between *pro* subjects and overt DP subjects in finite clauses, but no overt subjects are permitted in infinitive clauses. The latter fact leads us to conclude that *pro*-drop languages are strong-EPP languages (because they force a non-overt subject in the infinitive), and hence, *pro* must satisfy the [overt] EPP feature in finite clauses. If we are to adopt Hornstein's account, then, we are forced either to the conclusion that non-OC PRO in English may not be identified with *pro*, or that *pro* in *pro*-drop languages is distinct from English *pro* in that the latter checks the [null] EPP feature while the former checks the [overt] EPP feature. Neither of these conclusions seems particularly satisfactory, although the rich agreement morphology in *pro*-drop languages perhaps suggests that distinguishing occurrences of *pro* in English from occurrences of *pro* in Romance on phonological grounds would not be an unmotivated move. Clearly, however, further investigation is required before we can definitively adopt the Hornstein-style account.

¹⁶ Thanks to Norvin Richards and Mark Steedman for pointing out these facts.

So, although the facts in (34) are suggestive, at the moment, we must claim that *wh*-trace satisfies the [overt] EPP feature, not the [null] feature.

Another phonologically null element we might be concerned with is *pro*. In e.g., Romance *pro*-drop languages there is free alternation between *pro* subjects and overt DP subjects in finite clauses, but no overt subjects are permitted in infinitive clauses. The latter fact leads us to conclude that *pro*-drop languages are strong-EPP languages (because they force a non-overt subject in the infinitive), and hence, *pro* must satisfy the [overt] EPP feature in finite clauses.

Given that no other phonologically null element seems to be able to check the [null] EPP feature, perhaps we should wonder if, after all, trace of A-movement can in fact check it. Is another account available?

There is: a radical clause-impooverishment approach to Raising and ECM constructions. Raising and ECM infinitive clauses are usually assumed to be just TP (control clauses are CP) but, given the verbal architecture here, we could claim that Raising and ECM clauses are simple vPs, with no AgrSP or TP projection at all. In that case, the question of satisfying the [null] feature would not arise (and Reflexivity would still rule out a raised PRO object). This type of approach receives some justification from Icelandic facts, where the infinitive verbs in Raising and ECM constructions do not raise out of the vP, while control infinitive verbs do, as shown in (i) and (ii) (*ekki*, the negative marker, is positioned at the left edge of vP).

(37) a. ECM infinitive verb below *ekki*
 Ég taldi [Maríu (*lesa) ekki lesa bókina]
 I believed [Mary (*read.INF) not read.INF the book]
 “I believed Mary to not have read the book”

b. Raising infinitive verb below *ekki*
 María virtist [(*lesa) ekki lesa bókina]
 Mary seemed [(*read.INF) not read.INF the book]
 “Mary seemed to not read the book”

(38) Control infinitive verb above *ekki*
 María lofaði [að lesa ekki (*lesa) bókina]
 Mary promised [C read.INF not (*read.INF) the book]
 “Mary promised to not read the book.”

(Sigurðsson (1989))

The lack of a TP would explain the difference in verb movement between the two types of construction, since Icelandic is a V-to-T movement language.

This alternative, more restrictive account leaves intact a number of generalizations about distinctions between control and raising infinitives (for instance, the relative poorness of vP ellipsis with raising and ECM, and its grammaticality with control; the ability of control infinitives to license VP-fronting, and, most importantly, the standard complementarity between PRO and DP-trace. See Lasnik 1999:65-67 for a useful summary). Let us, then, adopt it, rather than the A-movement trace account. The null EPP feature on nonfinite T in English and Icelandic can *only* be checked by PRO. Infinitive clauses in raising and ECM constructions are in fact Tenseless vPs, not CPs dominating infinitive TPs, as in control constructions.¹⁷ See Harley 1995 for further discussion of this approach to Raising and ECM infinitives.

5.6 *Summary*

In this section, we presented the analysis of EPP feature checking in languages like English and Icelandic that accounts for the distribution of PRO in finite and non-finite clauses. Such a treatment predicts that languages like Irish, without the EPP, should exhibit no restrictions on the distribution of PRO. We have seen that this is the case.

We went on to outline the consequences of the proposal for the distribution of PRO elsewhere in the clause, concluding that so long as the theory of binding in combination with the theory of control permitted it, PRO could occur in object position. In particular, PRO's appearance as the object of an inherently reflexive verb is allowed by the proposal.

Finally, we examined the consequences of the proposal for infinitive clauses in Raising and ECM constructions, in which we concluded that there is no TP nor AgrSP. Hence, PRO need not appear as the subject of those infinitives, and indeed, may not, as it will be unable to satisfy the matrix EPP (in Raising constructions) or the reflexivity requirement on binding when it is in object position (in ECM constructions).

¹⁷ Note that this distribution of complement clause projections matches Chomsky (1999)'s proposed "phases": vP and CP are levels in the derivation at which the constructed phrase-marker gets sent to Spell-Out for realization.

6. Extensions, Predictions

6.1. *PRO subjects of gerunds in English*

In an EPP language, we have argued that the distribution of PRO is determined by the EPP feature of Tense. In EPP-less languages, PRO is freely distributed across finite and non-finite clauses, because there is no EPP feature of Tense.

In EPP languages, then, we might expect the following to be true: In clauses in which no Tense node is present, PRO in subject position should be freely distributed. Since no Tense node means that no EPP feature need be checked, there should be no restrictions on whether or not PRO may occur in subject position in these clauses. Exactly this situation seems to obtain in English gerunds, where either an overt subject or a PRO subject may felicitously appear, as illustrated in (39) below:

- (39) a. Her winning the speed skating is something I'd like to see
b. PRO breaking the speed skating record isn't possible.

Gerunds are usually assumed to be structurally impoverished, lacking one or more Infl projections. We do not attempt a structural account of English gerunds here, but see, e.g., Siegel 1998 for a plausible analysis compatible with the present approach according to which gerunds are headed by the functional projection AspectP. So long as they lack TP, the overt subject/PRO alternation is predicted by the current analysis.

A reviewer points out that additional support for this position comes from the old puzzle of the absence of 'there' expletives in subject position in gerunds:

- (40) 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.

If gerunds lack TP, and hence lack the EPP, *there*-expletive insertion is predicted to fail. On the other hand *it*-expletives (which, recall, exist in Irish) are available here, indicating that *it*'s insertion is motivated by some factor other than the EPP (again, as argued by McCloskey 1991).

6.2. *Nominative objects in Icelandic: Schütze 1997*

The present clause structure also permits an adaptation of Schütze 1997's account of nominative objects in Icelandic experiencer construction. We assert here that nominative case is available in infinitives, from AgrS. Nominative object constructions in Icelandic have been a long-standing puzzle for case theory. In (41), we give an example of a verb which marks its subject Experiencer argument with dative case and its object argument with nominative case. Notice especially that the verb agrees with the nominative object, in this case, not with the dative subject (c.f. Zaenen, Maling et al. 1985 for tests for subjecthood for the quirky dative subject). As argued by Zaenen, Maling et al. 1985, and taken up in Harley 1995; Schütze 1997, this may be taken as evidence that the nominative case on this object is structural, not quirky.

- (41) Calvini líka hestar
 Calvin.DAT like.3plhorses.NOM
 “Calvin likes horses” (lit. Calvin like horses)

As is always the case in a quirky subject construction, in the infinitive form, it is the quirkily-marked dative subject which is replaced with PRO (42). Of particular interest to us, here, it is not the case that the nominative-marked, agreement-triggering object which must become PRO in the infinitive¹⁸. The structural nominative case is still available to the object in the infinitive form.

¹⁸ Further evidence that the nominative object receives structural case comes from testing what occurs when the nominative DP moves to a position that normally assigns a different structural case—for example, if a passivized experiencer-subject verb were embedded under an ECM verb. Unfortunately, experiencer-subject constructions cannot be passivized, as they pattern with unaccusatives—their Event head does not project an external argument. However, in Icelandic, certain ditransitive verbs, if passivized, produce dative-nominative structures that behave in most respects like experiencer-subject constructions. An example appears in (i)—note that the plural agreement in the passive is with the nominative object:

- (i)
 a. Við hafa gefnir konungi hestana
 We-NOM have-pl given a king-DAT horses-ACC
 We have given a king horses.
 b. Konungi hafa verið gefnir hestar
 a king-DAT have-pl been given horses-NOM
 “A king has been given horses”

The first thing to notice about these examples is that the nominative case on *hestar* “horses” in (ib) appears in the passive only—in the active, “horses” receives accusative case. This is the first indication that the nominative on “horses” cannot be inherent case—it is not inextricably connected with the Theme theta-role assigned to “horses”, which presumably does not change from (a) to (b).

- (42) [Að líka slíkir bílar] er miðð happ
 [to like such cars.NOM] is great luck
 “To like such cars is very lucky.”

Obviously, on the present account, the availability of nominative case in an infinitive is not surprising. Schütze 1997 proposes that when the subject does not need check structural nominative for some reason, e.g. because it receives quirky dative case, the nominative case in AgrS is available for an object. Schütze's account faces two problems however, in that a) he must propose that the object raises to AgrS at LF for case, since he is using the AgrSP-dominant Chomskyan architecture and b) he has no natural account of why nominative case can be available in infinitive constructions, or why PRO replaces the quirky subject rather than the nominative object. On the present account, the availability of nominative case is not linked to the finiteness of Tense, and AgrS, below TP, is available for object case-checking even before LF. Since it is the dative subject, which checks the EPP feature of Tense, however, the dative subject is the argument which must become PRO in the infinitive, because it is the EPP, and not case, which is linked to Tense. (See Harley 1995 for an alternative proposal, however¹⁹).

As pointed out by Zaenen, Maling et al. 1985, when this verb is passivized with “horses” as the subject and embedded under an ECM verb, “horses” is marked not with a quirky nominative, but with accusative, as in regular ECM constructions. This is seen in (ii):

- (ii) Eg taldi hestana hafa verið gefna konungi
 I believe horses-ACC have been given a king-DAT
 “I believe horses have been given to a king” (Zaenen et al. (1985)
 The fact that the nominative marking is not preserved when the argument moves to a different position demonstrates that it is not quirky, but structural. Quirky case is preserved under movement (iii):

- (iii) a. Við vitjuðum sjúklinganna
 we-NOM visited-1pl the-patients-GEN.pl.m
 “We visited the patients”
 b. Sjúklinganna var vitjað
 the patients-GEN.pl.m was-dflt visited-supine (Andrews 1990)
 “The patients were visited”

and under ECM, (iv):

- (iv) Eg taldi sjúklinganna var vitjað
 I believe the patients-GEN.pl.m was-dflt visited-supine
 “I believe the patients were visited”

¹⁹ In Harley 1995, Transitive Expletive constructions with dative-nominative constructions are exhibited, which on the account presented in section 4.2 entails that the dative subject can surface in Spec-AgrSP. Assuming that it may stop there without checking any feature again violates Greed, but, of course, we need to assume that Greed is not a principle of the theory in any case (c.f. the discussion in section 5.1 above).

7. Conclusions

In this paper, we have argued for a new approach to the distribution of PRO in terms of the EPP feature rather than Case. Given the conclusions of McCloskey 1996, the interestingly unconstrained distribution of PRO and overt DP subjects in Irish can be given a nice account, providing PRO's distribution is determined by the Extended Projection Principle and not Case theory. Extending McCloskey's architecture to English and Icelandic, we have seen that this change in our approach to PRO has positive consequences for the treatment of English gerunds and Icelandic expletive constructions, as well as allowing a satisfactory resolution of the seeming paradox of Sigurðsson's morphological case agreement with PRO facts. Assuming that the theory of control can determine when obligatory control must arise, PRO occurring in non-subject position will violate the binding theory. Finally, it is possible that the current account will translate naturally into the PRO-as-movement framework recently proposed by several researchers, since we have argued that the [null] EPP feature is satisfied by DP-trace as well as PRO

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