

p.141 I argue that whether or not nonfinite T can check null Case depends crucially on its temporal properties and present a number of empirical arguments supporting this conclusion.

<This directly follows Stowell (and indirectly follows Brecht).>

“PRO can only be the subject of a nonfinite clause.” A descriptive generalization which sort of reverses the GB description, by saying where it CAN occur, rather than where it cannot. Martin argues that this will be more explanatory than the LGB account (the “PRO theorem”):

(3) PRO is ungoverned

As you know, LGB derives (3) from (4) and (5) and the claim that PRO is both a pronoun and an anaphor.

- (4) a. An anaphor must be bound in its governing category.
- b. A pronoun must be free in its governing category.

(5) The governing category for Y is the minimal NP or IP containing Y, a governor of Y, and a SUBJECT accessible to Y.⁵

This has surely a certain elegance.

pp.142-143 However, one might raise a question about the role of *government* in the binding theory, which seems to be solely to deduce (3). As Chomsky (1981:220–221) acknowledges, the only consequence of replacing (4)–(5) with the much simpler (6)–(7) is loss of the PRO Theorem.

- (6) a. An anaphor must be bound in its binding domain.
- b. A pronoun must be free in its binding domain.

(7) The binding domain for Y is the minimal NP or IP containing Y and a SUBJECT accessible to Y.

In fact, as can easily be verified, the purpose of *all* reference to government in the binding theory is to account for PRO (see Martin 1996).

It follows from the PRO Theorem that PRO must not be Case-marked.⁷ To have Case, PRO would have to be governed by a Case-assigning head, thus having a governing category. This consequence leads to a serious conceptual problem for the theory of Case.

One proposal instantiating the idea that (some) NPs must have Case is the Case Filter in (8).

- (8) *[NP], where NP is lexical and does not have Case.

However, Lasnik and Freidin (1981) argue that (8), which refers only to lexical NPs, cannot explain the facts in (9).

- (9) a. *the man [who_i [it seems [t_i to be here]]]
 cf. *the man who it seems is here*
- b. *the man [θ_i [it seems [t_i to be here]]]
 cf. *the man it seems is here*

Since the trace of a *wh*-operator is not lexically realized, according to (8), (9) would not be predicted to violate the Case Filter; and it is not easy to see how else to rule out sentences containing such noun phrases.

Chomsky (1981) makes an alternative proposal.

(10) An A-chain is visible for θ -marking if it contains a Case position.

A *wh*-trace, though not lexical, requires Case so that it is visible for θ -marking at LF.

Martin notes that this causes a problem for expletives, since they do not get θ -roles yet seem to require Case. He then continues:

The more serious question concerns PRO. As we have seen, PRO cannot be Case-marked without inducing a violation of the binding theory. Yet it invariably receives a θ -role (Safir 1985). Accordingly, a disjunction must be added to (10).

(12) A chain is visible for θ -marking if it contains a Case position *or* is headed by PRO.

However, insofar as the exemption for PRO remains unexplained, (12) is simply a statement of a problem.

This leads to the proposal that PRO does in fact require Case and that it gets it from non-finite Infl. This was suggested by Chomsky and Lasnik (1993), reprinted as Chapter 1 of Chomsky 1995. But Martin takes it much further, refining it and justifying it, in ways that yield a nice distinction between Control complements and ECM ones.

p.144 The problem of PRO's visibility disappears, but what about the distribution of PRO—the fact that PRO is limited to the subject of nonfinite clauses? C&L argue that this can be made to follow from a further assumption: PRO only has null Case.⁹ The sentences in (2), repeated as (14), are ruled out since PRO cannot check nominative, accusative, dative, and so on.

- (14) a. *Pam believes [PRO solved the problem].
b. *Sarah saw PRO.
c. *Sarah saw [pictures of PRO].

Martin then raises the (obvious) objection: PRO is not compatible with all infinitives, just with some.

- p.145 (15) a. Naomi tried to solve the problem.
b. *Naomi believes to have solved the problem.
(16) a. It was difficult for Naomi to solve the problem.
b. *It seems to Naomi to have solved the problem.

Further, assuming that A-movement from a Case position is forbidden, we also have the incorrect prediction that sentences like (17)b are ungrammatical:

- (17) b. She seems to Kim [*t* to have solved the problem]

<Did Chomsky and I not know these things? Of course we did. We just presented our idea very imprecisely. One of Martin's accomplishments was to state it much more precisely.>

Martin's descriptive statement:

"T in control infinitivals checks null Case, whereas T in raising infinitivals does not check Case." <Martin takes ECM to involve raising in the sense of Chomsky 1991: covert raising to Spec of Agr₀

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In Principles and parameters in comparative grammar, ed. Robert Freidin, 417-454. Cambridge, Mass.: MIT Press. [Reprinted in Noam Chomsky, The minimalist program, 129-166. Cambridge, Mass.: MIT Press, 1995].

Martin then provides substantial motivation for the proposed difference between the 2 kinds of T.

p.146 Interestingly, the proposed Case distinction between control infinitivals and raising infinitivals correlates with an interpretive distinction noted by Stowell (1982).

Stowell observes that temporal properties of control infinitivals differ from those of raising infinitivals. The *event time* of control infinitivals is, in some sense, *unrealized* or future with respect to that of the matrix.

As Stowell shows, the interpretation of raising infinitivals is different. In (23) the event time of the infinitival is *identical* to or *simultaneous* with that of the matrix.

- p.147 (23) a. Zagallo believed Ronaldo to be the best.
b. The doctor showed Bill to be sick.
c. The defendant seemed to the DA to be guilty.

For example, (23a) is true if and only if at some past time/interval *t*, Zagallo believed that Ronaldo was the best at/during *t*; it cannot mean that at some past time/interval *t*, Zagallo believed that Ronaldo would be (become) the best at some future time/interval *t'*.¹⁶

Stowell characterizes this interpretive difference in terms of the feature [\pm tense]: control infinitivals are [+tense] whereas raising infinitivals are [-tense].¹⁷ This provides a natural characterization for the proposed Case distinction between control and raising as well: [+tense] checks Case. More precisely, [+tense, +finite] checks nominative Case, [+tense, -finite] checks null Case, and [-tense, -finite] does not check Case at all.

“The interpretation of control infinitivals corresponds most closely to that of finite sentences containing modals, notably *would*.”

p.150 3.3 Tense and Eventive Predicates

Eventive predicates are possible in control infinitivals but not in raising infinitivals. Whereas the infinitives in (22) are eventive, those in (23) are stative. (39) shows that eventive predicates are impossible in raising infinitivals.²⁰

- (39) a. *Geno believed Rebecca to win the game.
b. *The doctor showed Bill to take the wrong medicine.
c. *The defendant seems to the DA to steal the car.

pp.150-151 Enç (1990) argues that eventive predicates contain variables that must be bound by tense or a modal/temporal operator. Stative predicates, on the other hand, do not have variables that need to be bound.²¹ If so, the ungrammaticality of (39a–c) follows from the hypothesis that raising infinitivals are [–tense].²² In contrast, control infinitivals allow eventive predicates since they are tensed.²³

Martin then presents many different kinds of syntactic evidence for his proposal “that there are two types of infinitivals. T in infinitivals selected by control predicates is [+tense] and checks Case, whereas T in infinitivals selected by raising predicates is [-tense] and does not check Case.”

<Before turning to all this evidence, a quick word about Romance, in Martin’s footnote 27.>

²⁷ As noted above, PRO can be the subject of a propositional infinitival in Romance. Watanabe (1993) points this out as a potential problem for my theory. However, Bošković (1995) argues that Romance propositional infinitivals exhibit many properties associated with [+tense]. For example, he shows that eventive predicates are possible in propositional infinitivals with PRO subjects in French.

p.152 4.1 *Verb Raising in Icelandic*

Verb raising in Icelandic supports the hypothesis that control infinitivals differ from raising infinitivals, supporting the idea that the former are in many ways more like finite clauses. Icelandic finite main verbs and auxiliaries raise to T overtly (Thráinsson 1984, Holmberg 1986), as seen in (43).²⁸

- (43) a. ... að María las ekki bókina.
 COMP María read not the-book
 b. *... að María ekki las bókina.
 c. ... að María hefur ekki lesið bókina.
 COMP María has not read the-book
 d. *... að María ekki hefur lesið bókina.

²⁸ The order V + Neg is assumed to indicate that overt raising has taken place (Emonds 1978, Pollock 1989).

<This is a very standard assumption.>

As Thráinsson (1984) observes, nonfinite verbs in Icelandic can also undergo verb raising.

- (44) a. María lofaði [að lesa ekki bókina].
 María promised COMP read not the-book
 ‘María promised not to read the book.’
 b. *María lofaði [að ekki lesa bókina].
 María promised COMP not read the-book

However, not all infinitives can raise to T in Icelandic, as the following examples from Holmberg 1986 show:

- (45) a. Ég taldi [Mariu ekki lesa bókina].
 I believed Maria not read the-book
 'I believed Maria not to have read the book.'
 b. *Ég taldi [Mariu lesa ekki bókina].
 I believed Maria read not the-book
- (46) a. Maria virtist [t ekki lesa bókina].
 Maria seemed not read the-book
 'Maria seemed not to read the book.'
 b. *Maria virtist [t lesa ekki bókina].
 Maria seemed read not the-book

Given my analysis, verb raising in Icelandic correlates with the presence of [+tense], providing a uniform analysis of (43) and (44). The impossibility of verb raising in the raising infinitivals in (45)–(46) follows immediately from Last Resort, as there is no driving force for the movement.

Next, a surprising VP ellipsis asymmetry. First, consider NP ellipsis and IP ellipsis (Sluicing).

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4.2 Agreeing Functional Categories and VP-Ellipsis

Lobeck (1991) and Saito and Murasugi (1990) argue that only *agreeing functional categories*, as proposed by Fukui and Speas (1986), permit ellipsis of their complement. Fukui and Speas assume the following taxonomy of functional categories:

(47)	<i>Agreeing</i>	<i>Nonagreeing</i>
T	[+tense]	to
D	's	a(n), the, that, this
C	[+wh]	that, if, for

Saito and Murasugi (1990) show that only the complement of an agreeing determiner can undergo ellipsis.

- (48) a. [_{DP} Lasnik [_D 's] [_{NP} class]] was canceled but [_{DP} Saito [_D 's] [_{NP} e]] will be offered.
 b. *[[_{DP} [_D A] [_{NP} student]] may not select a major until [_{DP} [_D the] [_{NP} e]] finishes all the general education courses.

<I have to confess that it has never been clear to me on what (independent) basis 's is determined to be agreeing. I put that question aside.>

Similarly, IP-ellipsis (sluicing) is possible only if C agrees with a *wh*-phrase in its specifier (Ross 1969, Takahashi 1994).

- (49) Someone saw the defendant at the scene of the crime . . .
 a. the DA found out [_{CP} who [_C +wh] [_{IP} e]].
 b. *the DA found out [_{CP} [_C that] [_{IP} e]].

VP-ellipsis is possible in (50), as expected if T agrees with the subject of a finite clause.

- (50) a. Pam [_{VP} likes soccer] and Rebecca [_T does] [_{VP} e] too.
 b. Bill believes Sarah is [_{AP} honest], and he believes Kim is [_{AP} e] as well.

On the other hand, VP-ellipsis is not possible in (51), presumably since nonfinite T does not enter an agreement relation with its specifier.²⁹

- (51) a. *I consider Pam to [_{VP} like soccer], and I believe [Rebecca [_T to] [_{VP} e]] as well.
 b. *Bill believes Sarah to be [_{AP} honest], and he believes [Kim [_T to] [_{VP} e]] as well.

However, Saito and Murasugi (1990) observe (also Takahashi 1994) that VP-ellipsis is possible in control infinitivals.³⁰

- (52) a. Kim isn't sure she can [_{VP} solve the problem], but she will try [PRO [_T to] [_{VP} e]].
 b. Rebecca wanted Jill to [_{VP} join the team], so Pam persuaded her [PRO [_T to] [_{VP} e]].

Interestingly, Rizzi had noted a very similar asymmetry with VP-preposing:

Furthermore, Rizzi (1990) points out a similar contrast with VP-preposing, possible out of control infinitivals but not raising (ECM) infinitivals.³¹

- (53) a. [_{VP} Fix the car], John did [_{VP} e].
 b. [_{VP} Fix the car], John tried PRO to [_{VP} e].
 c. *[_{VP} Know the answer], I believe Bill to [_{VP} e].

These surprising asymmetries between control and raising infinitivals with respect to VP-ellipsis and VP-preposing have long resisted a satisfactory explanation. However, these facts follow immediately from my proposal that nonfinite T checks Case in control infinitivals but not in raising infinitivals, given the generalization that only functional categories that undergo specifier-head agreement can license an empty complement.³²

Martin's next section is on the problematic *want* class of verbs, problematic because they seem to license control and ECM, but not passive/raising.

- (54) a. John wants [PRO to win].
 b. John wants [for his team to win].
 c. John wants [his team to win].

The most striking property of *want*-infinitivals is that the subject can be either PRO or lexical DP, which are otherwise in complementary distribution. The possibility of PRO in (54a) shows that null Case is checked by nonfinite T in *want*-infinitivals. It is generally assumed that Case on the lexical subject in (54b) is assigned under government by *for*. (54c) is more controversial: some analyses claim that Case in (54c) is assigned by a null *for* whereas others claim that the matrix verb is responsible (i.e., via ECM). I will argue instead that the embedded subject has null Case, checked by nonfinite T, in all of the examples in (54).

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Given the results of the previous section, it is not surprising that VP-ellipsis is possible in examples like (54a).

(55) John wants to win but Jill doesn't want to [_{VP} e].

Interestingly, VP-ellipsis is possible even when the subject is lexical, as shown in (56).

(56) a. John wants for his team to win whereas Jill wants for her team to [_{VP} e].

b. John wants his team to win whereas Jill wants her team to [_{VP} e].

For Martin, here is the crucial point:

As argued above, the possibility of VP-ellipsis implies that T enters a Case-checking relation with its specifier. Hence, (56) provides evidence that nonfinite T *can* enter a Case agreement relation with the subject in (54b) and (54c) as well as (54a).

As mentioned earlier, one of the big problems with *want*-type verbs is that they seem to demonstrate standard ECM ('John wants Mary to win') but do NOT allow passive/raising. Martin offers insight in this:

Other well-known facts suggest that raising-to-object (or ECM) is not an option with *want*-infinitivals. Passivization of the subject of a *want*-infinitival is impossible, as shown in (57a), even though passive is allowed in principle, at least with some *want*-type verbs, as shown by (57b).

(57) a. *They were hoped [_t to win].

b. It was hoped that they would win.

If the subject position of a *want*-infinitival is invariably a Case position, the ungrammaticality of (57a) follows from Last Resort. But Last Resort would also exclude raising-to-object.

<<The version of Last Resort assumed here is Chomsky's first version of Greed: things only move to satisfy their own requirements, so A-movement from a Case position would be forbidden. Subsequently, Chomsky reversed that so that movement is only driven by the need to satisfy requirements of the position to which movement takes place (the Attract view). This necessitated something like the Activity Condition - items with all their features checked are invisible as movement candidates. Given this, Martin's point would still stand.>>

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I assume, following Chomsky (1995), that so-called ECM is movement of the subject of the infinitive to a specifier position in the higher clause. Lasnik and Saito (1991) provide numerous arguments, many of them based on insights of Postal (1974), supporting this analysis. They

<Martin then gives a couple of the L&S paradigms with B-verbs, and compares W-verbs. You have seen the paradigms before, so I won't include them here.>

According to Lasnik and Saito (see Bach 1977 for similar conclusions), lexical subjects of *want*-infinitivals behave like subjects of finite complements in these respects, regardless of whether or not *for* is overtly present.

Martin then concludes that the Case of the overt subject of a W-verb complement must be checked by the Infl *to* or by a null *for*. <Under a Davis type account, these don't necessarily differ.>

The possibility of VP-ellipsis indicates that Case can be checked in the specifier of nonfinite T in all of the examples in (54). Let us make the natural assumption, then, that the subject invariably has null Case. This raises important questions. First, why can lexical subjects have null Case in *want*-infinitivals but not in other control infinitivals? Second, what is the role of *for* in (54b)?

AND why can't we get a lexical subject as the complement of a *try*-type verb?

p.157 I argue that lexical DP is impossible in standard (i.e., *try*-type) control infinitivals because nonfinite T lacks ϕ -features.³⁴ Suppose PRO differs from lexical DP in that it does not have (formal) ϕ -features. Since PRO need not enter a ϕ -feature-checking relation, it suffices to check null Case with [+tense, -finite] T. I also assume that *for* has ϕ -features but does not check Case.³⁵ The derivation I propose for (54b) is illustrated in (62).

- (62) a. John wants [_{FP} *for* [_{TP} his team *to* [_{VP} *t* win]]]
b. John wants [_{FP} his team *for* [_{TP} *t* *to* [_{VP} *t* win]]]

The embedded subject checks null Case in the specifier of T overtly, as in (62a), then raises covertly to the specifier of FP to check ϕ -features, as in (62b).

Support for this derivation is provided by the fact that the overt word order in Belfast English is as in (62b) whereas the word order in (62a) is impossible (Henry 1992). This suggests that ϕ -features of F are strong in Belfast English and weak in so-called Standard English. The two will be identical at LF under my analysis.

<<In the Chomsky framework assumed, all features must be checked in specific very local configurations. Strong features must be checked overtly, forcing overt movement.>>

Now what's happening with the complement subject in (54c) "John wants his team to win"?

p.157 Since the lexical subject in (54c) must check ϕ -features, I assume, following Chomsky (1981), that null *for* is present.

- (63) John wants [_{FP} \emptyset_{for} [_{TP} his team *to* [_{VP} *t* win]]].

Martin then discusses some limitations on the distribution of null *for*, appealing to the Pesetsky proposal we briefly looked at recently, and a related one by Ormazabal, Javier. 1995. The syntax of complementation: On the connection between syntactic structure and selection. PhD diss. UConn. For some recalcitrant cases, he suggests the following, anticipating part of the Boskovic&Lasnik development of Pesetsky's proposal we have discussed.

"One possibility would be to assume that ϕ_{for}/ϕ_{Comp} can only affix to [-N] categories."

The problem now, as we saw recently in class, is that control complements are completely immune from all the constraints on null complementizers.

- p.159 (70) a. John wants very much [PRO to win].
b. It is illegal [PRO to criticize the government].
c. Kim's desire [PRO to score a goal]

The grammaticality of (70a–c) suggests that θ_{for} need not be present when the subject of a *want*-infinitival is PRO. Also, as (71) shows, *for* never cooccurs with PRO subjects.

(71) *John wants [for PRO to win].

Recall that PRO does not have ϕ -features. One consequence of this, noted above, is that PRO *need not* enter a ϕ -feature-checking relation with some X^0 . However, also implied is that PRO *cannot* check the ϕ -features of some X^0 . Hence, the impossibility of *for*/ θ_{for} with PRO is deduced: the derivation will crash since the ϕ -features of *for*/ θ_{for} remain unchecked.³⁹

³⁹ The fact that (71) is grammatical in Belfast English, as well as other varieties of English spoken in Northern Ireland and the United States (Chomsky and Lasnik 1977, Henry 1992), suggests that the analysis in the text may be on the wrong track. It could be that languages that allow (71) optionally allow PRO to have ϕ -features. A more interesting possibility would be to assume that *for*/ θ_{for} is invariably present in *want*-infinitivals and that the (im)possibility of (71) is due to an agreement parameter, along the lines of Rizzi's (1990) analysis of Comp-*t* effects. In languages that disallow (71), only θ_{for} can agree with PRO, similar to the fact that only θ_{Comp} can agree with a *wh*-trace in certain languages. Languages that allow (71), on the other hand, allow lexical *for* to agree with PRO, just as some languages allow lexical complementizers to agree with a *wh*-phrase (e.g., French *qui*). Pursuing this line of analysis further requires explaining the grammaticality of (70). One possibility is that *to* is able to host the affix θ_{for} when the subject is null. Unfortunately, I do not see what principle would then prevent the same from happening when the subject is *wh*-trace. This might relate, however, to the well-known fact that *to* can phonologically contract with *want* when the subject is PRO but not when it is *wh*-trace.

<The next section of Martin's paper concerns raising to subject. He show important parallels to ECM. The VP ellipsis paradigms are particularly striking. I encourage you to take a look, but I won't have time to get into it here.>

Martin concludes with discussion of how government is now eliminated from Case theory and Binding Theory, pushing forward a Minimalist desideratum.

- p.163 One of the goals of the Minimalist Program (Chomsky 1995) is to limit syntactic relations to those that are, in some sense, *natural*. Much recent work has concentrated on the attempt to eliminate arbitrary or complex relations such as government, which appears to be totally unwarranted in minimalist terms. Of course, to eliminate government, one must show that the phenomena it was used to describe can be accounted for in other, and empirically more adequate, ways. Particular success has been achieved with respect to Case, traditionally thought to be assigned under government but currently argued to involve checking in the highly local and primitive relations of a *bare* X-bar theory (Chomsky 1995).

Still, government has remained a crucial component of the binding theory for exactly one reason: to account for the distribution of PRO. I have argued that the distribution of PRO can be fully accounted for by the null Case hypothesis and that such an account is both conceptually well motivated and empirically more adequate. Thus, one major consequence of the current analysis is that government can be eliminated from the binding theory, and perhaps from the grammar altogether.

Another important consequence of my analysis is that the complementary distribution of PRO and NP-trace, witnessed in (92)–(93), follows immediately from Last Resort, as discussed in most detail by Bošković (1996).

- (92) a. John_i seems *t*_i to have parked here.
b. John_i is believed *t*_i to have parked here.
- (93) a. *John_i was tried [*t*_i to park here].
b. *John_i is illegal [*t*_i to park here].

That is, the impossibility of movement from the subject position of control infinitivals, as in (93), is simply an instance of illicit A-movement from a Case position. This result is highly desirable from a minimalist perspective since (93a–b) have long resisted an explanation in terms of Relativized Minimality (Rizzi 1990) or the Minimal Link Condition (Chomsky 1995), requiring that some notion of *barrier* for movement be maintained (Chomsky 1986a, Rizzi 1990). Thus, the Case-theoretic approach to PRO also opens the door for the elimination of barriers. Unfortunately, pursuing this goal further is beyond the scope of the present article; but see Takahashi 1992 for a very interesting analysis that attempts to do away with barriers entirely.