

ECM-Based Case Theory and Its Interaction with the A-bar System*

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Abstract

This paper argues against the assumption held in the literature since Chomsky (1995) that location of a phrase caused by the morphological property of a head targets a specifier of the head. By observing the configuration resulting from Case assignment and A-bar dislocation, I conclude that the head selects a specifier of the complement of the head as the position in issue—resulting in an Exceptional Case Marking (ECM) configuration, in traditional terms. With additional assumptions, the conclusion entails that derivation proceeds either from the bottom up, requiring specifiers to tuck in below heads, or entirely from the top down, with no need of tucking in.

Keywords: post-operational configuration, Target of Merge, Case assignment, Exceptional Case Marking, ellipsis-driven dislocation, ordering of operations

1. Introduction

In the framework presented by Chomsky (2000, 2001), the core part of the computation is carried out by the operations Agree and Merge. Agree values an unvalued (uninterpretable) feature, typically ϕ , of Probe P by an inherently valued (interpretable) feature of its Goal, henceforth $G(P)$. When P is complete, Agree further values an uninterpretable feature of $G(P)$, typically Case, by an interpretable feature of P . The other operation Merge takes place under two occasions: (a) when P is accompanied by the EPP feature, in which case Merge is concomitant with Agree, or (b) when driven by the direct needs of the interfaces, e.g. selection, θ -marking and stylistic dislocation. In occasion (a), the EPP chooses a phrase that includes $G(P)$ and fixes its copy to some position, creating the Target, henceforth $T(P)$. The primary purpose of this paper is to reestablish this position that EPP selects as $T(P)$ in occasion (a) of Merge.

For this purpose, consider the positional relation between P and the most recently created copy of the phrase including $G(P)$ at the stage immediately after the operation driven by P . When P has an EPP feature, the most recently created copy of the phrase that includes $G(P)$ is

* This paper reaps the benefits of IMANISHI Terazu Noriko, KASAI Hironobu, KUNO Masakazu, Howard LASNIK, MIYASHITA Harumasa, Christopher TANCREDI and WATABABE Akira. Especially, Howard LASNIK, Christopher TANCREDI, and WATANABE Akira gave me extensive comments on earlier versions of this paper. However, I could not make the best of their helpful suggestions and I am solely responsible for any remaining errors and misunderstandings. Organized response to these suggestions will perhaps be made in my future publication.

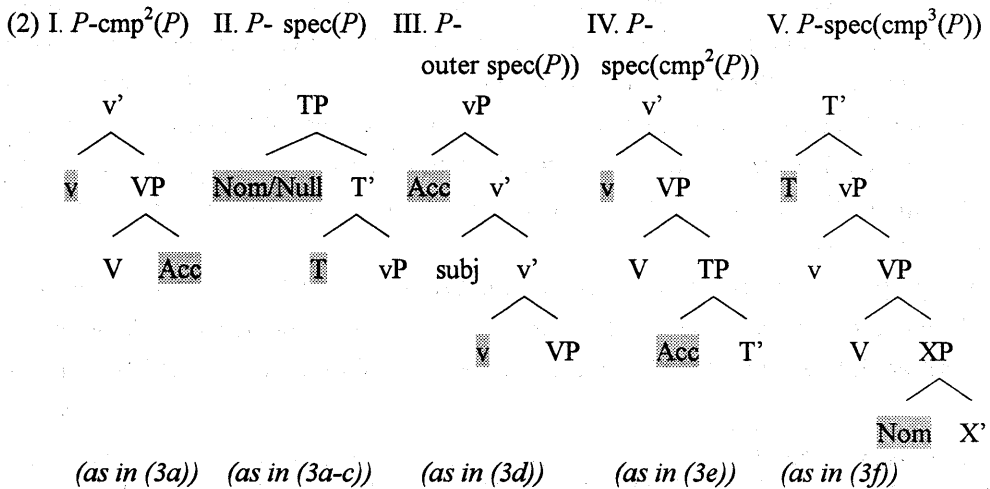
$T(P)$. When P does not, it is $G(P)$ itself. Let us call the positional relation the post-operational configuration, contrasting it with the pre-operational configuration, which is always $P-G(P)$:

(1)

	when P has EPP	when P does not have EPP
pre-operational configuration	$P-G(P)$	$P-G(P)$
↓	↓	↓
operation	Agree-Merge	Agree
↓	↓	↓
post-operational configuration	$P-T(P)$	$P-G(P)$

In establishing the position for $T(P)$, we must not limit our observation to the configurations that are asserted in the literature to be $P-T(P)$, since choosing a $P-T(P)$ configuration from the inventory of the post-operational configurations stands on the assumption regarding the position allowed as $T(P)$, which is the very thing that we are trying to reconsider. Thus, it is important to examine not only $P-T(P)$ but post-operational configurations in general.

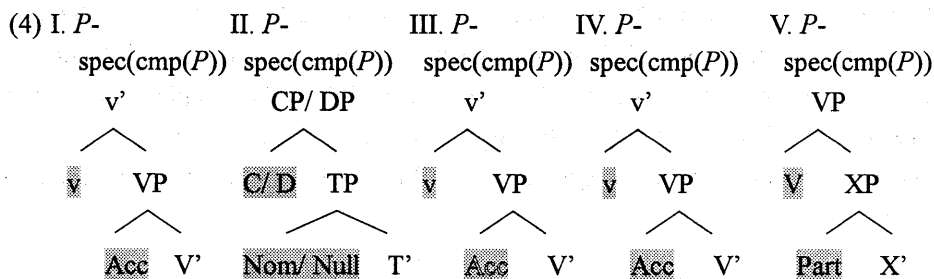
Even if we limit our attention to operations that involve Case assignment, at least five different post-operational configurations have been identified, as in (2). (2II, III) manifest $P-T(P)$, while (2I, IV, V) are $P-G(P)$. The abbreviations are: $\text{cmp}^n = 'n\text{-time iteration of "complement to,"}'$ $\text{spec} = 'inner\ specifier\ of,'$ $\text{outer spec} = 'outer\ specifier\ of.'$ The use of X-bar theoretic notions is not to deny bare phrase structure; it is for convenience. Henceforth, outlined letters represent unpronounced copies.



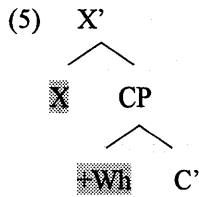
- (3) a. [CP C [TP Mary T [VP Mary liked [VP V the book]]]]
 ↳II ↳I
- b. será difícil [TP eles aprova-r-em a proposta]
will.be difficult they.Nom approve-to-3Pl the proposal (European Portuguese)
 ↳II
- c. it was difficult [CP *op* C [TP PRO to get the book]]]
 ↳II
- d. [CP jag kysste [TP jag kysste [VP henne inte jag kysste [VP V henne]]]
I kissed her not (Swedish)
 ↳III
- e. Mary [VP Mary considers [VP V [TP it to be very informative]]]
 ↳IV
- f. [CP C [TP there are [VP are [VP V [PP four chapters in the book]]]]]
 ↳V

(b: Raposo (1987:86); d: Holmberg (1999:1))

Against this standard analysis, I defend in this paper the position that the post-operational configurations regarding Case assignment to the nominals in (3) are uniformly *P-spec(cmp(P))*. Precisely, I argue that the position of the nominals in (2I, IV) is not correct, that the elements specified as *P* in (2II, V) are not the right ones and that the nominal in (2III) does not overtly show up in the post-operational configuration related to its Case assignment. The post-operational configurations (2I-V) are to be modified as (4I-V), respectively. (4II, IV) are *P-T(P)* configurations, whereas (4I, III, V) are *P-G(P)*.

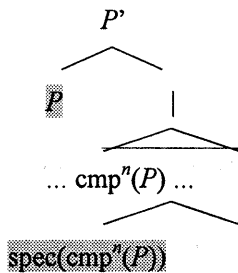


I further argue that operations concerning the [+Wh] feature in spec(CP) also go along this line:



Generalizing the empirical domain to include long distance Case assignment, the description of post-operational configurations may seem to be as (6), with (4I-V) manifesting the special case $n = 1$.

(6) Post-operational configurations are restricted to $P\text{-spec}(\text{cmp}^n(P))$, $n = 1, 2, \dots$



As we will see in section 8, (6) entails, under an additional assumption, that, whenever there is a post-operational configuration $P\text{-spec}(\text{cmp}(P))$, the configuration is $P\text{-}T(P)$ unless the nominal was previously introduced into that position by the direct needs of the interfaces, such as selection, θ -marking or stylistic dislocation.

The position of the nominal in the post-operational configuration $P\text{-spec}(\text{cmp}(P))$ in (4II, IV) cannot be attributed to any of the direct needs of the interfaces, such as selection, θ -marking or stylistic dislocation. This means that the configuration is $P\text{-}T(P)$. Thus, we have a clear instance of $P\text{-}T(P)$ that is also $P\text{-spec}(\text{cmp}(P))$. The simplest hypothesis regarding the nature of EPP and of $T(P)$, which should be adopted unless there is counterevidence, is that the $P\text{-}T(P)$ configuration that EPP selects is uniform for arbitrary P . From this, (7) follows:

(7) $T(P) = \text{spec}(\text{cmp}(P))$, for arbitrary P .

This is the major claim of this paper.

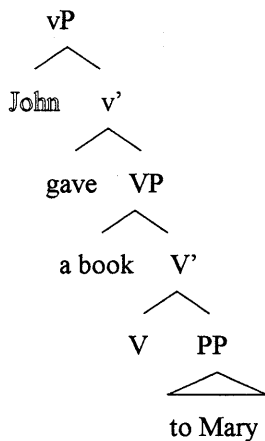
Sections 2-5 handles each type of nominal listed in (2, 3). Sections 2-4 are ordered by the structural position of the nominal to be argued for: the lower, the earlier. Namely, sections 2, 3 and 4 deal with what has been regarded as $\text{cmp}(vP)$, $\text{outer spec}(vP)$ and $\text{spec}(TP)$, respectively. Section 5 deals with a more complicated case: the expletive *there*-construction. Section 6 extends the observation to the A-bar system. Section 7 is a brief speculation that

might come to mind after the previous observations. Taking over these observations, section 8 derives the major conclusion (7). In section 9, further taking over conclusion (7), an interesting speculation is made on how derivation proceeds. The arguments are summarized in section 10.

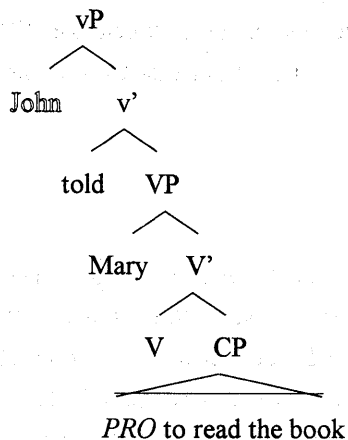
2. Objects(-in-Situ) in Simple Transitives

In this section, we reexamine the base position of the direct object in simple transitive constructions by analogy from the direct object in other constructions. Since Larson (1988), it is widely accepted that a dative construction has a VP shell structure. With slight modification regarding head dislocation to fit the framework of Chomsky (2000, 2001), an example of this construction will be as in (8a). A construction with a direct object and a clausal complement needs to be analyzed likewise by the VP shell, as in (8b), at least to maintain binary branching. In both constructions, the direct object is located in spec(VP).

(8) a. John gave a book to Mary

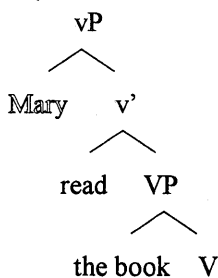


b. John told Mary [_{CP} *PRO* to read the book]



Chomsky (1995), among others, extends the VP shell analysis to simple transitives. He assumes that the direct objects of simple transitives are in $\text{cmp}(\text{VP})$. However, assuming the (absolute) Universal Theta Assignment Hypothesis (Baker (1997)), the direct object of a simple transitive, which bears a theme role, will be naturally located rather in $\text{spec}(\text{VP})$:

(9) Mary read the book



This analysis compels the existence of a category with a specifier and without a complement, but this does not seem to cast any problem.

As Watanabe Akira (p.c.) and Howard Lasnik (p.c.) point out, the distinction between the complement and the specifier within VP in (9) may be trivial under the bare phrase structure theory if we allow a category with a specifier and without a complement. If we dismiss the distinction, it is well with our purpose. Alternatively, understanding that such notions as complement and specifier are determined only relatively with respect to the structure in which it appears, we may distinguish the two notions by assuming diagnostics (10):

(10) A nominal argument position is the inner specifier of a θ -assigning head.

Under the former alternative, the post-operational configuration for Probe *v* and the direct

object in a simple transitive construction is $P\text{-spec}(\text{cmp}(P))$ in (4I) as well as it is $P\text{-cmp}^2(P)$ in (2I). Under the latter alternative, the configuration is no longer $P\text{-cmp}^2(P)$ but is $P\text{-spec}(\text{cmp}(P))$.

3. (So-Called) Outer Spec(vP)

In this section, we examine what has been claimed to be in the outer spec(vP). We conclude (i) that neither Accusative Case assignment nor object agreement is the driving force of dislocation to such a position and (ii) that these items are not actually located in the outer spec(vP) but are located in some higher position. Under (i), there is no reason to assume that Accusative Case assignment and object agreement with a shifted object is done in a different way from that with non-shifted objects. Strictly speaking, to establish that the Case assignment configuration is v-spec(VP) with shifted objects, independent evidence must be shown. However, we may at least note that the simplest assumption is that the post-operational configuration for Accusative Case assignment in these cases is also v-spec(VP), as we concluded for simple transitives in section 2.

3.1. Object Shift

It is claimed in the literature (Chomsky (1995, 2001)) that shifted objects in Scandinavian languages are located in the outer spec(vP) and that dislocation to such a position is triggered by object Agreement and Accusative Case assignment. The following examples may be analyzed in this way under Bobaljik's (1995) assumption that negation and sentence adverbs in Scandinavian languages are adjoined to vP, disregarding the technical question of whether a spec can be located outside of an adjunct.

- (11) a. [CP jag kysste [TP jag kysste [vP henne inte [vP jag kysste henne]]]
I kissed her not (Swedish)
 b. [CP [vP jag kysst henne] har [TP jag har [vP henne inte [vP jag kysste henne]]]]
kissed have I her not
 (Holmberg (1999:1,7))

In (11b), the vP is topicalized.

However, as Holmberg (1999) notes, observation of embedded clauses with an auxiliary, which, unlike that of matrix clauses, is not dislocated to C, reveals that negation and sentence adverbs in the Scandinavian languages cannot be lower than the auxiliary's base position, and thus, contra Bobaljik, that they are higher than anywhere an adjunct to vP can be.

- (12) a. * det är möjligt [_{CP} att [_{TP} Per T [_{VP} har [_{inte} [_{VP} Per kysst henne]]]]]
it is possible that has not kissed her (Swedish)
 b. det är möjligt [_{CP} att [_{TP} Per T [_{inte} [_{VP} har [_{VP} Per kysst henne]]]]]
 c. [_{CP} jag har [_{TP} jag har [_{inte} [_{VP} har [_{VP} jag kysst henne]]]]]
I have not kissed her

(Holmberg (1999:1,6))

If shifted objects are to be identified by being located higher than a negation or a sentence adverb, it cannot be maintained that they are located in the outer spec(vP).

There is also evidence against the assumption that object shift is concomitant with Accusative Case assignment. Thus, even Nominative objects in Icelandic, which can be found in ergative, passive, or psych-verb constructions, undergo object shift:

- (13) a. mér líkar hún / tölvan ekki
me.Dat like.2Sg it the.computer.Nom not (Icelandic)

(Holmberg (1999:24))

Observation of cross-linguistic correlation between word order and the availability of object shift in certain constructions implies that object shift is a derivational operation but cannot be a purely syntactically driven operation done as concomitant with Case assignment and agreement. That is, object shift correlates with whether there is a phonologically visible element within vP at the point of derivation where it takes place. First, the object pronoun in a verb particle construction obligatorily shifts in the Scandinavian languages with object-particle order, whereas it does not in the Scandinavian language with particle-object order, namely Swedish. Even in the latter language, extraction of the particle enables object shift.

- (14) a. jeg skrev {*opp det / det opp}
I wrote up it (Norwegian)
 b. de kastet meg ikke [_{VP} de kastet meg ut]
they threw me not out
 c. jeg skrev {*op det / det op}
I wrote up it (Danish)
 d. jeg skrev det måske ikke [_{VP} jeg skrev det op]
I wrote it maybe not up
 e. jag skrev {upp det / * det upp}
I wrote up it (Swedish)
 f. * dom kastade mej inte [_{VP} dom kastade ut mej]
they threw me not out
 g. [_{CP} UT kastade [_{TP} dom kastade [mej inte [_{VP} dom kastade ut mej]]]]]
out threw they me not

(Holmberg (1999:44))

That the correlation is not peculiar to the verb particle construction can be seen by the variability of the object shift blocker:

- (15) a. *_{CP} jag har [_{TP} jag har [henne inte [_{VP} jag kysst henne]]
I have her not kissed (Swedish)
- b. * ... [_{CP} att [_{TP} jag T [henne inte [_{VP} jag kysste henne]]
that I her not kissed
- c. *_{CP} jag talade [_{TP} jag talade [henne inte [_{VP} jag talade med henne]]
I spoke her not with
- d. * [_{CP} jag gav [_{TP} jag gav [den inte [_{VP} jag gav Elsa den]]
I gave it not
- e. [_{CP} vem gav [_{TP} du gav [den inte [_{VP} du gav vem den]]
who gave you it not

(Holmberg (1999:17))

Second, shifting the subject of a small clause (SC) is possible in German, which has O-V order and accordingly SC-V order, whereas it is impossible in Swedish, which has the converse word order, because the verb will block object shift in Swedish. That the remnant vP topicalization does not enable object shift in the Swedish example implies that the verification of the existence of a phonologically visible element within vP is done at the point of derivation where object shift takes place.

- (16) a. [_{CP} [_{VP} [_{SC} seine Tochter rauchen] gelassen] hat [_{TP} er hat [seine Tochter
smoke allowed has he his daughter
 [nicht [_{VP} [_{SC} seine Tochter rauchen] gelassen]]]]]
not (German (SOV))
- b. * [_{CP} [_{VP} gjort [_{SC} mej förvirrad]] har [_{TP} den har [mej [alltid [_{VP} gjort
made confused has it me always
 [_{SC} mej förvirrad]]]]]]]
 (Swedish (SVO))

(Holmberg (1999:9))

Though object shift is a derivational operation, it is irrelevant to Accusative Case assignment and object agreement. Rather, Holmberg attributes the crucial factor of Scandinavian object shift to the property [-Focus]. With cross-linguistic variation, the shifted object tends to be specific and light, but not a bare indefinite, a negative DP or a wh-phrase. If it is a pronoun, it must be a weak pronoun. In such cases, the shifted object might be a topic. However, this is not necessarily the case, since also an expletive in an idiomatic expression can be shifted:

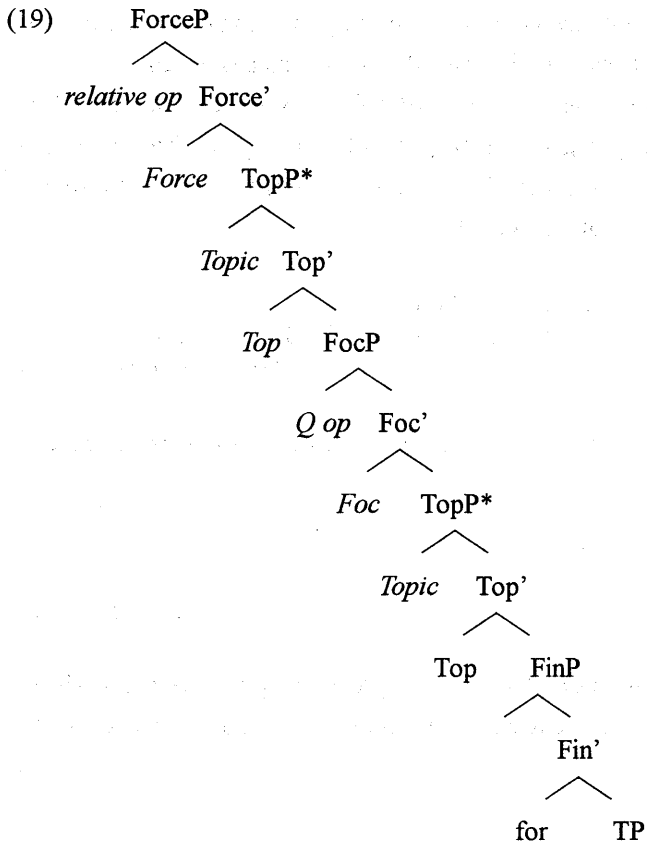
- (17) han tar det mycket sällan [_{SC} det lugnt]
he takes it very seldom easy [ta det lugnt 'take it easy'] (Swedish)

(Holmberg (1999:23))

In this case, a different process, such as cliticization, might be working. We will not go further into this matter. For constructions including a shifted object that is topic, it is concluded that the subject is extracted out of the TP past TopP if we adopt the usual assumption that topic phrase TopP is higher than TP because the subject precedes the shifted object. One possibility is to allocate the subject as the spec of the focus phrase FocP and the second position verb as the head Foc. The structure in (11) will on these assumptions be modified as (18):

- (18) a. [_{FocP} jag _{Foc}kysste [_{TopP} henne *Top* [_{TP} jag inte *vP*]]]
 I *kissed* *her* *not* *(Swedish)*
- b. [_{TopP} [_{VP} jag kysst henne] _{Top}har [_{FocP} jag har [_{TopP} henne *Top* [_{TP} jag inte *vP*]]]]
 kissed *have* *I* *her* *not*

This is consistent with Rizzi's (1997) analysis of the left periphery of a clause, in which TopP can iterate above and below the unique optional FocP.



3.2. The Remnant of Pseudogapping

Though object shift is not observed in English in the most typical cases, there are certain constructions which have been taken up as evidence of object shift in this language. One such construction, which may seem to show this operation most overtly, is pseudogapping. The surface effect of pseudogapping is like vP ellipsis except that it leaves behind some vP internal constituent. At the surface, the elided part of pseudogapping is not necessarily a single constituent.

- (20) a. the DA proved Jones guilty and the Assistant DA will prove Smith guilty
 b. ? John gave Bill a lot of money, and Mary will give Susan a lot of money
 c. John could pull you out of a plane, like he did pull his brother out of a plane
 d. Gee, I've never seen you on campus before.---Yea! Neither have I seen you on campus before
 e. John will select me, and Bill will select you
 f. Mary hasn't dated Bill, but she has dated Harry
 (a, b, e: Lasnik (1995:152-153); c, d, f: Sag (1976) cited in Lasnik (1995))

Thus, in order to maintain the assumption that ellipsis applies only to a single constituent, it is necessary to assume that the remnant is dislocated to outside the vP which is elided.

A possible candidate of this dislocation is heavy DP shift. However, Lasnik (1995) observes that the remnant of pseudogapping shows properties that are quite different from a shifted heavy DP, which casts doubt on this possibility. First, the remnant of pseudogapping can be, but a shifted heavy DP cannot be, an indirect object.

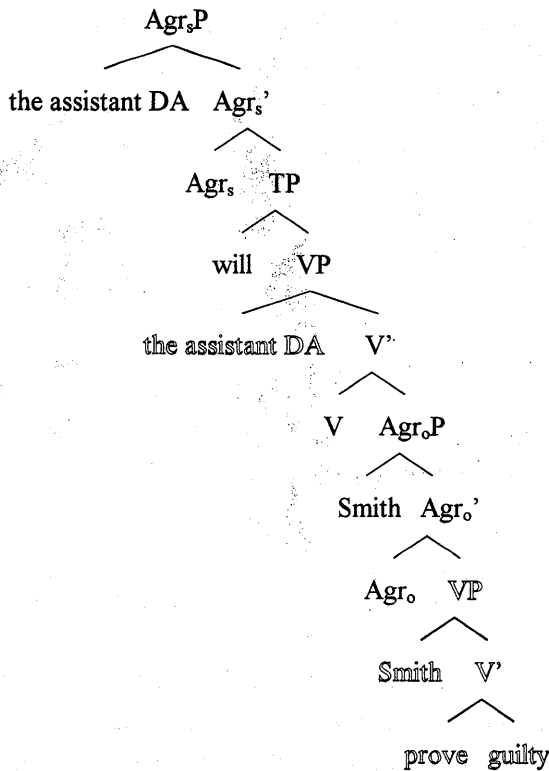
- (21) a. ? John gave Bill a lot of money, and Mary will Susan
b. * John gave a lot of money the fund for the preservation of VOS languages
(Lasnik (1995:153-154))

Second, the remnant of pseudogapping can be, but a shifted heavy DP cannot be, a pronoun other than *it*.

- (22) a. John will select me, and Bill will you
b. ?* Bill will select tomorrow you
(Lasnik (1995:155))

Having excluded the possibility of heavy DP shift in pseudogapping, Lasnik analyzes pseudogapping as object shift followed by ellipsis of the lower verb phrase shell, as in the following:

(23) (the DA proved Jones guilty and) the Assistant DA will Smith



Crucially, this analysis relies on the assumption that there is a stage in the derivation where the phonological content of the verb is located on the head of the lower verb phrase shell. At the point of ellipsis, the phonological content of the verb must be placed in this position, whereas the remnant must be raised out of the lower verb phrase shell.

There are empirical reasons that the analysis cannot be maintained. First, even manner adverbs, which are presumably adjoined to vP, cannot be left over by ellipsis (25a, b) or pseudogapping (25c, d).

- (24) a. John has been seriously wounded and Harry has been [_{vP} *(seriously) wounded]
 b. John lied convincingly but Bill did [_{vP} lie (*unconvincingly)]
 c. John quickly cooked the rice and Mary (*slowly) the beans
 d. Simon enthusiastically counted the gold and Jack (*nervously) the diamonds
 (a: Brodíl (1985:38), b: Grosu (1975:183), c: Hankamer (1971:103), d: Terazu (1975:36),
 all cited in Imanishi and Asano (1990))

This means that anything dominated by some segment of vP cannot be a remnant. Ellipsis of the lower verb phrase shell, leaving the higher verb phrase shell, is impossible. Thus, the remnant of pseudogapping cannot be placed in spec(vP) or adjoined to vP, but must be located in a projection that is distinct from and is higher than vP.

Second, as Kennedy and Merchant (1997) note, PPs and APs, which clearly do not bear Accusative Case, can be the remnant of pseudogapping.

- (25) a. his idea might not seem crazy to you, but it does to me
b. Lucy had talked about Hungarian music before Martin did about Bakunin
c. we would view it as a liability, but they would as an asset
d. there was a riot on the mall, but there wasn't in the garden
e. Rona looked more annoyed than she did frustrated
f. I want to live with a man more than I do with a woman

(e, f: Levin (1986) cited in Kennedy and Merchant (1997)
others: Kennedy and Merchant (1997:11))

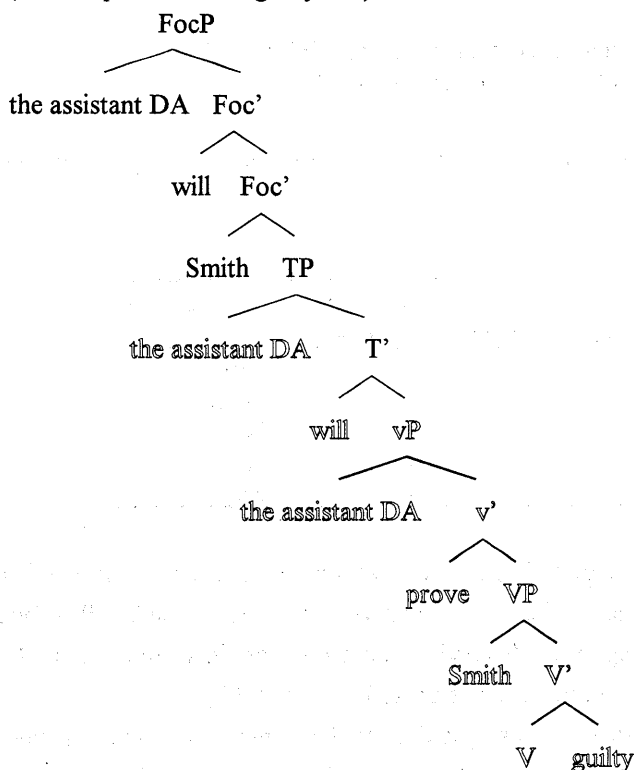
This is a strong piece of evidence against the assumption that the driving force of the dislocation of the remnant is Accusative Case assignment or object agreement. Rather, [+Focus] seems to be an inevitable property of the remnant, as is noticed by Boeckx (2000):

- (26) a. John ate CHOCOLATE, but he didn't COOKIES
b. John ate chocolate, but Mary didn't (*?chocolate)

(a: Boeckx (2000:120))

Taking these observations into consideration, we conclude that there is a category above vP, which is not related to Case assignment or agreement and whose spec hosts the remnant, and that this category is likely to be FocP. Adopting the usual assumption that FocP is higher than TP, we must assume that the subject in the pseudogapping construction is extracted out of the TP past FocP if we are to pursue this line. In case (20a), one possibility, as suggested by Watanabe Akira (p.c.), is to allocate the subject as the outer spec of FocP. Under this analysis, the position of the auxiliary, which is sandwiched by the two foci will be a mystery. Let us tentatively assume that the position of the outer specifier and the head of FocP are switched. The structure will be like the following.

(27) (the DA proved Jones guilty and) the Assistant DA will Smith



The reason why the vP is elided obligatorily in the pseudogapping construction may be related to the driving force of the dislocation to spec(FocP) Foc. We can easily conceive that the driving force of these dislocations is to create an unsaturated predicate in vP, which must then be elided under (partial) identity with the antecedent vP. This situation may be compared to the obligatory vP ellipsis with *do*-inserted sentences.

(28) John ate chocolate and Bill did (* eat chocolate) too

Without vP ellipsis, *do*-insertion in (28) loses its motivation. Since ellipsis can be seen as an economy request from the PF interface, the argument is in line with the recent trend, represented by Reinhart (1993) and Fox (1998), to attribute the motive of dislocations to interface needs.

4. Spec(TP)

In this section, we reevaluate the head that Agrees with the subject in spec(TP) and assigns Case to it. It has been assumed in the literature that the Nominative Case assigner and the

Null Case assigner are T.

- (29) a. Nominative Case is assigned as a reflex of Agree with [+Fin(ite)] T.
 b. Null Case is assigned as a reflex of Agree with [-Fin] T.

However, a wider range of consideration attests problems with both (29a, b). Consider the various types of TPs in (30):

(30) Case assignment to spec(TP)

	Fin within T ([±Past] distinction)	φ within T (agreement)	assigned Case
a. indicative/ subjunctive	+	+	Nom
b. inflected infinitive	-	+	Nom
c. control infinitive	-	-	Null
d. ECM infinitive	-	-	Acc
e. raising infinitive	-	-	none

First, inflected infinitives, which have [-Fin] T and a Nominative subject, attest that (29a) is only a partial description of the distribution of Nominative Case. This type of TP is found in languages such as European Portuguese. Second, as we see further in section 4.3, ECM and raising infinitives pose a problem with the account of Null Case by (29b).

Contrary to (29), we conclude that what assigns Case to the element in spec(TP) is the head directly above TP: C for Nominative Case in indicatives and Null Case and D for Nominative Case in inflected infinitives.

4.1. Subject of Indicative Clauses

Probably, the strongest reason that T has been assumed to be the Case assigner to spec(TP) is that it agrees with the subject in spec(TP) in indicatives/ subjunctives, and, moreover, that the subject Case becomes non-Nominative when the T loses agreement in infinitives. Thus, there is a correlation between the morphology of T and that of spec(TP):

- (31) a. [_{TP} {Mary is / I am / we are / you are / they are} [_{VP} attending the conference]]
 b. John persuaded {Mary₁ / me₂ / us₃ / you₄ / them₅} [_{TP} PRO_{1/2/3/4/5} to [_{VP} attend the conference]]
 c. John expected [_{TP} {Mary / me / us / you / them} to [_{VP} attend the conference]]
 d. {Mary is / I am / we are / you are / they are} likely [_{TP} {Mary / I / we / you / they} to [_{VP} attend the conference]]

However, this agreement property of T is not its privilege. First, as is well known, in English indicatives without auxiliaries, v, instead of T, agrees with the subject:

(32) [TP {Mary [_{VP} likes / I [_{VP} like / we [_{VP} like / you [_{VP} like / they [_{VP} like] Kentucky Fried Chicken better than McDonald's}]

Second, in various dialects of Dutch, German and Frisian, C, as well as the verb, agrees with the subject:

- (33) a. ... [CP da- \emptyset -j [TP gie kom-t]]
 that-2Sg-you you come-2Sg (West Flemish)
 b. ... [CP da- \emptyset -j [TP gunder kom-t]] ($\emptyset < t$)
 that-2Pl-you you come-2Pl
 c. ... [CP da-t-j [TP ij kom-t]]
 that-3Sg-he he come-3Sg
 d. ... [CP da- \emptyset -se [TP zij kom-t]] ($\emptyset < t$)
 that-3Sg-she she come-3Sg
 e. ... [CP da-n-k [TP ik kom-en]]
 that-1Sg-I I come-1Sg
 f. ... [CP da- \emptyset -me [TP wunder kom-en]] ($\emptyset < n$)
 that-1Pl-we we come-1Pl
 g. ... [CP da-n-ze [TP zunder kom-en]]
 that-3Pl-they they come-3Pl

(Zwart (1997:138))

Regarding the possibility of agreement with the subject in spec(TP), C, T and v are all positive; they all agree at least on some occasion. Thus, it is invalid to attribute the Case assignment to spec(TP) to T solely for the reason that it agrees with the element in spec(TP). Nor does there seem to be any other convincing reason to assume so. The fact is at least compatible with the account that the Case assigner to the spec(TP) in (31a, b) is the C outside the TP. Complementizer agreement seen in (33) suggests that it is not unnatural to assume that there is a complete ϕ -set in C in languages even when they do not overtly agree.

In fact, there seems to be a crucial correlation between the existence of C and the Case of spec(TP). As in (34a, b), whenever there is a C directly above the TP, the subject in spec(TP) bears a Case whose source is obviously within the CP. Whenever there is not, as in (34c, d), the subject bears a Case that is assigned by some element in the matrix clause.

- (34) a. [CP C Mary is attending the conference]
 b. John persuaded Mary [CP C PRO to attend the conference]
 c. John expected [TP Mary to attend the conference]
 d. Mary is likely [TP Mary to attend the conference]

This fact at least suggests that C is the Case assigner to spec(TP) in indicative and control CPs and that T is not implicated in Case assignment.

4.2. Subject of Inflected Infinitives

Inflected infinitives, which have the combination [-Fin, + ϕ] within T, are found in languages such as European Portuguese. Although the T of an inflected infinitive is [-Fin], its subject may, and in fact must, bear Nominative Case, unlike the subject of noninflected infinitives, which may bear Null Case. Inflected infinitives and uninflected infinitives are distinguished by the presence of an agreement morpheme on T.

- (35) a. *expl* será difícil [eles aprova-r-em a proposta]
will.be difficult they.Nom approve-to-3Pl the proposal
 b. * *expl* será difícil [contigo aprova-r-es a proposta]
will.be difficult you.Obl approve-to-2Sg the proposal
 c. * *expl* se-los-á difícil [los aprova-r-em a proposta]
will-3Pl.clitic.Obj-Future difficult approve-to-3Pl the proposal
 d. *expl* será difícil [*PRO* aprova-r a proposta]
will.be difficult approve-to the proposal

(Raposo (1987:86))

(36) inflected infinitives in European Portuguese

- a. *cu* come-r- \emptyset
I.Nom eat-to-1Sg
 b. *tu* come-r-es
you.Nom eat-to-2Sg
 c. *ele* come-r- \emptyset
it.Nom eat-to-3Sg
 d. *nós* come-r-mos
we.Nom eat-to-1Pl
 e. *vós* come-r-des
you.Nom eat-to-2Pl
 f. *eles* come-r-em
they.Nom eat-to-3Pl

At this point, it is obvious that (29a) does not cover the whole distribution of Nominative Case. (29a) as a description of Nominative Case assignment must be somehow modified.

As Raposo (1987:86) reports, inflected infinitives seem to appear only in Case marked environments:

I. spec of TP

- (37) [_{TP} [eles aprovarem a proposta] será difícil]
they approve-to-3Pl the proposal will.be difficult

Raposo analyzes (35a) as an extraposed-subject version of (37).

II. complement to P

- (38) eu entrei em casa [_{PP} sem [os meninos verem]]
I entered the house without the children see-to-3PI

III. complement to factive emotive predicates

- (39) a. eu lamento [os deputados terem trabalhado pouco]
I regret the deputies have-to-3PI worked little (factive emotive)
 b. * o Manel { pensa / afirmo / desejava } [os amigos terem levado
the think claim wished his friends have-to-3PI taken
(epistemic)(declarative)(volitional)
 o livro]
the book
- (40) examples of factive emotive predicates
 lamentar, deplorar, censurar, aprovar
regret-to deplore-to censure-to approve-to

The fact that a DP can be the complement to factive emotives, but not to epistemics, declaratives, and volitionals, as in (41), clarifies that it is Case marking by the matrix verb that is the crucial factor of acceptability in (39).

- (41) a. nós lamentamos [_{DP} os pedidos dos Jesuítas]
we regret the requests of the Jesuits (factive emotive)
 b. nós lamentamos [_{DP} o (facto de) [_{TP} eles terem recebido pouco dinheiro]]
we regret the fact of they have-to-3PI received little money
 c. * o Manel { pensa / afirmo / desejava } [_{DP} os pedidos dos Jesuítas]
the think claim wished the requests of the Jesuits
(epistemic)(declarative)(volitional)
 d. * o Manel { pensa / afirmo / desejava } [_{DP} o (facto de) [_{TP} eles receberem
the think claim wished the fact of they receive-to-3PI
pouco dinheiro]
little money

(Raposo (1987:97))

Inflected infinitivals also appear as complement to CP, in which case it is less clear, under ordinary assumptions, that the TP is assigned Case. In this case, inversion is obligatory and the C must be neither matrix C, overt C nor [+Wh] C.

IV. complement to propositional CP, not irrealis CP

- (42) a. eu lamento [_{CP} terem [os deputados terem trabalhado pouco]] (*factive emotive*)
 b. o Manel pensa [_{CP} terem [_{TP} os amigos terem levado o livro]] (*epistemic*)

- c. o Manel afirmo [_{CP} terem [_{TP} os amigos terem levado o livro]] (*declarative*)
- d. * o Manel desejava [_{CP} terem [_{TP} os amigos terem levado o livro]] (*volitional*)
(Raposo (1987:97))

- (43) a. * [_{CP} C eles aprovarem a proposta]
they.Nom approve-to-3Pl the proposal
- b. * *expl*será difícil [_{CP} que eles aprovarem a proposta]
will.be difficult that they.Nom approve-to-3Pl the proposal
- c. *eu não sei [_{CP} quem C eles convidarem para o jantar]
I don't know who they invite-to-3Pl for the dinner

Raposo argues that T can be assigned Case if it is dislocated to C and is assigned Case there. T to C dislocation is assumed to be impossible if the TP is irrealis as in (42d), or if the head C is overt as in (43b) or spec(CP) is filled as in (43c), the double-complementizer filter being the reason for (43b, c). It is also assumed that, while the matrix verb can assign Case to C in (42), there is no element that assigns Case to T or C in (43a).

Based on the observations in I-IV, Raposo modifies (29a) as in (44) (recast in modern terms):

- (44) Nominative Case is assigned as a reflex of Agree with T if
 - a. T bears [+Fin], or
 - b. T bears [+φ] and T itself is assigned some (not necessarily Nom) Case.

(44b) assumes a sort of Case transmission, which can hardly be adopted in the present framework. Let us reinterpret Raposo's account. What is directly observed is that Nominative Case assignment to the subject of an inflected infinitive is possible only in a Case marked environment. The most faithful account of this observation is that an inflected infinitival TP in cases I-III is in fact selected by a category that must be Case marked, namely DP, and that its head D enables the Nominative Case assignment. In connection to this, (41b) with the omission of *facto de* is suggestive. It clearly shows that a DP can select an inflected infinitival TP. Therefore, our solution to I-III is (45):

- (45) In languages that allow inflected infinitives, there is D, which may be overt as in (41b) or null and has the following properties:
 - a. It can select [-Fin, +φ] TP.
 - b. Like other Ds, it must agree with the outer environment and be assigned Case.
 - c. Analogously to other Ds, which agree with its complement NP, it Agrees with and assigns Nominative Case to the specifier spec(TP) of its complement.

For IV, (45) cannot be used. Indeed, IV can be taken as an empirical evidence for what I suggested in section 4.1, that is, C also assigns Case to spec(TP). Consider also (41b) with *facto de*. It is likely that *de* is the Case assigner, which is perhaps a C. Now, (42) simply shows that an inflected infinitive, which has the property [-Fin, +φ], is somehow not

compatible with irrealis and that the head C selecting an inflected infinitive TP obligatorily causes inversion. (43) shows that matrix C, overt C and [+Wh] C do not select [-Fin, +φ] TP.

To sum up, our modification to (29a) is (46):

(46) Nominative Case is assigned to spec(TP) as a reflex of Agree with C or D that selects [+φ] TP.

4.3. *Subject of Control Clauses and for ... to Clauses*

As noted by Watanabe (1993), the infinitival T alone is insufficient to distinguish the cases of Null Case assignment vs. Accusative Case assignment / no Case assignment to the infinitival subject.

- (47) a. John tried [_{CP} C [_{TP} PRO to win the race]]
b. * John believed [_{TP} PRO to have won the race]
c. * it seems (to John) [_{TP} PRO to be intelligent]

If *to* by itself were capable of assigning Null Case to spec(TP), the unacceptability of (47b, c) would be a mystery. The crucial factor distinguishing these cases is the presence of C. Thus, Watanabe (1993, 1996) elaborates a Case theory in which C must be involved in Case assignment to subjects with Null Case or Nominative Case. He works within the framework in which it is believed that Case assignment takes place basically in a head-spec configuration. Perhaps solely for this reason, he assumes that the Case assigner to spec(TP) is T. To involve C in Case assignment, he assumes that T that has assigned Case must go into a follow-up relation with C. Even if T in (47b, c) has the ability to assign Null Case, the T will not be able to be involved in the follow-up procedure in the absence of C. Thus, the presence of C correlates with control vs. ECM / raising distinction, though only indirectly.

Since there is no overt morphological distinction between the *tos* in (47), to make a distinction between *to* in (47a) and *to* in (47b, c) can be motivated solely by theory-internal reasons. Occam's razor prefers the theory that does not make this distinction. Watanabe apparently chooses the preferable option: he assumes that *to* in (47) uniformly has the ability to assign Null Case. However, the simplicity is broken when we consider the infinitival complementizer *for*:

(48) [_{CP} for [_{TP} him to solve the problem]] is not impossible

Though *to* in (48) is morphologically identical to that in (47), it is inevitable to assume that the *to* in (48) is different from the one in (47) under his theory, in that it has an

Accusative-Case assigning property. Rather, it seems that infinitival C, unlike T, correlates with the Case of spec(TP):

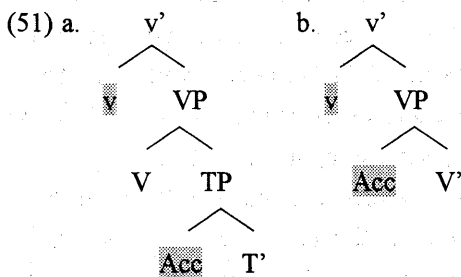
- (49) a. John tried [_{CP} {C / *for} PRO to win the race]
 b. it is not impossible [_{CP} {*C / for} him to solve the problem]
 c. I want (for) him to leave

When we examine the paradigm in (47-49), it becomes clear that there is no empirical reason to assume that T plays any role in distinguishing the cases. The fact is that, the existence of the null infinitival C is sufficient to accomplish Null Case assignment and the existence of the infinitival complementizer *for* is sufficient to accomplish Accusative Case assignment. This is also shown by the fact that the role of T as a Case assigner in Watanabe's theory is titular. Thence, the simplest account is that C itself is the Case assigner to spec(TP):

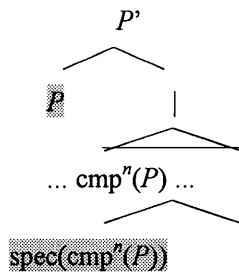
(50) Null Case is assigned as a reflex of Agree with the null C that selects [-φ] TP.

4.4. Subject of ECM

Without anything added to the ordinary account in (51a), ECM subjects fit into the looser version of our account, namely (6). However, there is reason to believe that the post-operational structure is rather as in (51b), in which the ECM subject is dislocated to spec(VP). Thence, this case again realizes the restricted case $n = 1$ of (6).



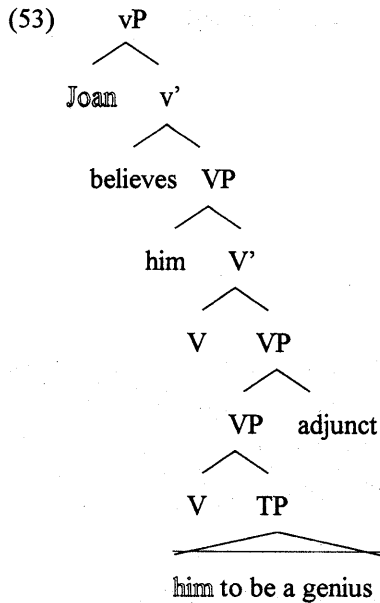
(6; repeated) Post-operational configurations are restricted to $P\text{-spec}(\text{cmp}^n(P))$, $n = 1, 2, \dots$



Thus, Lasnik and Saito (1991) observe, by using Binding Conditions C and A, that the subject of ECM infinitives is dislocated to a position that c-commands the adjunct to the matrix clause and that this dislocation is connected to Accusative Case checking by the matrix verb, as can be confirmed by the contrastive behavior of the nominal assigned Accusative Case by an element other than the matrix verb:

- (52) a. ?* Joan believes him₁ to be a genius [even more fervently than Bob's₁ mother does]
 b. ? Joan wants {C / for} him₁ to be successful [even more fervently than Bob's₁ mother does]
 c. ? I believed those₁ men to be unreliable [because of each other's₁ statements]
 d. ??* I wanted those₁ men {C / for} to be fired [because of each other's₁ statements]
- (Lasnik and Saito (1991:327-328))*

To yield the correct c-command configuration, the subject of the infinitive must be located at least as high as $\text{spec}(\text{VP})$, even if we accept the assumption that there is a third verbal segment, to which an adjunct can adjoin. Thus, we are considering the structure such as in (53):



5. Associate of *There*

Chomsky (2000, 2001) analyses the expletive-*there* construction as involving Nominative / Accusative Case assignment of the associate by T / v. Under this account, the expletive *there* is not assigned Case.

(54) a. there is likely to be a problem

b. we expect there to be a solution

However, there is evidence that shows that the expletive *there* is assigned Case at least in English and Spanish, though this may not be the case in Icelandic and German, which have expletive constructions with unergative / transitive verbs. First, more than one Probe can be related to a single associate:

(55) a. there looks [_{CP} as if there is a problem with this analysis]

b. there look [_{CP} as if there are problems with this analysis]

(Groat (1999:34))

Since the associate cannot Agree with and be assigned Case by multiple Probes, something else must be Agreeing with the Probes. The expletive *theres*, which correspond one-to-one with the Probes, must be what Agrees with the Probes.

Second, the associate may be an Accusative clitic in the Spanish null expletive construction, which uses the verb 'have' rather than an unaccusative verb.

- (56) a. *expl lo-había*
Cl.Masc.Sg-have
b. *expl los-habían*
Cl.Masc.Pl-have.Pl
c. *expl había un hombre*
have a man
d. *expl habían dos hombres*
have.Pl two men (Spanish)

(Groat (1999:35))

The Nominative Case must then be assigned to something else, which must be the expletive.

Since these facts show that expletives are assigned Case, it follows that the associates are assigned Case from somewhere else. The most strongly accepted alternative is that the associate is assigned Partitive Case by the unaccusative verb, as proposed by Belletti (1988). This analysis is also supported independently of the fact regarding Case assignment to *there*. First, the definiteness effect is observed; the associate DP must be weak in the sense of Milsark (1974, 1977). This fact follows if the associate has to be assigned Partitive Case.

- (57) a. there is a/ *the wolf at the door
b. there was someone/ *everyone in the room
c. * there was the law of the excluded middle explained
d. * there was Frank's article mentioned
e. * there were John and Mary cycling along the creek
f. * there were all viewpoints considered
g. * there was each package inspected

Second, the existential construction requires a certain type of verb. This fact seems to show that the associate needs to bear a Case that can be provided only by this limited range of verbs. The class of verbs include inherently unaccusative verbs:

- (58) a. we consider there (likely) *(to be) a man in the room
b. I want there *(to be) someone here at 6:00
c. I want someone (to be) here at 6:00
d. ? there *(arrived) a bus

(Lasnik (1992:384))

The class is parameterized with respect to the language; it includes passive (derived unaccusative) verbs in Italian but not in English:

- (59) a. è stato messo un / *il libro sul tavolo
has been put a the book on the table (Italian)
 b. * there has been put a book on the table
 (a: Belletti (1988:9); b: Lasnik (1992:397))

This can be explained by assuming that in Italian, but not in English, Accusative verbs can assign Partitive Case and that Partitive Case is not absorbed by passivization.

As noted by Lasnik (1992), the Partitive Case analysis gives a unified explanation to some facts that are explained unsystematically by Chomsky (1995, 2000). First, the Case requirement of *there* explains the distribution of *there*:

- (60) a. * it seems there to be a man here *Caseless*
 b. * there is likely there to be a man here *lower there Caseless*
 c. * I tried *C* there to be a man here *Null Case*
 d. * there's arrival of a man *Genitive Case*
 e. there is a man here *Nom Case*
 f. we consider there to be a man here *Acc Case*
 (a-c: Lasnik (1992:382-383); d: Chomsky (1986:134))

Second, since the associate of an expletive, as opposed to an ECM subject, is assigned Partitive Case in its base position, it becomes inactive and cannot move further for Case reasons:

- (61) a. * there is likely [someone to be someone here]
 □
 b. there is likely [there to be someone here]
 c. I believe [someone to be someone here]
 □
 d. * I believe [to be someone here]

This explanation makes unnecessary the assumption of a preference of Merge over Move and, accordingly, the concept of Numeration and Sub-Array assumed in Chomsky (1995, 2000).

However, the picture is not that easy. As pointed out by Howard Lasnik (p.c.), movement is possible with constructions without the expletive:

- (62) someone is [someone here]

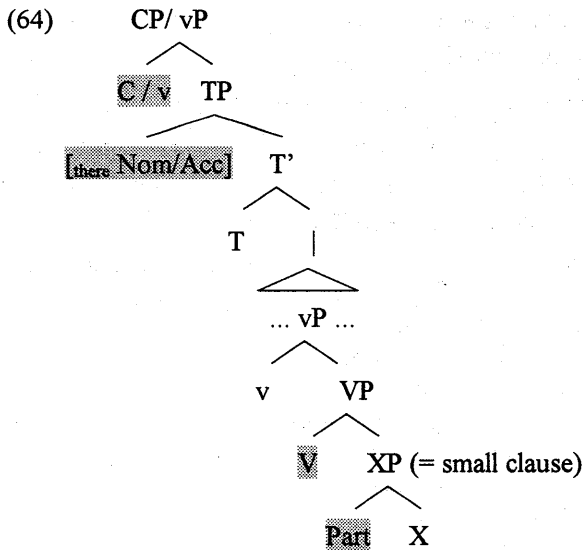
This shows that partitive Case assignment requires an expletive. Since there is no expletive in (62), partitive Case assignment cannot take place. Hence movement of someone is allowed.

Hence, we adopt the hypothesis that Partitive Case is assigned to the associate. In considering the post-operational configuration with respect to Partitive Case assignment, the

position of the associate and the Probe must be identified. Regarding the former, the extractability of the *wh*-phrase in (63a, d, e) attests that the category following the verb in the expletive construction in these cases is a small clause and not a single DP, siding with a clear instance (63b) of the small clause complement construction and opposing clear cases (63c, g, h) of simple transitives. We may assume that even in the cases without locatives, there is some projection between the verb and the associate of the expletive.

- (63) a. in which lake are there [many fish in which lake]
 b. in which lake do you want [_{SC} some fish in which lake]
 c. * in which lake did you discuss [_{DP} many fish in which lake]
 d. in quale lago ci sono [molti pesci in quale lago]
 in which lake there are many fish (Italian)
 e. quanti pesci ci sono [quanti pesci nel lago]
 how many fish there are in the lake
 f. * quanti pesci nel lago ci sono [quanti pesci nel lago]
 g. *in quale lago hai [DPdiscusso molti pesci in quale lago]
 in which lake have you discussed many fish
 h. * quanti pesci hai discusso [DP quanti pesci nel lago]
 how many fish did you discuss in the lake
 i. [DP quanti pesci nel lago] hai discusso [DP quanti pesci nel lago]
 (*a-c: Lasnik (1992:395-396); d-i: Travis (1989) cited in Lasnik (1992)*)

Regarding the Probe, the fact that Partitive Case assignment is a peculiarity of the unaccusative verbs and that Partitive Case is immune to Case absorption in passivization, which is related to suppression of the function of the head *v*, suggests that the Partitive Case assigner is the head *V* of the lower verb segment. Now, we have two post-operational configurations in *there*-expletive constructions: One related to the Case assignment of *there* by *C* or *v* and the other related to the Partitive Case assignment of the associate by *V*.



Both of them are instances of $P\text{-spec(cmp}(P))$ configuration. The agreement between T/v and the associate of *there* remains unsolved.

6. Spec(CP)

In the preceding sections, we reconsidered the post-operational configurations in (2) and defended the position that they are actually as in (4), all of which take the form $P\text{-spec(cmp}(P))$. In this section, we extend the domain of consideration to the A-bar system. Namely, we consider the post-operational configurations concerning the [+Wh] feature in $\text{spec}(CP)$ and suggest that they also take the form $P\text{-spec(cmp}(P))$.

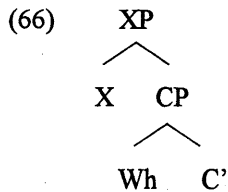
6.1. Interrogative and Relative Operators

It is widely known that a matrix verb either prohibits (65a-d), optionally allows (65e-h) or requires (65i-l) the specifier of its complement CP to be filled with a [+Wh] element. The division crosscuts the type of the embedded clause; (65a, b, e, f, i, j) have indicative, whereas (65c, d, g, h, k, l) have control infinitives:

- (65) a. I believe [_{CP} that Mary took a class on syntax]
 b. * I believe [_{CP} which class Mary took]
 c. I prefer [_{CP} *C PRO* to take a class on syntax]
 d. * I prefer [_{CP} which class *C PRO* to take]
 e. I know [_{CP} that Mary took a class on syntax]
 f. I know [_{CP} which class Mary took]
 g. Bill determined [_{CP} *C PRO* to take a class on syntax]

- h. Bill determined [_{CP} which class *C PRO* to take]
- i. * I wonder [_{CP} that Mary took a class on syntax]
- j. I wonder [_{CP} which class Mary took]
- k. * let us consider [_{CP} *C PRO* to take a class on syntax]
- l. let us consider [_{CP} which class *C PRO* to take]

Though this variability of clauses is assumed to be due to a complex selection of clause type, it is possible to eliminate the [\pm Wh] distinction from selection by attributing the source of the variability to Agree, with uninterpretable [+Wh] in X = V in (66) as *P* and the Wh element in spec(CP) of the embedded clause as *T(P)*:



This analysis can be extended to matrix interrogatives and relative clauses by assuming some external projection, XP in (66), in these cases, whose head X is responsible for Agreeing with [+Wh].

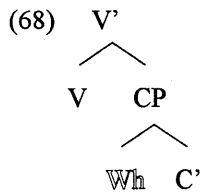
6.2. Intermediate Copy of Successive Cyclic Dislocation

It is known that the acceptability of Wh extraction out of an embedded clause depends on the matrix verb. Erteschik (1973) observes that the acceptability of (67a) varies according to what verb fills in the underlined part. The acceptability is given in (67g-i).

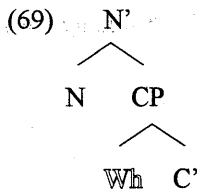
- (67) a. [_{CP} what did you ____ ((to) them) [_{CP} what that he had done what]]
 b. ?? [_{CP} what did the paper editorialize [_{CP} what that McGovern had done what]]
 c. ?? [_{CP} what good deeds did the priest eulogize [_{CP} what good deeds that the man had accomplished what good deeds]]
 d. ?? [_{CP} what did she purr [_{CP} what that Fred had given her what]]
 e. * [_{CP} what did she simper [_{CP} what that home economics was what]]
 f. * [_{CP} what did Abehsera ulutate [_{CP} what that macrobiotic cooking would do what for you]]
 g. acceptable: *say, tell, report, announce*
 h. questionable: *grunt, holler, murmur, mumble, mutter, roar, scream, shout, sigh, snort, stammer, wail, whine, tell, exclaim*
 i. bad: *purr, snarl, editorialize, eulogize, coo, jeer, rumble, simper, lisp, quip, croak, dictate, transcribe, ulutate, animadvert*

(Erteschik (1973:84))

Erteschik gives a pragmatic account of this fact, but it is tempting to explain it syntactically. The fact is that the intermediate landing of the Wh-phrase in a specifier of CP position depends on the verb of which the Wh-phrase is the specifier of its complement. Thence, we may simply assume that only the verbs that accept intermediate landing can optionally bear a [+Wh] feature, accompanied by an “[+anti-Wh-feature].” The [+Wh] feature triggers dislocation of the Wh-phrase to the intermediate spec(CP), whereas the [+anti-Wh-feature] prohibits the Wh-phrase from being left there at semantic interpretation.



The analysis can be extended to capture the appositive cases of the Complex NP Constraint, simply by assuming that nouns never bear such a feature.



7. Case and Phase

So far, we declared Case assigners such as *v* for Accusative, *C* for Nominative / Null, *D* for Nominative, and probably, *P* for Oblique Case. These categories are reminiscent of the phase heads announced in the literature (Chomsky (2000, 2001)): *v**, *C* (and perhaps *D*). One idea that comes to mind is that the phase in the sense of Chomsky is connected to Case assignment:

(70) A category is a phase iff its head assigns Case to some category.

Although, (70) correctly describes the exceptional behavior of weak *vP* as a phase head, it is not clear at this point whether there is empirical material that supports (70). If there is an instance of *C* or *D* (or *P*) that does not assign Case and whose projection does not behave as a phase, or if there is an instance of a head other than *v*, *C*, *D*, and *P* that assigns a Case and whose projection behaves as a phase, that might be evidence for (70). If this is on the right track, then the reason for the correlation might be that assignment of Case induces Spell-Out,

which is related to the nature of phases. At present, though, (70) is only a speculation and we will not go further into this issue.

8. Identifying $T(P)$

As we saw in the preceding sections, the post-operational configurations that were analyzed as (2) turned out to be as in (4). All configurations in (4), as well as the post-operational configurations concerning the [+Wh] feature in $\text{spec}(CP)$, take the form $P\text{-spec}(\text{cmp}(P))$. Generalizing the empirical domain to include long distance Case assignment, the description of post-operational configurations seems to be as (6), with (4) manifesting the special case $n = 1$.

(6; repeated) Post-operational configurations are restricted to $P\text{-spec}(\text{cmp}^n(P))$, $n = 1, 2, \dots$

In this section, we identify the position that EPP selects as $T(P)$. In determining the position, a theorem that follows from (6) plays a crucial role. This theorem is “operation-free” in the sense that it does not even presuppose Merge, or the operation that amounts to it, to be bottom-up as is assumed in Chomsky (1995, 2000, 2001). Nevertheless, at least (72) seems to be a requisite for any theory. The notation (71) is borrowed from Sawada (2000b).

(71) Notation

- a. α^α : the operation (Merger) that creates α
- b. $\alpha_i > \alpha_j$: operation α_i precedes operation α_j in the derivation

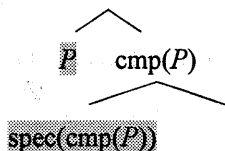
(72) Assumption: monotonicity of head insertion

If there are three categories such that they are connected by substitution, but not by adjunction, and are headed by H_1 , H_2 and H_3 such that H_1 asymmetrically c-commands H_2 and H_2 asymmetrically c-commands H_3 , then either $\alpha^{H_1} > \alpha^{H_2} > \alpha^{H_3}$ or $\alpha^{H_3} > \alpha^{H_2} > \alpha^{H_1}$.

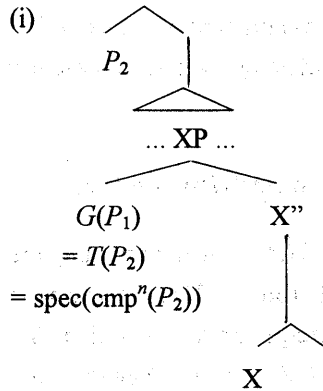
Now, as I previously noted in section 1, (6), with assumption (72), entails (73).

(73) Theorem

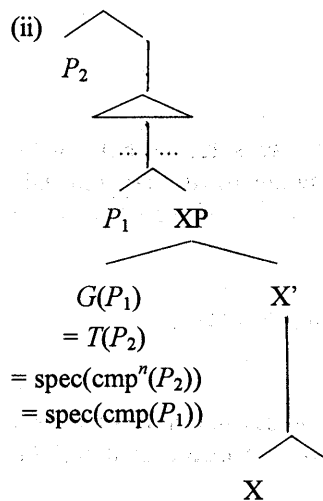
A post-operational configuration $P\text{-spec}(\text{cmp}(P))$ is $P\text{-}T(P)$ unless the nominal in this configuration was previously introduced into that position by the direct needs of the interfaces.



Proof. Assume that there is a Probe P_1 such that its post-operational configuration is $P_1\text{-spec(cmp}(P_1))$ and is $P_1\text{-}G(P_1)$. Assume further that the nominal $G(P_1) = \text{spec(cmp}(P_1))$ is not introduced into that position by the direct needs of the interface. Then, $G(P_1)$ is introduced by Merge concomitant to Agree. Since $G(P_1)$ exists prior to the operation involving P_1 , there must be some Probe P_2 such that insertion of P_2 precedes insertion of P_1 and Agree involving P_2 creates $G(P_1)$, i.e., $G(P_1) = T(P_2)$. Under (6), $T(P_2)$ must be of the form $\text{spec(cmp}^n(P_2))$:



P_1 must be inserted into (i) so that the configuration $P_1\text{-spec(cmp}(P_1)) = P_1\text{-}G(P_1)$ arises:



There is no way to construct (ii) from (i) without violating (72). Hence, the assumptions lead to contradiction. ■

(73) tells us that the post-operational configuration $P\text{-spec(cmp}(P))$ in (4II, IV) is $P\text{-}T(P)$,

since the position of the nominal in these configurations cannot be attested to any of the direct needs of the interfaces, such as selection, θ -marking or stylistic dislocation. Thus, we have a configuration that is P - $T(P)$ and is P -spec(cmp(P)). The simplest hypothesis regarding the nature of $T(P)$ is that the $T(P)$ that EPP selects is uniform for arbitrary P . Thus:

(7; repeated) $T(P) = \text{spec}(\text{cmp}(P))$, for arbitrary P .

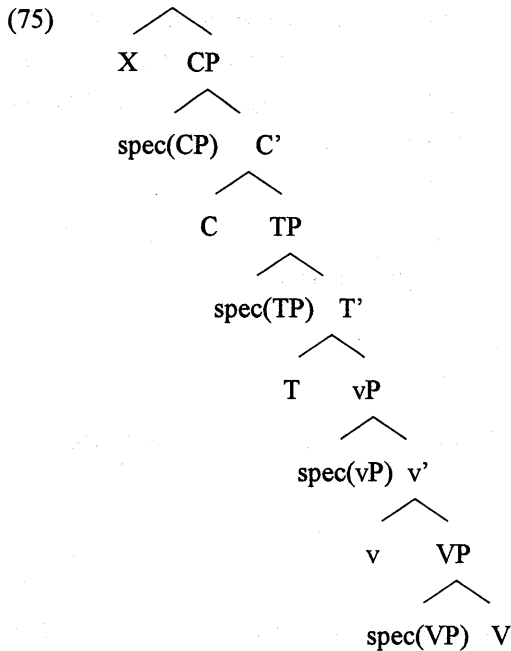
This is what we conclude from the arguments in the preceding sections.

9. Speculation on How Derivation Proceeds

Since a Target is created as a result of Agree-Merge induced by a Probe, the property of being the Target $T(P)$ of Agree-Merge induced by Probe P entails (74):

(74) If $T(P) = \alpha$, then $\sigma^P > \sigma^\alpha$.

In the previous sections, we defended the claim that $T(X) = \text{spec}(\text{CP})$ and $T(C) = \text{spec}(\text{TP})$ in structures like (75) and that $T(v) = \text{spec}(\text{VP})$ in ECM constructions.



Thus, we get:

- (76) a. $o^X > o^{\text{spec(CP)}}$
 b. $o^C > o^{\text{spec(TP)}}$
 c. $o^v > o^{\text{spec(vP)}}$ (in ECM constructions).

If we add (77) to the nature of syntactic derivations, and still maintain (72), (76) leads us to an interesting view concerning how derivation proceeds. (77b) follows the spirit of Pesetsky (1989).

(77) Assumptions

- a. homogeneity of phrase construction: Let H_1, H_2 be heads. If $o^{H_1} > o^{\text{spec}(H_1)}$, then $o^{H_2} > o^{\text{spec}(H_2)}$. If $o^{H_1} < o^{\text{spec}(H_1)}$, then $o^{H_2} < o^{\text{spec}(H_2)}$.
 b. earliness: A Probe induces Agree immediately after it is inserted.

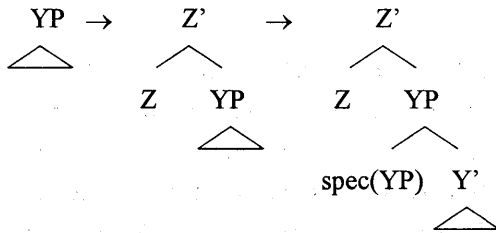
First of all, combining (76) with (77a) yields (78):

- (78) a. $o^T > o^{\text{spec(vP)}}$
 b. $o^v > o^{\text{spec(VP)}}$

Next, we can connect the “ordering fragments” in (76, 78) under the conditions (72, 77b) to get the picture of what a derivation of a clause would look like. Interestingly, the assumptions are strict enough to leave us with only two alternatives. The first one is not so different from the ordinary account with the bottom-up operation Merge, except that it

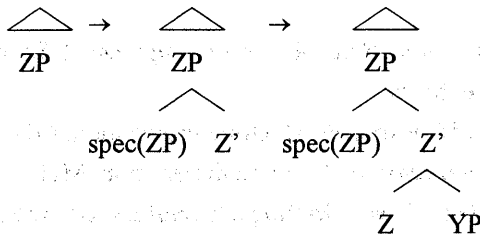
requires tucking in of specifiers under a head, which is reminiscent of tucking in of multiple specifiers in the sense of Richards (1997).

$$(79) \sigma^V > \sigma^v > \sigma^{\text{spec}(\text{VP})} > \sigma^T > \sigma^{\text{spec}(\text{vP})} > \sigma^C > \sigma^{\text{spec}(\text{TP})} > \sigma^x > \sigma^{\text{spec}(\text{CP})}$$



The second one does not require tucking in, but requires an ambitious view. It is that a derivation proceeds in a simple top-down fashion.

$$(80) \sigma^x > \sigma^{\text{spec}(\text{CP})} > \sigma^C > \sigma^{\text{spec}(\text{TP})} > \sigma^T > \sigma^{\text{spec}(\text{vP})} > \sigma^v > \sigma^{\text{spec}(\text{VP})} > \sigma^V$$



Though the second alternative seems to be ambitious, its simplicity as compared to the first one might suggest that it is the correct one. In fact, this type of derivation has recently been developed by some individuals, including me (Sawada (2000a)).

10. Summary

In this paper, we reconsidered the configurations that arise after the operation Agree. The cases observed all manifest a $P\text{-spec}(\text{cmp}(P))$ configuration. Taking long distance Case assignment into consideration, $P\text{-spec}(\text{cmp}^n(P))$ seems to suffice for the description of the whole distribution of the configuration after Agree. From this, we derived that $T(P) = \text{spec}(\text{cmp}(P))$, which entails $\sigma^P > \sigma^{\text{spec}(\text{cmp}(P))}$ for cases due to the operations provided by narrow syntax. Assuming homogeneity of phrase construction, we are led to $\sigma^P > \sigma^{\text{spec}(\text{cmp}(P))}$ in general. This gives us an interesting view on how derivation proceeds. Derivation proceeds either from the bottom up, requiring specifiers to tuck in below heads, or

entirely from the top down, with no need of tucking in.

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