

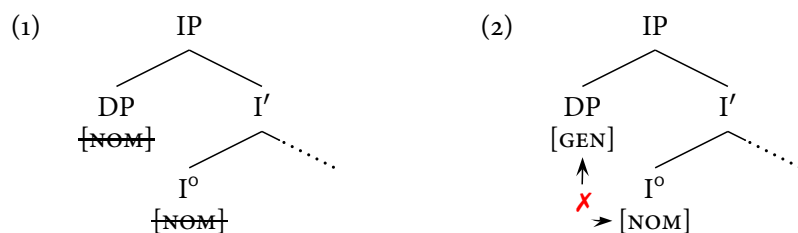
Case configurations, PRO, and object movement

1 Overview

- Under GB, the Case filter applied at S-structure and Case assignment relied on the notion of Government.
- Today, we'll see how Case features can be checked in spec-head relations if we adopt the checking view we saw a few weeks ago along with covert (*i.e.*, LF) movement.
- We'll start by reviewing the Agr^o-based approach to Case checking today.
- We will then talk about Case-checking in non-finite clauses.

2 Checking Case

- Recall the *feature checking* approach we discussed a few weeks ago.
 - Lexical items enter the derivation with their features fully specified.
 - The syntax determines whether a given element is licit in a derivation by checking the features of that element against the features of an appropriate head.



- This, in part, allows us to explain Case without reference to S-Structure:
 - Under GB, pronouns entered the derivation at D-Structure without a Case feature, and this feature was assigned over the course of the derivation.
 - This Case feature needed to be assigned before S-Structure in order to ensure that Case-marked elements had the right form at PF and that the Visibility Condition was satisfied at LF.
 - If instead we assume Case-marked elements enter the derivation with Case, then these requirements will be trivially satisfied at LF and PF without the need to refer to SS.
- The question we ask today: What are the configurations under which Case is checked?

Visibility Condition:

A DP's θ -role is visible at LF only if it is Case-marked.

3 Case configurations under GB

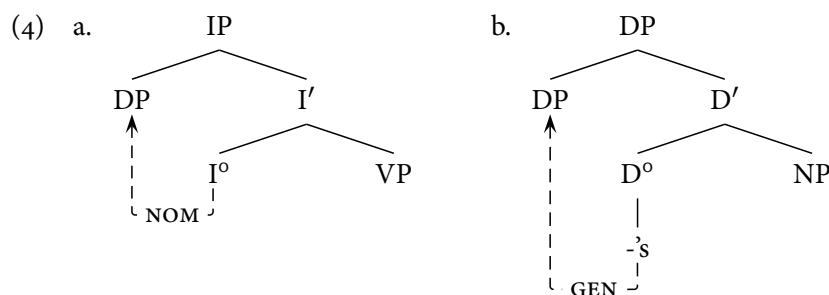
- Case is assigned under Government in GB.
 - This works for straightforward cases with finite clauses.
 - But when we start looking at exceptional Case-marking (ECM), where subjects of non-finite clauses appear to receive case from outside the IP, things start getting messy.

3.1 The easy cases

- It appears that verbs and prepositions assign Case to their sisters (head-comp):



- We also find Case assignment in spec-head configurations:



- This is consistent with Case being assigned under Government:

- | | |
|--|--|
| <p>(5) <i>M-command</i>:
 α m-commands β iff</p> <ol style="list-style-type: none"> α does not dominate β; β does not dominate α; every maximal projection dominating α also dominates β; and α does not equal β. | <p>(6) <i>Government</i>:
 α governs β iff</p> <ol style="list-style-type: none"> α m-commands β, and β m-commands α. |
|--|--|

The alternative is that there are two configurations under which Case is assigned, spec-head and head-comp. Appealing to Government avoids this disjunctive approach.

3.2 The harder cases: Exceptional Case-marking and *for-to* clauses

- Exceptional Case-marking (ECM) and Case-marking in *for-to* clauses are difficult to explain under Government-based approaches to Case-marking.

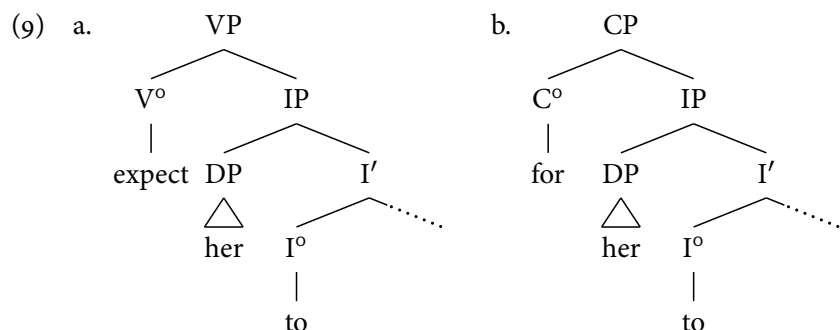
- (7) a. [IP John [VP expects [IP her to win]]] ECM
 b. [IP [CP for [IP her to leave]] would be terrible] *for-to*

- In (7a), *her* is apparently Case-marked by *expect*. In (7b), *her* is Case-marked by the complementizer *for*.

- One reason to accept this is that if *expect* is passivized or *for* removed, the resulting utterances are ungrammatical:

- (8) a. * $[_{IP} \text{ It is } [_{VP} \text{ expected } [_{IP} \text{ her to win}]]]$
 b. * $[_{IP} [_{CP/IP} \text{ her to leave}] \text{ would be terrible}]$

- In neither of the configurations in (7) is *her* Governed under the m-command definition above:



Remember Burzio's Generalization: Verbs that do not assign external arguments do not assign Case.

The DP *her* is not m-commanded by *expect/for* in these configurations. In both examples, the Case-assigner is not dominated by IP, but the assignee is.

3.3 Barriers

- If we are super committed to Government, we can try to adjust it so that it works for this configuration as well. Enter BARRIERS:

(10) *Government*:

α governs β iff

- α m-commands β and
- there is no barrier γ that dominates β and does not dominate α .

(11) *Barrier*:

α is a barrier iff

- α is a maximal projection and
- α is not a complement.

The Barriers definition of Government.

See Chomsky 1986.

- In the configurations of (9), IP is not a barrier for Government because it is a complement (either to the verb *expect* or the complementizer *for*).

– As such, *expect* and *for* can assign Case to SpecIP in this configuration.

- But the definition in (10) does not feel like a very natural one.

- Government sort of made sense when it united spec–head and head–comp relations; this is seemingly a natural grouping.
- But now Government is extending beyond the \bar{X} -relations, and it's doing so by referring to yet another structural configuration, the barrier.

We've also lost the nice symmetric m-command relation.

- Rather than modifying the definition of *Government*, can we appeal to independently necessary relations?

That is, Government has to do more than it originally did, and it has to refer to other configurations to work right.

4 Spec-head Case checking

- Case assignment under Government does not easily generalize to ECM.
- We've already seen we can eliminate Government from θ -role assignment.
- Once we adopt the checking analysis of Case, we can do the same for Case.

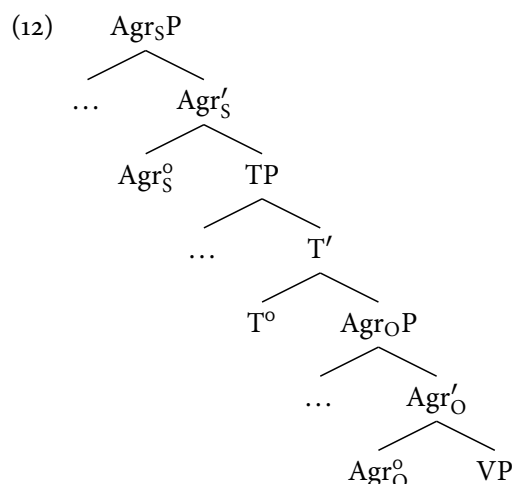
Or, at least, Government cannot be straightforwardly adapted to be used for Case assignment.

4.1 Split-Infl

- A lot of research in the late 1980s and early 90s lead to the hypothesis that IP was actually split in into several distinct projections.
- This led to the so-called SPLIT-INFL HYPOTHESIS, with separate heads for subject agreement, tense morphology, and object agreement:

The 'I' in IP is really short for 'Infl', which is itself short for 'Inflection'.

The place where this really started was Pollock 1989, but it quickly grew into a thing of its own.



4.1.1 Object agreement

- One hint this might be worth adopting comes from the observation that a lot of languages have object agreement morphology.

(13) *Basque*:

Gizon-ek eskutitza-k Amaia-ri
 man-ERG.PL letter-ABS.PL Amaia-DAT
 darama-zki-o-te
 bring-3.ABS.PL-3.DAT.SG-3.ERG.PL
 'The men bring the letters to Amaia.'

In this example, there is an agreement suffix for every argument of the verb.

4.1.2 Verb movement

- Independent of this, it appears that there need to be different positions for verbs.
- Some of the earliest evidence for this comes from Pollock's (1989) comparison of French to English.
- Verbs in finite clauses must precede adverbs and negation:

(14) *French finite clauses:*

- a. Pierre {parle} à peine {*parle} l'italien.
 Pierre speaks hardly the.Italian
 'Pierre hardly speaks Italian.'
- b. Pierre ne {parle} pas {*parle} l'italien.
 Pierre CL speaks not the.Italian
 'Pierre doesn't speak Italian.'

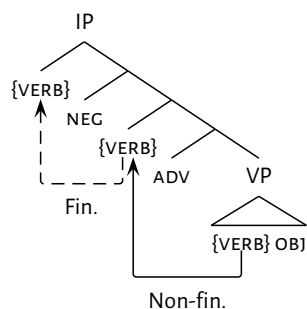
The {curly brackets} indicate an appearance of the bracketed element in one position or the other (but not both).

- In non-finite clauses, the verb can optionally precede the adverb, but it cannot move to a position before negation.

(15) *French non-finite clauses:*

- a. {parler} à peine {parler} l'italien.
 speak.INF hardly the.Italian
 'to hardly speak Italian'
- b. ne {*parler} pas {parler} l'italien.
 CL not speak.INF the.Italian
 'to not speak Italian'

- To explain the difference between finite and non-finite clauses there must be more than one position that the verb can land in the structure.
- There must be a place between the adverb and negation, and another above both the adverb and negation.

4.1.3 *Subject positions*

- Languages often display an array of subject positions that require complex structure in the IP.
- Icelandic transitive expletive constructions appear to require two subject positions, one for the expletive *það* 'there', and one for true subjects:

- (16) [_{AgrP} Það luku [_{TP} sennilega [_{TP} *einhverjir stúdentar* [_{VP}
 there finished probably some students
alveg [_{VP} verkefninu]]]]].
 completely the.assignment
 'Some students probably completely finished the assignment.'

Icelandic (Bobaljik and Jonas 1996: 209, (21a))

- Similar evidence can be adduced from Irish, where subjects must appear to the left of VP adverbs, but never appear to the left of the verb:

- (17) [_{AgrP} Fásann [_{TP} na *préataí* [_{VP} i gcónaí [_{VP} sa lagán]]]]].
 grow.PRES the potatoes always in.the hollow
 'The potatoes always grow in the hollow.'

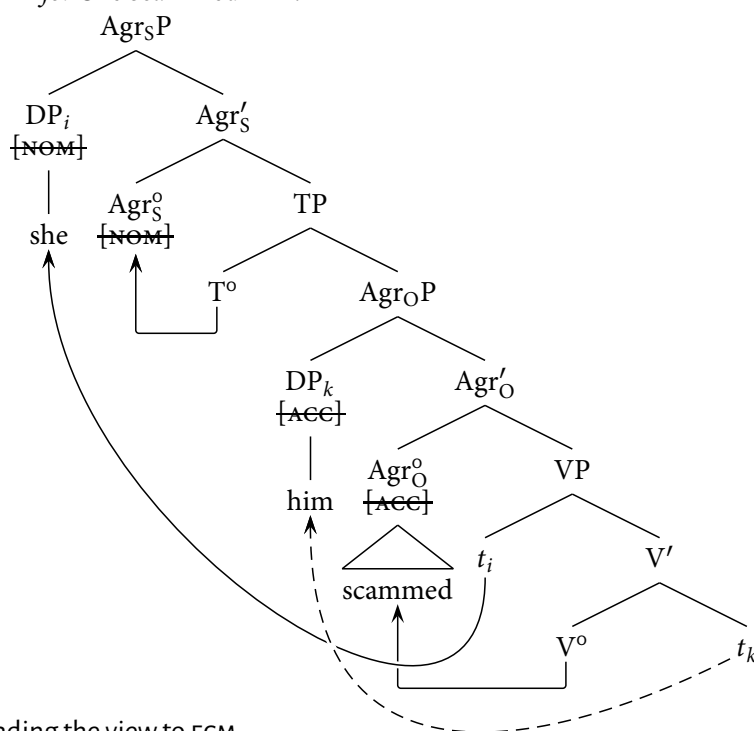
Irish (McCloskey 2001: (37a))

- On this view, subjects might appear in either SpecAgr_SP or SpecTP cross-linguistically.

4.2 Checking Case in a split-Infl model

- With the adoption of the split-Infl view in (12), it becomes possible to check accusative Case the same way as nominative Case: in a spec-head configuration.
 - Nominative case is checked by movement to SpecAgr_SP.
 - Accusative case is checked by movement to SpecAgr_OP.
- Assuming the checking theory of Case, checking need not happen until LF, so movement for Case can be covert.
 - In English, Agr_S^o bears a strong [D*] feature, driving overt movement of a DP to SpecAgr_SP.
 - Agr_O^o bears a weak [D] feature, driving covert movement of the object.

(18) LF for She scammed him:



Assuming that Agr_{S,O}^o checks case, both the subject and the object can have their case checked in the same spec-head configuration.

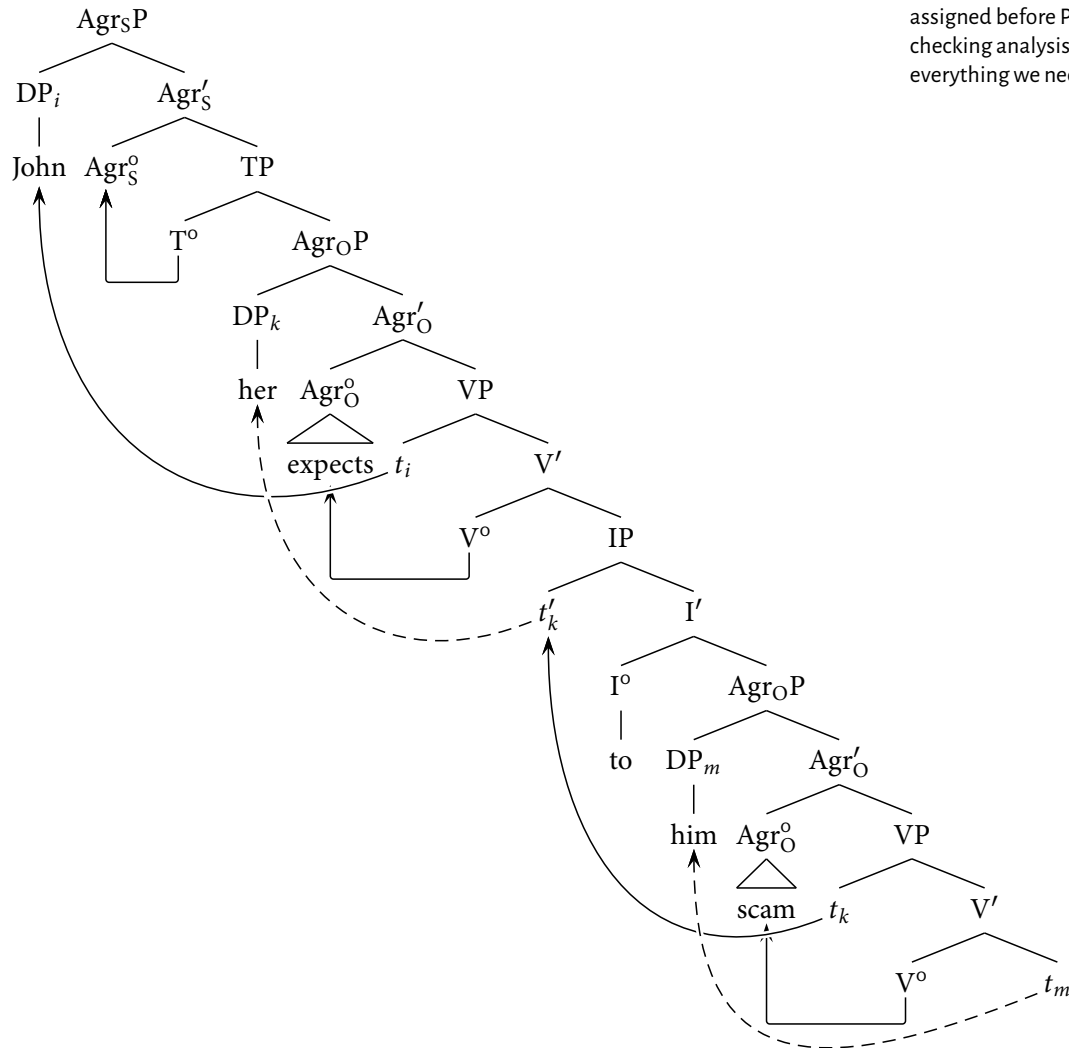
Here and below, covert movement is shown with dashed lines.

4.3 Extending the view to ECM

- This view extends straightforwardly to the problematic ECM constructions we saw earlier.

- We only need to posit LF movement of the ECM subject.

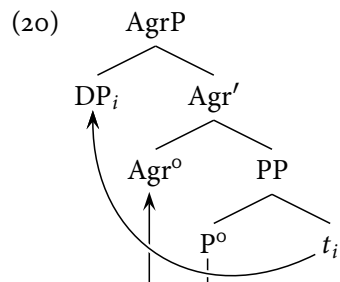
(19) John expects her to scam him. (LF)



And remember, because pronouns merge with all of their features, we don't have to worry about how Case gets assigned before PF. The checking analysis gives us everything we need.

4.4 PPs and oblique Cases

- If we take this view to its logical end, all Case features must be checked in a spec-head relation.
- This means that cases we once thought were assigned by prepositional phrases are checked in a spec-head relation with an Agr° head:

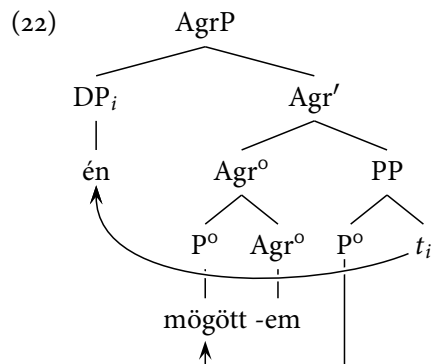


- There may be some evidence for this view. Postpositions in Hungarian, for instance, agree with their ‘subjects’:

This evidence will keep coming up.

- (21) a. én -mögött -em b. te -mögött -ed
 I behind POSS.1.SG you behind POSS.2.SG
 ‘behind me’ ‘behind you’

- This is exactly the configuration predicted by (20):



But then how do objects of prepositions check Case? We probably must assume there is still an Agr° head here, but that movement is covert. But if we are taking the checking approach seriously, why should the covert–overt distinction matter? The same problem arises for Hornstein et al.’s (2005: 124–125) discussion of Standard Arabic.

- Intriguingly, prepositions do not show agreement:

- (23) át a hidon
 over the bridge

5 PRO and the null Case

- We’ve spent some time looking at how we assign Case to different kinds of DPs, but this analysis raises questions about how to handle PRO, the nominal element that is not supposed to receive Case
- PRO, you should remember, is the subject of control clauses:

- (24) Every girl_i wants [PRO_i to scam the boys].

- Under GB, PRO was a weird creature.

Not to be confused with *pro*, a null referential pronoun.

- It was treated as a hybrid element, part pronoun, part anaphor.
- As a pronoun, it was subject to Principle A.
- As an anaphor, it was subject to Principle B.

- (25) a. *Principle A:*
 An anaphor must be bound in its governing category.
 b. *Principle B:*
 A pronoun must not be bound in its governing category.

(26) *Governing category:*

α is a governing category for β iff

- a. α is the minimal XP that dominates β and
- b. α is a governor for β .

Practically speaking, this means IP/Agr_sP and, sometimes, DP.

- The only way for PRO to satisfy these requirements is to do so vacuously.
 - If PRO does not have a governing category, then Principles A and B will not even apply to it.
 - One way for PRO to lack a governing category is to lack a governor:

This is just to say that, in order to avoid being both bound and not-bound in its governing category (a contradiction), we should just make sure it is never in a governing category.

(27) *The PRO theorem:*

PRO must not be governed.

- If this is right, then PRO can't receive Case under Government since Case-assignment relied on being governed by something that could assign Case.
- This leads to the conclusion that PRO does not receive Case.
 - We are going to have to rethink how this works in a theory where Case is not assigned under Government.
 - The assumptions that lead to PRO not receiving Case are all gone now.

5.1 Problems for ungoverned PRO

- There are good reasons to rethink PRO anyway. Let's back up to the m-command version of Government:

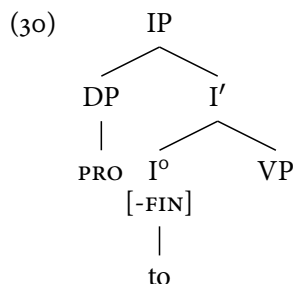
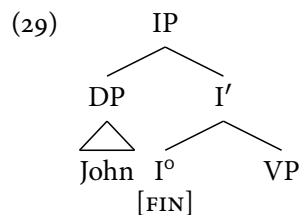
(28) *Government:*

α governs β iff

- a. α m-commands β , and
- b. β m-commands α .

- This is a structural condition: It only refers to the configuration that two elements are in.
- The problem is that the structural relation between I° and the subject in (29) is the same as the relation between I° and PRO in (30).

There is no obvious way to make this lexically specific; yet, that is what the GB solution was.

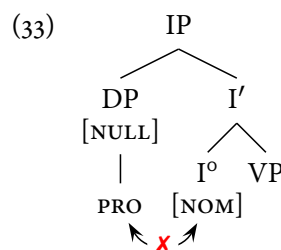
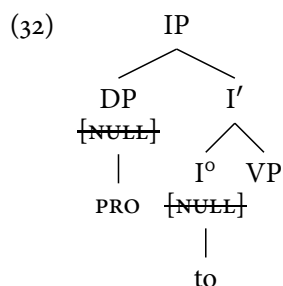
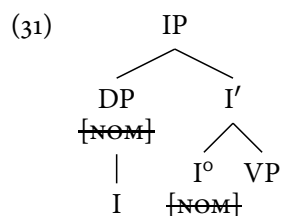


- In other words, if $I^{\circ}_{[FIN]}$ can govern its specifier, why can't $I^{\circ}_{[-FIN]}$?
- The solution in GB is simply to stipulate that nonfinite I° is not a governor, whereas finite I° is.
 - This is a pretty weird stipulation. As Hornstein et al. (2005: 129) put it, it's a lot like saying X can c-command Y only if X has a particular feature.
- A second way this is a problem is that it violates the Visibility Condition.
 - The whole reason we think PRO exists is because we need an element to receive a θ -role in control clauses.
 - The Visibility Condition states that a DP's θ -role is visible at LF only if it is Case-marked.
 - So if PRO is not Case marked, its θ -role should not be interpreted at LF.

5.2 Null Case

- Chomsky and Lasnik (1993) propose that PRO is, in fact, Case-marked!
 - The trick is that it bears a special Case, the NULL CASE.
- This can be captured straightforwardly in the feature checking theory.
 - Null Case is a Case feature just like any other, and must be checked against a head bearing null Case features.
 - In the lexicon, PRO is specified for the null Case, just as *she* is specified for nominative and *her* is specified for accusative.
 - Whereas finite I° in English bears a nominative feature, nonfinite *to* is imbued with a null Case feature.
 - In order to check its Case feature, PRO must move to the specifier of a nonfinite IP, as in (32).
 - It cannot check its Case feature against a finite I° , because the Case features do not match (33).

This was republished as chapter 1 of Chomsky 1995.



I think it's worth thinking about how this is different than stipulating that nonfinite I° is not a governor. Is this any better than saying that PRO must not be governed and that I° is not a governor?

- While both approaches require us to make a lexically based stipulation about I° and PRO, this is couched in a general theory of Case-checking.
- It also avoids the oddity of saying there is a lexical exception to an otherwise structural condition on Case checking.
- But then it seems odd to say that these two elements just happen to be the ones that are specified for null Case features. Are there other elements that can check null case?

6 LF movement and binding into adjuncts

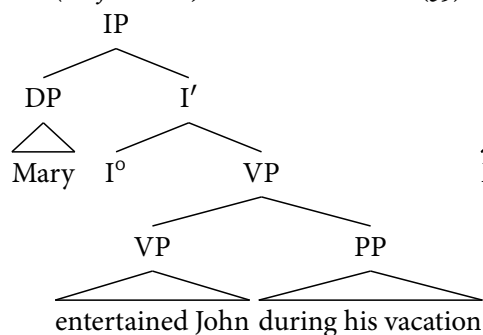
- Another issue is that we have claimed – without any independent evidence – that objects move.
- There is some curious evidence from binding that suggests that this analysis may be on the right track.

Try to remember this evidence. We will, eventually, try to get rid of covert movement. We will want to be able to explain any facts that were once explained by covert movement, and I'm not totally sure that we will have a clear explanation of this fact.

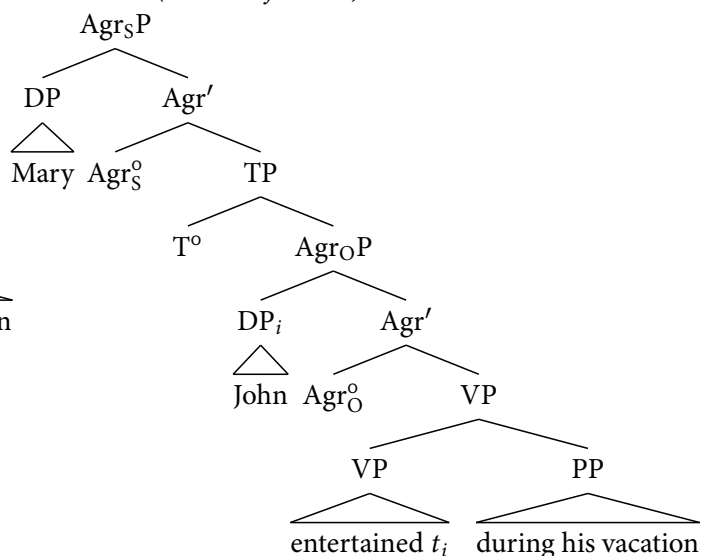
6.1 The simpler cases

- Under GB, PP adjuncts to VP c-command the VP the adjoin to, and *vice-versa*.
- But under the Minimalist Case-checking analysis proposed above, objects end up c-commanding the material in the PP-adjunct.

(34) GB (*Obj.* in situ):



(35) Minimalism (*w/ LF obj. Mvn't*):

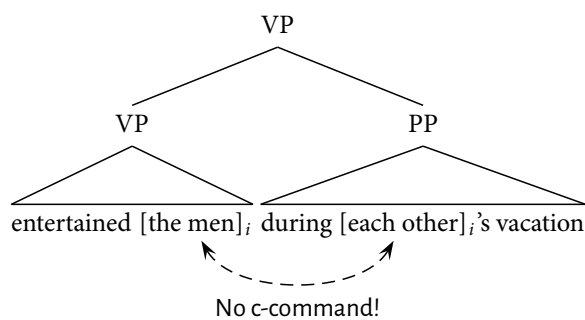


- If object movement of this sort happens, then it should be possible for objects to bind into adjunct PPs.
- Reciprocals like *each other* and *one another* are subject to Principle A, and must be c-commanded by a plural element with which they are coindexed.

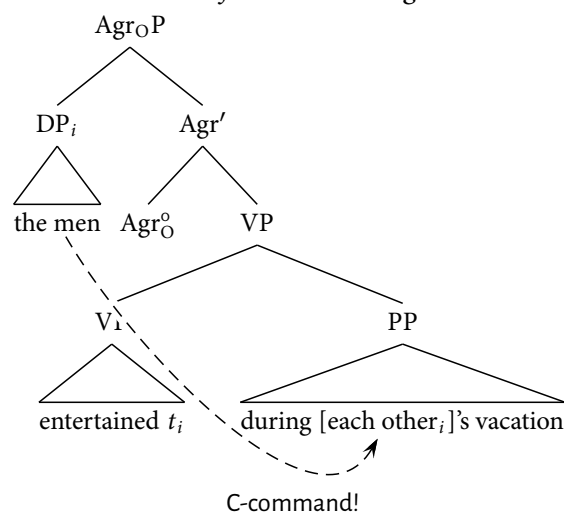
- If a reciprocal is in an adjunct, this condition is not satisfied under the GB model, but it is under the LF movement view:

(36) Mary entertained the men during each other's vacations.

a. GB w/o covert movement:



b. Covert movement for Case checking:



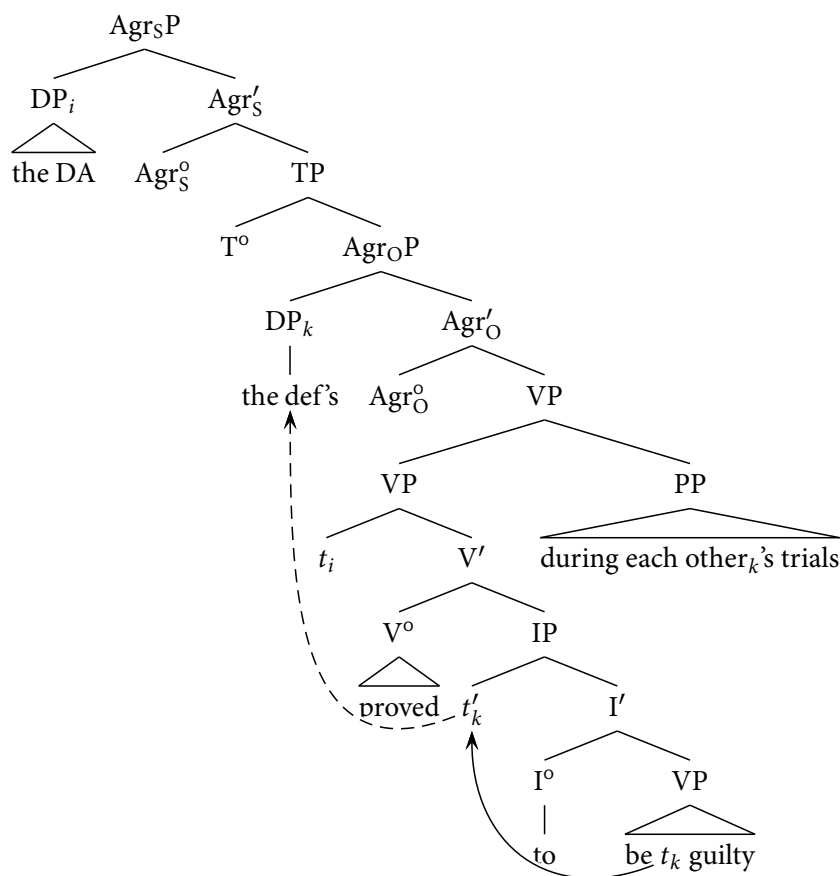
6.2 ECM and reciprocal binding

- The LF movement analysis makes some good predictions for binding reciprocals in adjuncts that are adjoined to the matrix clause in ECM constructions.
- In a case like (37), the sensible reading is that the DA's proving of guilt was made during the defendants' trials.
- This requires adjunction of the PP *during each other's trials* to be adjoined to the VP in the matrix clause.
- Assuming that the *the defendants* is the subject of the embedded nonfinite clause, the only way for it to bind *each other* in the adjunct is for it to undergo movement.
- This is consistent with the view of ECM described on earlier.

(37) Spell-out:
 [AgrP The DA [VP [VP proved [IP the defendants to be guilty]] [PP during each other's trials]]].

(38) LF:

I've suppressed head movement here to keep the tree easier to read.



7 Overt object movement?

- The idea that there is covert object movement in English might make you uncomfortable.
- There is some evidence that object movement might actually be overt in English, from an elliptical construction known as PSEUDOGAPPING.
- In a lot of ways, pseudogapping looks like verb phrase ellipsis, except that a single phrase known as a *remnant* is left behind:

(39) John ate a bagel, and Susan did a *knish*.

Here a *knish* and *Harry* are the remnants.

(40) Mary hasn't scammed Bill, but she has *Harry*.

- The remnant is usually some VP-internal element. When that element is a DP, it is reported that it must be the Theme/Patient, and not the Goal:

(41) a. ?Mary will give Bill a lot of money, and Sally will Susan.

b. *Mary will give Bill a lot of money, and Sally will a lot of advice.

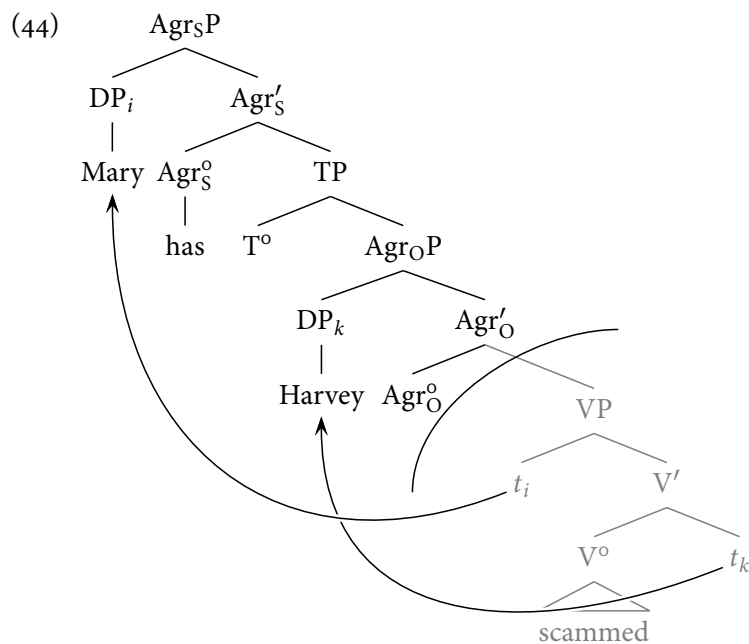
- The issue here is how to delete only part of a verb phrase.
 - It’s long been thought that ellipsis has to target a constituent.
 - But in these cases, it looks like ellipsis is targeting subparts of the VP:

(42) John ate a bagel, and Susan did ~~eat~~ a knish.

(43) ?Mary will give Bill a lot of money,
and Sally will ~~give~~ Susan a lot of money.

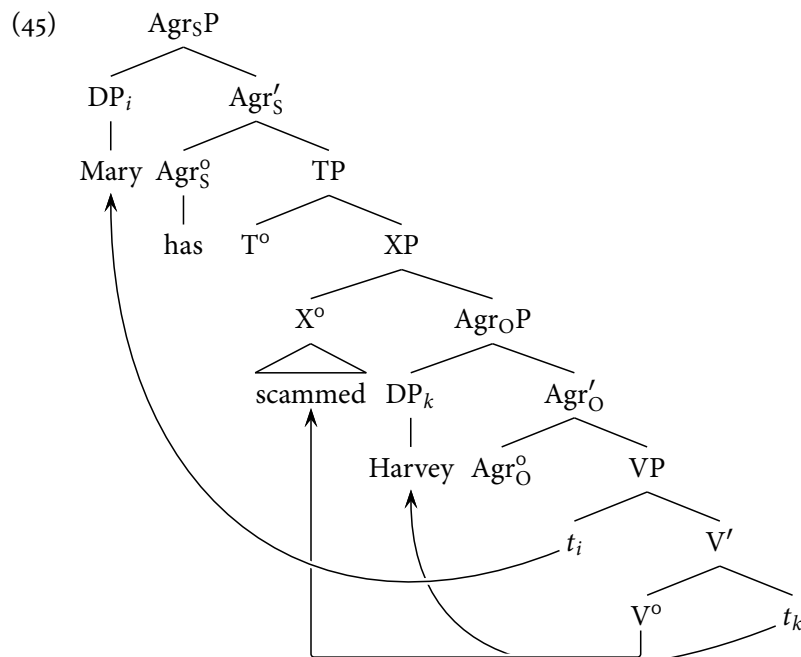
- A very influential solution to this problem comes from Lasnik (1995, 1999).
 - Assume that VP ellipsis simply deletes the material that appears in VP at PF.
 - In this case, the remnant need only move to SpecAgr_OP before ellipsis occurs.
 - This movement must occur before Spell Out, otherwise we expect the remnant to be trapped in the deleted VP.

Prior to this, Jayaseelan (1990) was the first to propose that pseudogapping was just movement out of the ellipsis site, but he proposed a rightward movement analysis based on heavy NP shift.



- If this object movement occurs overtly, though, then we have to find some explanation for why objects do not always precede their subjects.
- A simple solution may be that there is verb movement to a position above Agr_O^o when there is no ellipsis

There has been considerable discussion about what the positions in this part of the tree are what they do.

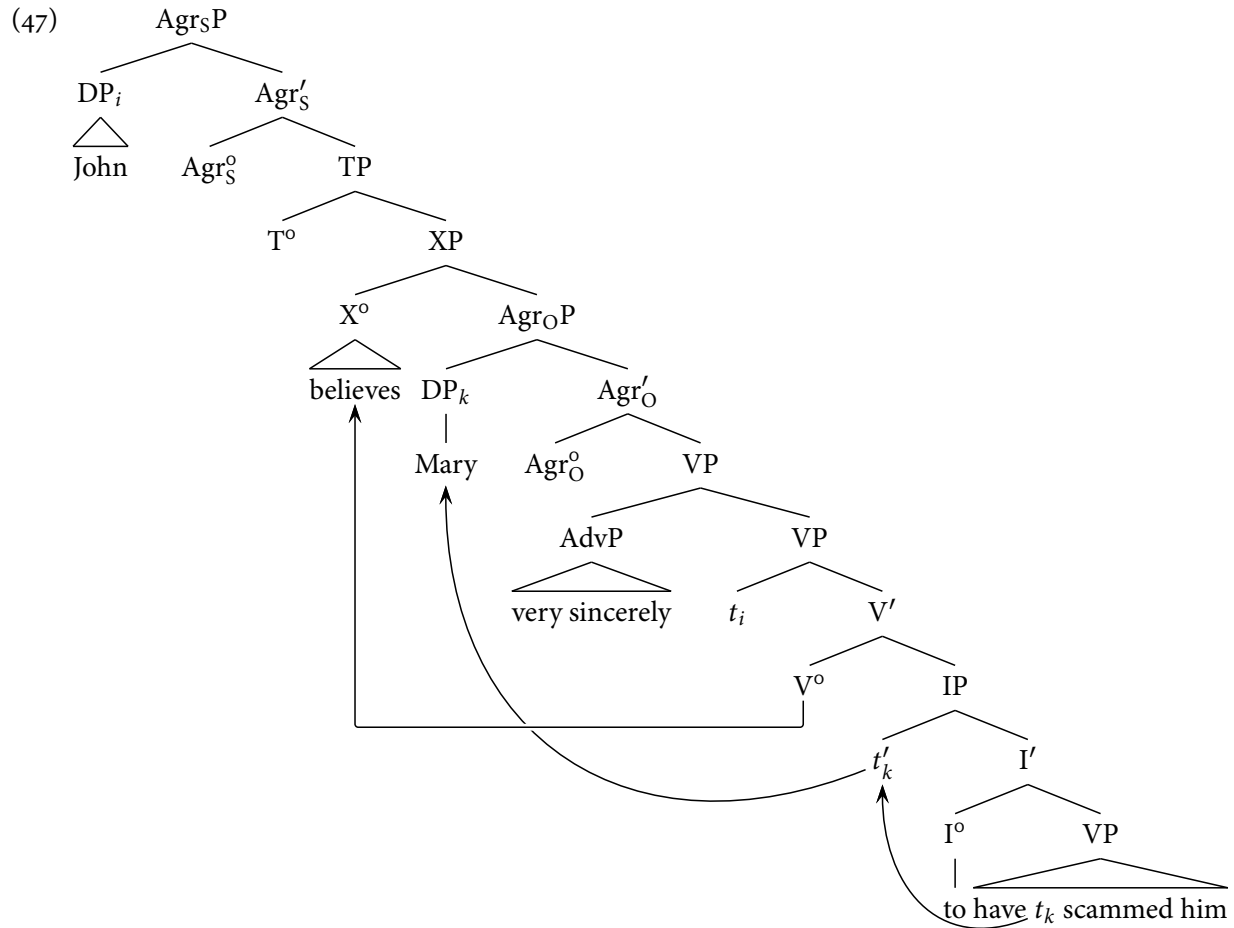


- This raises a question, though: Why would ellipsis make it so that the verb does not have to move?
 - Imagine there is some strong feature on V° that can only be checked by moving V° to X° .
 - Normally, if verb movement fails to occur before Spell Out, that feature will cause a crash at PF since it will not have been checked.
 - But if, as mentioned above, ellipsis occurs at PF and deletes the material in the VP, then deleting the verb will delete the offending unchecked strong feature, saving the derivation.
- Is there any independent evidence this verb movement occurs? Well, ECM, again, provides some clues.
 - In (46), to the extent it is acceptable, the adverb phrase *very sincerely* appears to modify the VP headed by *believe*:

(46) ?John believes Mary very sincerely to have scammed him.

- This suggests that both *Mary* and *believes* move to a position above the adverb:

The suggestion that ellipsis can 'repair' problems at PF has been a very productive area of research. See Merchant 2001 and Kennedy and Merchant 2000, amongst others.



- So this may be a possibility! But I don't think it's anything like a consensus view.

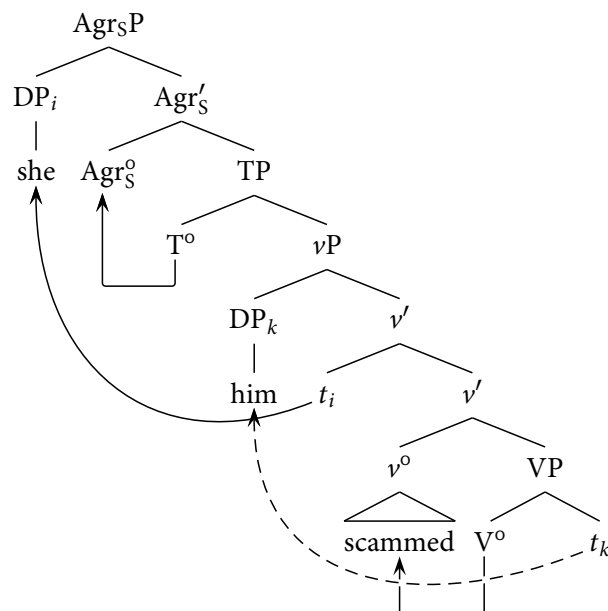
8 Agr_O or v^o?

- Recall from last time that we briefly discussed Burzio's Generalization.
 - Verbs can't assign accusative Case if they don't license an external θ -role
- We saw this can be cashed out under the Internal Subject Hypothesis if the head responsible for assigning the external θ -roles (v^o) also assigns accusative Case.
- Can this be reconciled with the Agr-based view discussed above?
- If v^o can have more than one specifier, then yes.
 - Rather than moving to SpecAgr_OP, we must assume that the object moves to a specifier of v P:

We'll discuss this more next week, don't worry!

(48) A v P-based LF for She scammed him.:

Compare (18).



Question: What's stopping v^o from checking Case on *she*?

- Nothing about how Merge/Move work prevents us from having multiple specifiers. If so, we might be able to do away with Agr_O while still assigning accusative Case in a spec–head relation.
- This is the direction we will move next week. Our flirtation with Agr_O heads will be short-lived.

A real worry, however, is moving the object across the (trace of the) subject. We'll have to delay this discussion until we talk about movement.

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