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The system and a derivation

1 The system

What follows is a summary of the system we are assuming so far.

This follows chapters 1–5 of Hornstein et al. 2005.

1.1 Levels

- We have eliminated D-structure and S-structure from our system.
- Structures are built derivationally, either by merging elements from the numeration, or moving elements from elsewhere in the tree.
- At a point called Spell Out, the tree is sent to the LF and PF levels.
  - LF interacts with the Conceptual–Intentional interface (*i.e.*, meaning).
  - PF interacts with the Articulatory–Perceptual interface (*i.e.*, sound/signs).
- These two interface levels are thought to be conceptually necessary because every phrase marker has both meaning and form.
  - The levels DS and SS, on the other hand, are theory-internal constructs.
  - The various modules of GB refer to them, but it is (hypothetically) possible to construct a theory that does not refer to these levels at all.

So far, we have looked specifically at Case theory and Theta theory.

- The syntactic derivation thus mediates between meaning and form.

(1) *The Minimalist Hypothesis*:
The language faculty is an optimal solution to interface conditions.

See Chomsky 2001, *inter alia*.

- With DS and SS eliminated, we have had to enrich our derivations in new ways.

1.2 Merge

- Without D-structure, we must build syntactic structures by some other means.
- The assumption is that all of the lexical items that will occur in an utterance are first assembled in to a numeration:

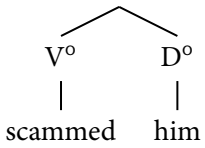
The numeration is technically a *multiset*, since it allows multiple identical elements.

(2) $N = \{\text{him}, \text{scammed}, v^{\text{o}}_{ag}, \text{she}, \text{T}^{\text{o}}\}$

- Elements in the numeration are combined with other syntactic elements with the operation Merge

- Merge combines two elements to create a new element:

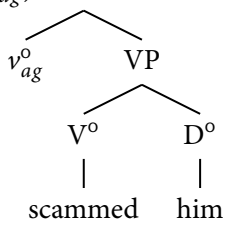
(3) $Merge(\text{him}, \text{scammed}) =$ VP



The fact that Merge only takes two elements leads to binary branching trees (*i.e.*, it is impossible for any node to have more than 2 daughters). Note, for instance, that our analysis of ditransitives eschews ternary branching structures like those found in *Aspects* models. This is compatible with Merge.

- The output of Merge is a valid input for Merge; consequently, VP can be merged with another element.

(4) $Merge([_{\text{VP}}\ \text{scammed him}], v^{\circ}_{ag}) =$ *v*P

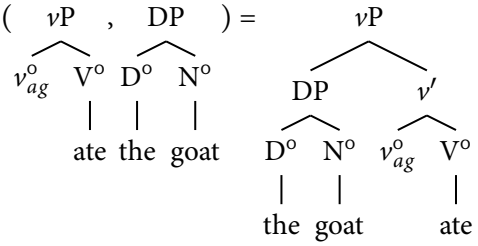


For the full derivation of the numeration in (2), see the derivation in (14).

- This is constrained, in part, by the Extension Condition, which requires that Merge and (overt) Move can only target the topmost elements in subtrees.

(5) *Extension Condition*:
Overt applications of the operations Merge and Move can only target root syntactic objects.

(6) $Merge($ *v*P , DP $) =$



Note that the DP *the goat* would make a legitimate internal argument for the verb *ate*. The Extension Condition, however, requires that the DP merge with *v*P after *v*° merges with V°.

1.3 Movement, and strong and weak features

- The assumption here is that movement only occurs when necessary to satisfy some interface requirement.
- We cash this out through a system of strong and weak features.
  - Weak features are not interpretable at the LF interface but are acceptable at the PF interface, and thus they must be eliminated by checking before being sent to LF but not before being sent to PF.
  - Strong features are not interpretable at the PF interface, and must therefore be eliminated before being sent to PF.

The economy condition procrastinate dictates that the derivation should take as long as possible to check features.

  - Because movement is available on the LF branch after Spell-Out, it is possible to wait until after Spell-Out to check weak features. This leads to covert movement.
  - However, the only way to check strong features is to move them before Spell-Out. Strong features drive overt movement.

On the assumption movement is not available on the PF branch

- We haven't given movement a lot of thought yet, nor have we really taken a close look at the kinds of features we have.
  - We will, eventually, but not for a little while.

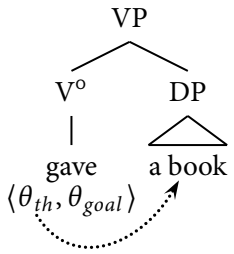
1.4 Theta theory

- Assignment of θ-roles to arguments occurs when they first merge with an element that assigns them a θ-role.

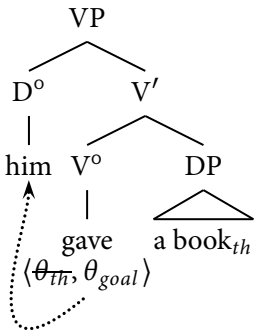
Thus, we are assuming the Predicate-internal Subject Hypothesis.

- Assignment of θ-roles may occur under a spec–head or head–comp relation.
- Assuming that the verb *scam* assigns a Theme θ-role, the object *him* in (3) receives this θ-role immediately upon merging.
- Ditransitive and double object construction verbs will assign two θ-roles, as in (7).

(7) a.



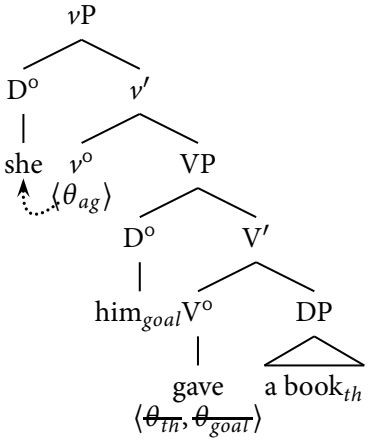
b.



- External θ-roles are assigned by v°.

And V° moves to v° here; I've left this out to make θ-role assignment clear.

(8)

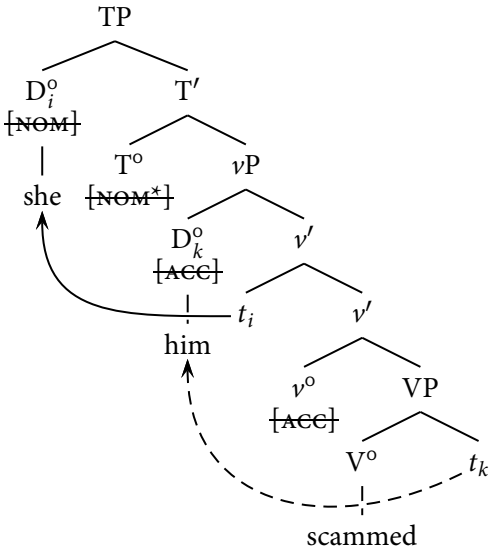


- This allows for completely local θ-role assignment. Assignment takes places in the maximal projection of the head that assigns the θ-role.

1.5 Feature checking and Case theory

- Under the system we have adopted, Case must be checked in a spec–head relation with the head that checks that Case.
- This relation may be established either overtly or covertly on the assumption that the Case filter applies at LF.
- Subjects move to SpecTP to check nominative. This happens overtly in English, possibly to check a strong [NOM*] feature on T°.
- The assumption, following Burzio's Generalization, is that *v*° assigns accusative case. This requires the object to move to Spec*v*P by LF:

(9)



I have indicated feature checking here with ~~strikeout~~. Strong features are marked with asterisks*. Covert movement is indicated with dashed lines.

Note that if there is an EPP feature on T° (which could be conceptualized as a strong [D*] feature), it's not *totally* possible to tell whether movement is happening for Case here.

- The typical assumption is that objects undergo covert movement in English, but it may occur overtly in some languages.
- Icelandic object shift is one candidate, but this depends on whether the main verb moves or not.

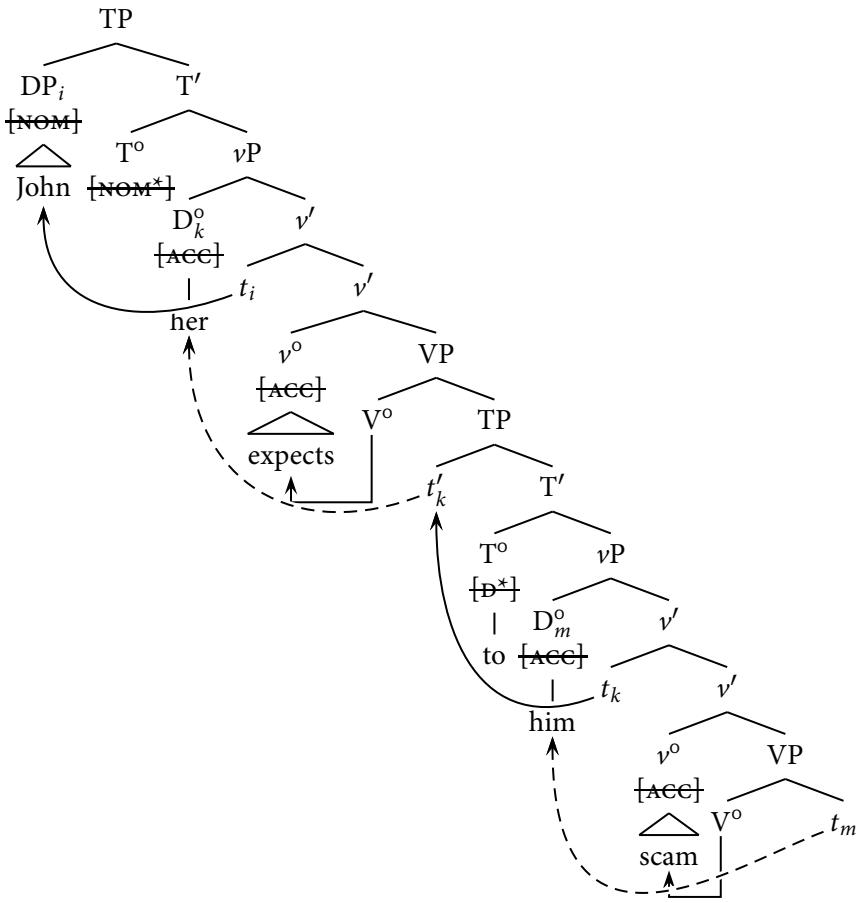
(10) Pétur las$_i$ bækurnar$_k$ eflaust aldrei [$_{VP}$ t_i t_k].
Pétur read.PST books.DEF doubtlessly never
'Pétur doubtlessly never ready the books.'

(11) Pétur hevur$_i$ eflaust aldrei t_i [$_{VP}$ lesið bækur].
Pétur has doubtlessly never read books
'Pétur has doubtlessly never ready books.'

Vikner 2005

- ECM predicates involve covert movement of the subject of an embedded non-finite clause to the accusative Case-checking position of a higher clause:

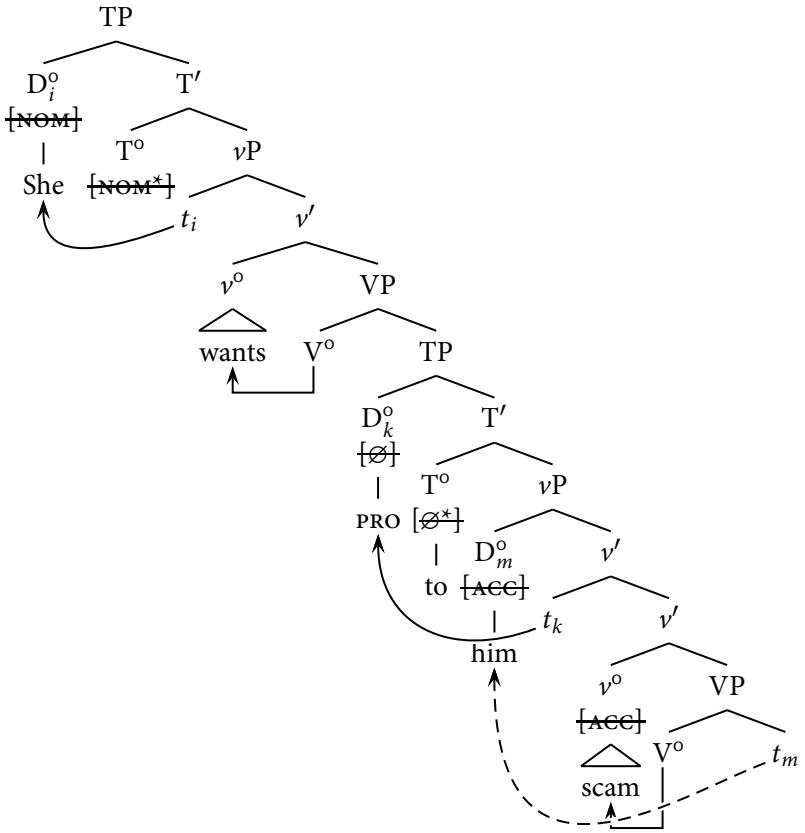
(12) John expects her to scam him. (LF)



Compare this to the Agr°-based derivaiton from the Case Configurations handout from 12 July.

- One possibility for PRO is that it is lexically defined to bear null case and this case can only be checked by non-finite *to*.

(13) She wants to scam him.



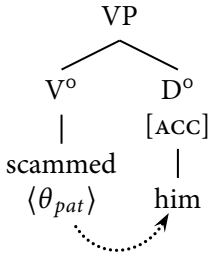
- These assumptions about Case assignment might be problematic for our understanding of *for–to* and ECM constructions.
  - If there is a null Case feature on T^o_{to} that must be checked by LF, there is no element in the derivation in these constructions that could check that feature because there is no PRO.
  - Chomsky (1995: Ch. 4, §9, Ex. (172)) seems to assume that *to* simply doesn't check Case at all in ECM constructions.

2 Step-by-step

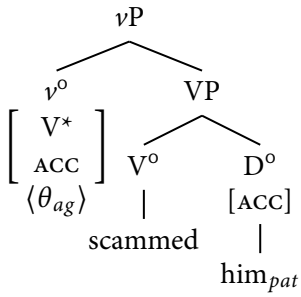
For the purposes of Assignment 3 (due Tuesday), your derivations should be single trees like those in (12) and (13): LF structures, with arrows that distinguish between overt and covert movement and show the positions to which θ-role assignment occurs. The material in this section is meant only to demonstrate how full, step-by-step derivations work, as they are rarely seen!

(14) $N = \{\text{him}, \text{scammed}, v^{o}_{ag}, \text{she}, \text{T}^{o}\}$

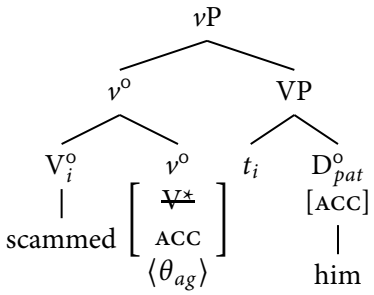
a. $Merge(\text{him}, \text{scammed})$; Assign Patient θ-role $N = \{v^{o}_{ag}, \text{she}, \text{T}^{o}\}$



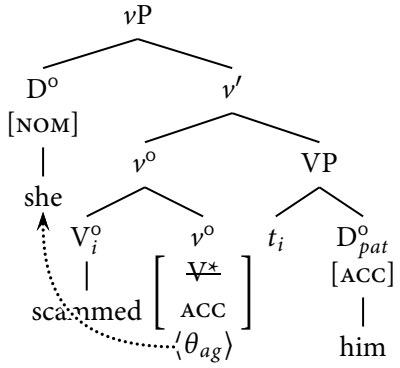
b. $Merge(v^{o}, \text{VP})$: $N = \{\text{she}, \text{T}^{o}\}$



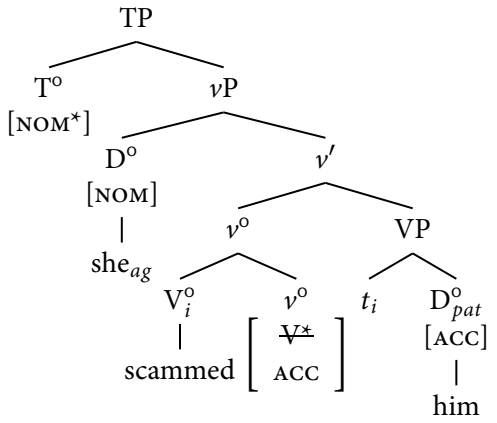
c. Move V^{o} to v^{o} to check strong [V*] feature: $N = \{\text{she}, \text{T}^{o}\}$



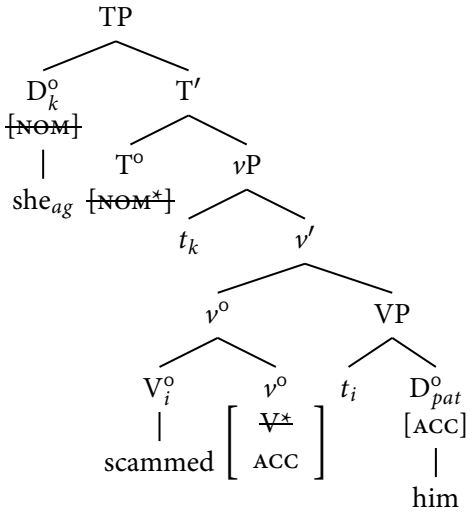
d. $Merge(\text{she}, v\text{P})$; Assign Agent θ-role: $N = \{\text{T}^{o}\}$



e. $Merge(\text{T}^{\text{o}}, v\text{P})$: $N = \varnothing$

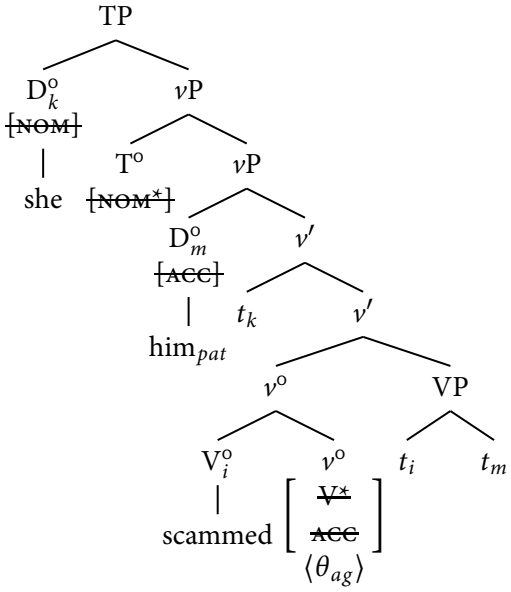


f. Move *she* to check strong [NOM*] feature on T°: $N = \varnothing$



g. Spell Out! (Pronounce the above tree!)

h. Move *him* to check [ACC] feature on v°: $N = \varnothing$



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