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# Prominence-based licensing in head movement and phrasal movement

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THE UNIVERSITY  
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at CHAPEL HILL

# Introduction and overview

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Focus of this talk: Some challenging interactions between head movement and phrasal movement.

- [1] Feeding relations between head movement and phrasal movement (Den Dikken 2007)
- [2] Competition among probes on a single head to trigger phrasal movement to its specifier (Hsu 2017)
- [3] A difference between the verbal vs. nominal domains in head movement and availability of specifiers: V2 vs. \*N2.



# Introduction and overview

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I account for these with several claims:

- Concatenation of heads in head movement generated by a **head-bundling** operation (Matushansky 2006, Hsu *to appear*).
- Bundling is driven by a *prominence-based licencing restriction* on features (Itô 1998, Walker 2011, a.o.).
  - Some features are grammatically expressed only when associated with a position of prominence.
- [EPP] is associated only with prominent positions.



# Organization of the talk

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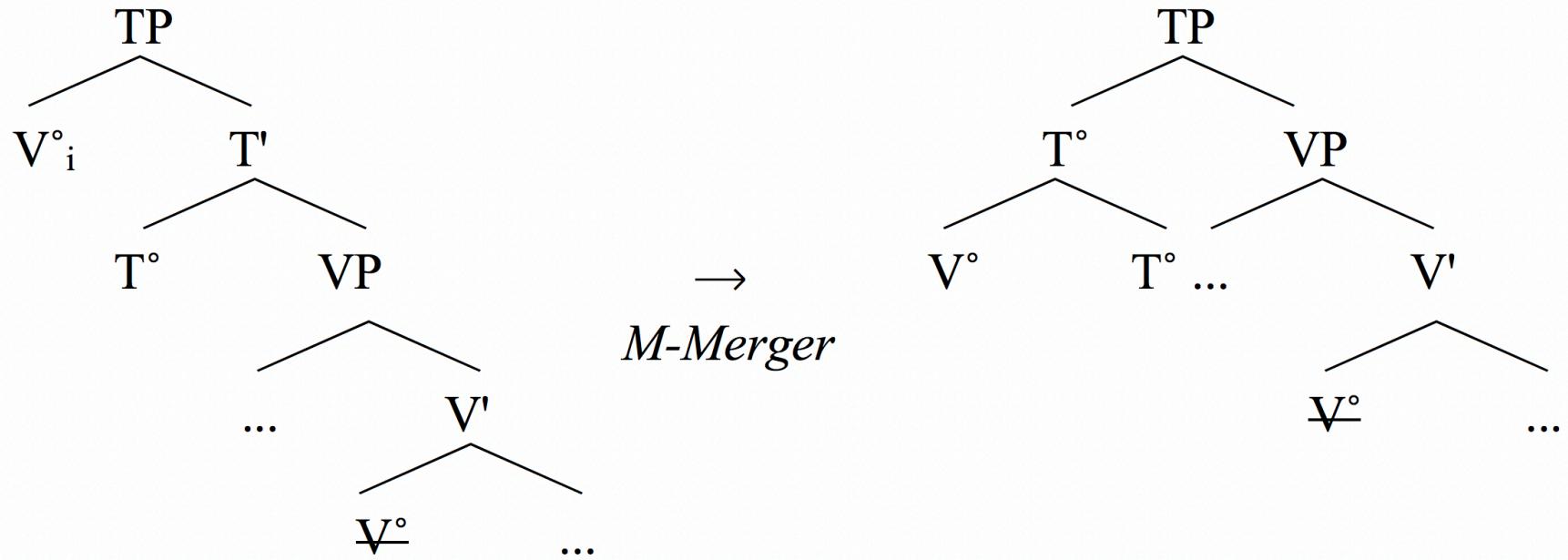
1. Introduction and overview
2. Bundling, dominance, and recession
3. Delayed gratification effects, [EPP]
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# Head bundling in the derivation

Matushansky (2006): Traditional head movement occurs in 2 steps:

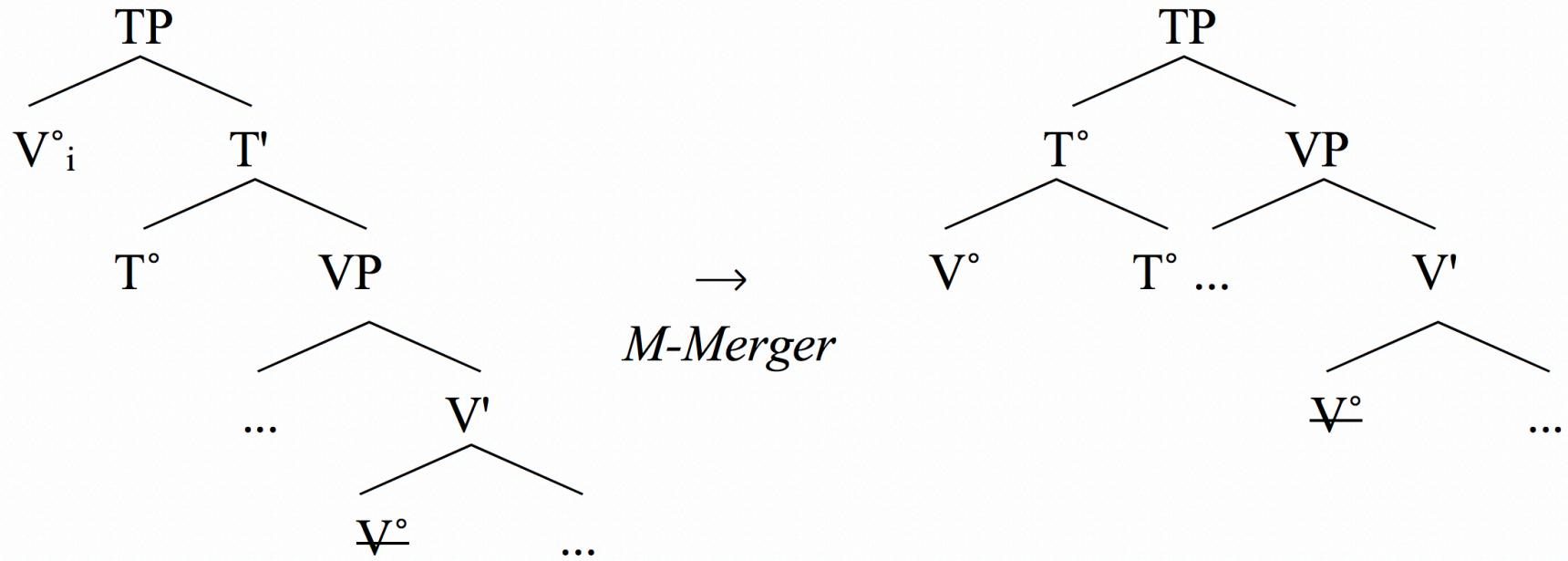
- [1] Movement of lower head to specifier of the target
- [2] Bundling (*M-Merger*)



# Head bundling in the derivation

Matushansky (2006): movement is triggered by c-selection features.

- **Problem:** Why do languages vary in head movement paths in an exended projection?



# Dominance and recession

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Bundling in head movement shows an interplay between “**prominent**” and “**non-prominent**” features.

- A deficiency of the target head requires it to be bundled with a moved prominent head (Julien 2002, Roberts 2005)

Hsu (2016): This binary featural contrast determines the application of the syntactic bundling operation *Coalescence*.

# Defining Coalescence

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When first Merged, all heads contain either a *dominant* or *recessive* feature.

$$\begin{array}{ll} X^\circ_D & Y^\circ_R \\ [X_D] & [Y_R] \end{array}$$

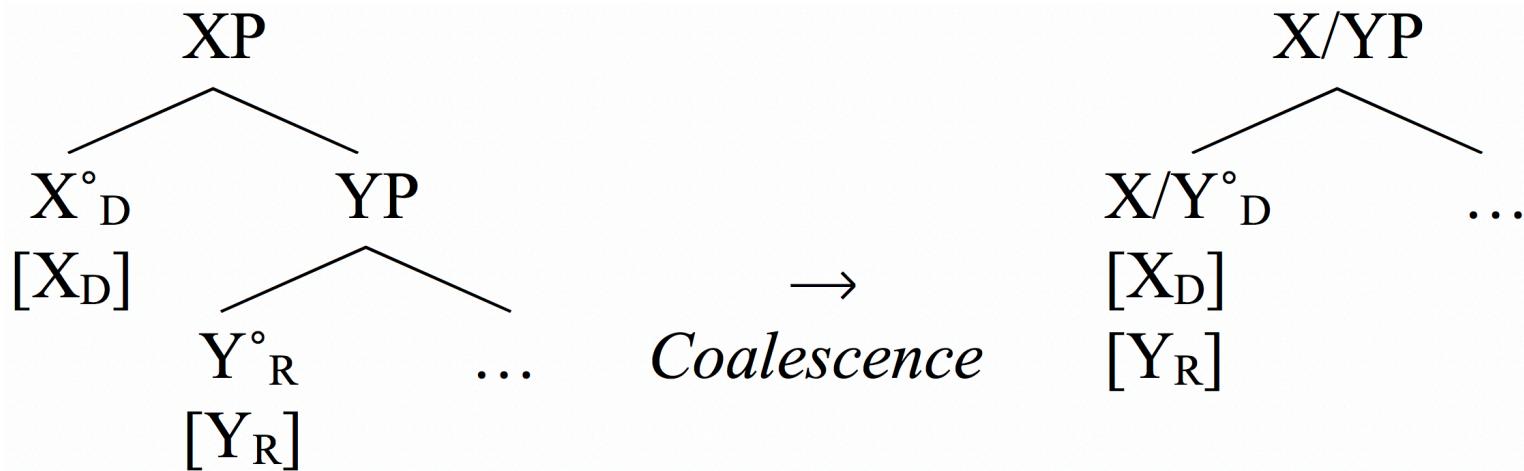
By the end of the derivation, all heads must contain one dominant feature. This motivates bundling.

$$\begin{array}{l} X/Y^\circ_D \\ [X_D] \\ [Y_R] \end{array}$$



# Defining Coalescence

Coalescence applies under *head-adjacency*: a dominant head immediately c-commands a recessive one

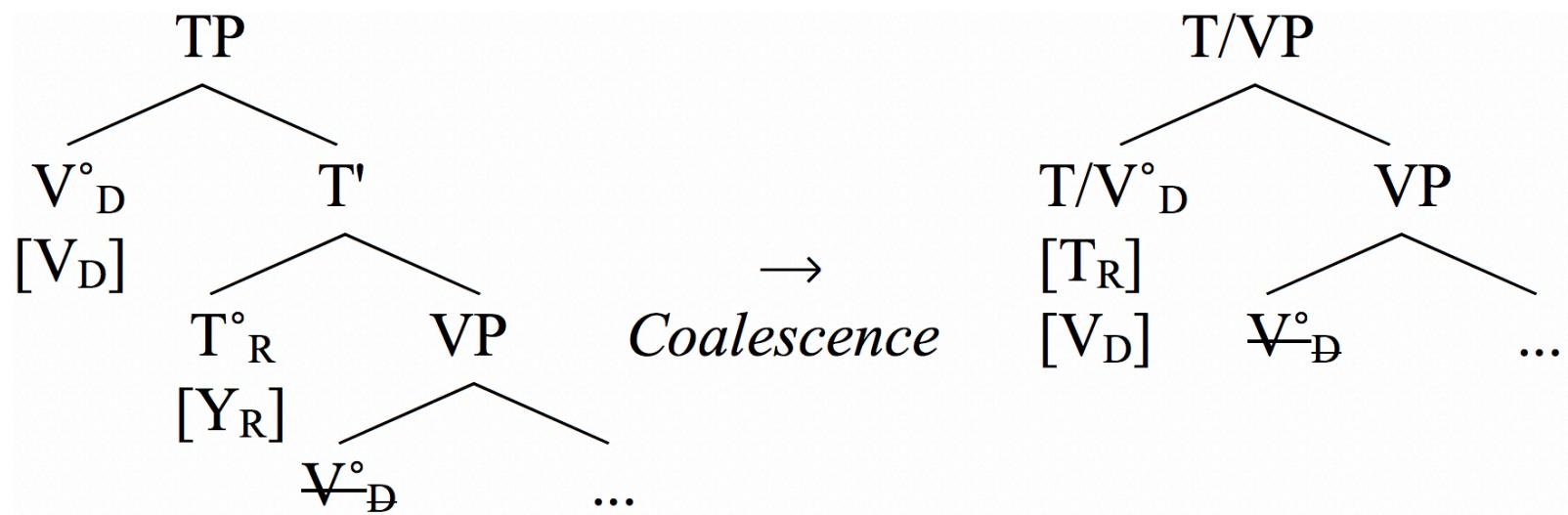


- I abstract away from head-internal branching structure – additional discussion in Hsu (2016, to appear)



# Defining Coalescence

In head movement, the lower dominant head undergoes Last Resort movement to the specifier of the recessive head, enabling Coalescence.



# Defining Coalescence

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Parametric variation in two properties of extended projections explained in terms of the distribution of dominant, recessive features:

- More dominant features → More articulated functional structure.
- More dominant features → Fewer head movements possible

Section 4: Some restrictions on which category features are dominant vs. Recessive.

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# Delayed gratification effects

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Some phrasal movements occur only if head movement to the same projection has taken place (den Dikken 2007, Kandybowicz 2009, Gallego 2010).

- Swedish Object Shift (den Dikken 2007):

(1)	jag	kysste	henne	inte	kysste	henne
	I	kissed	her	not		

(2) a.	*at	jag	henne	inte	kysste	henne
		that I	her	not	kissed	
b.	at	jag		inte	kysste	henne
		that I		not	kissed	

# Delayed gratification effects

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Some phrasal movements occur only if head movement to the same projection has taken place (den Dikken 2007, Kandybowicz 2009, Gallego 2010).

- German verb second

(3) Er sagte [er kommt<sub>T+C</sub> er morgen kommt ]  
He said he comes tomorrow  
'He said that he is coming tomorrow.'

(4)\*Er sagte [er dass<sub>C</sub> er morgen kommt ]  
He said he that comes tomorrow



# Delayed gratification effects

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A **delayed gratification** pattern: A probe in the target projection licenses a specifier only after bundling with a moved lower head.

Unexpected in theories in which:

- Phrasal movement and head movement involve non-overlapping sets of features.
- Ability to trigger phrasal movement is an inherent property (i.e. strength) of probes (Chomsky 1995).



# Phrasal movement, dominance, [EPP]

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**Proposal:** Phrasal movement, like head movement, depends on dominance vs. recession.

- Only dominant heads can have the [EPP] property.
- Informally, [EPP] is defined as the ability to license a specifier.

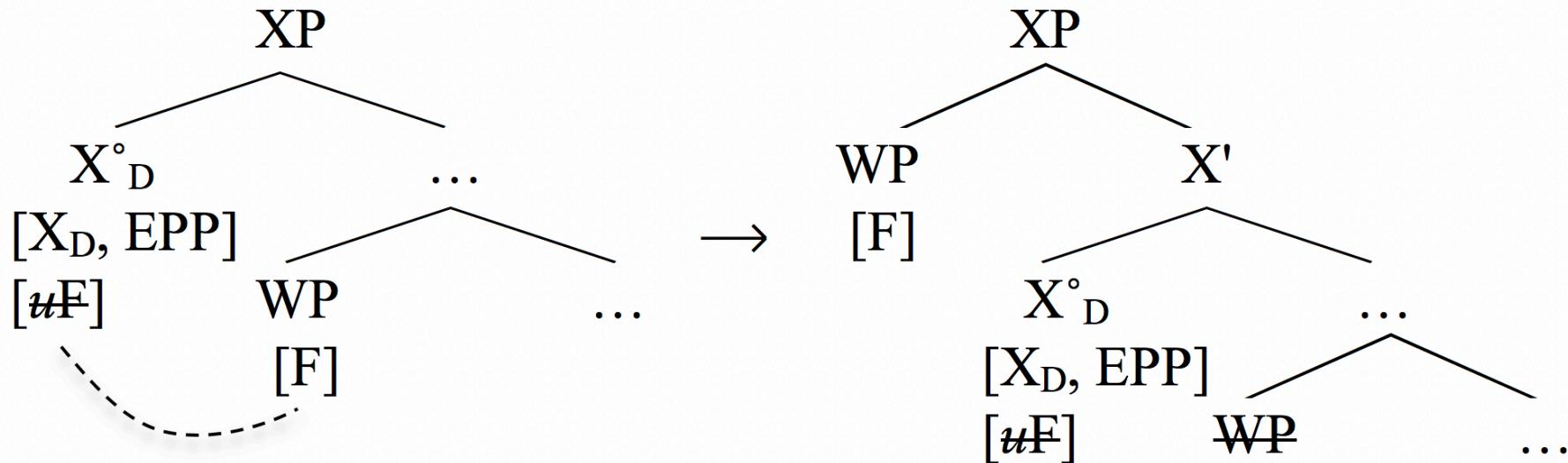


# Phrasal movement, dominance, [EPP]

Conditions on phrasal movement:

A specifier can be Merged in a projection iff.

- (i) its head participates in probe-goal agreement  
[ $uF$ ] ... [F] with a phrase, and
- (ii) its head has [EPP].



# Head bundling in the derivation

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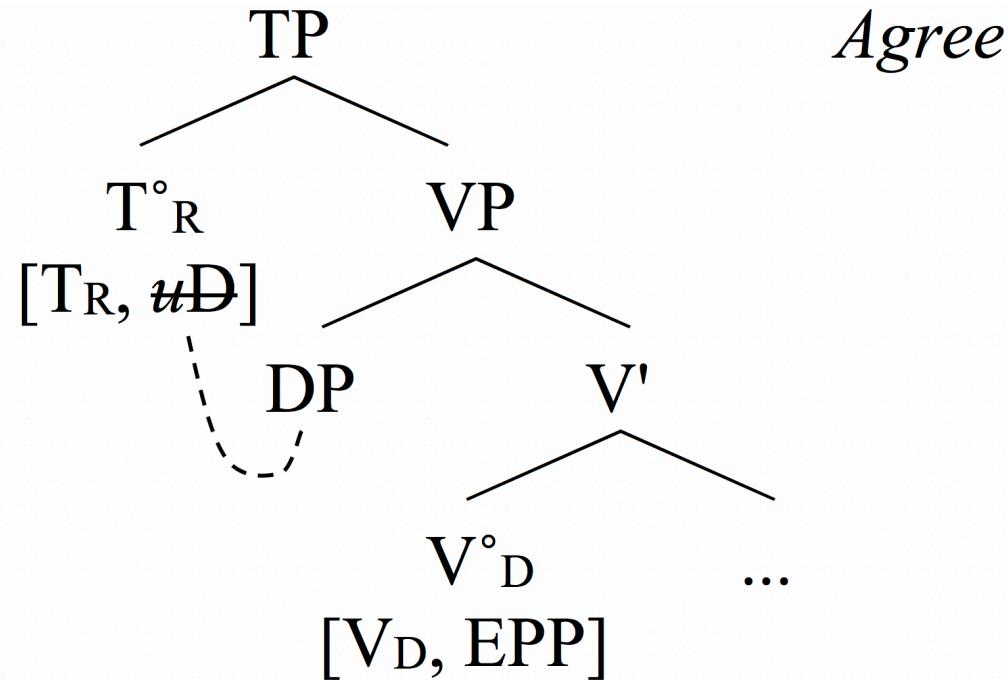
Auxiliary assumptions:

- [uF] probes are checked by Agree, but not immediately deleted (Pesetsky & Torrego 2000).
- Checked [uF] triggers phrasal movement only when its head has [EPP]
- [EPP] can associate with multiple probes during a derivation, and is not deactivated.



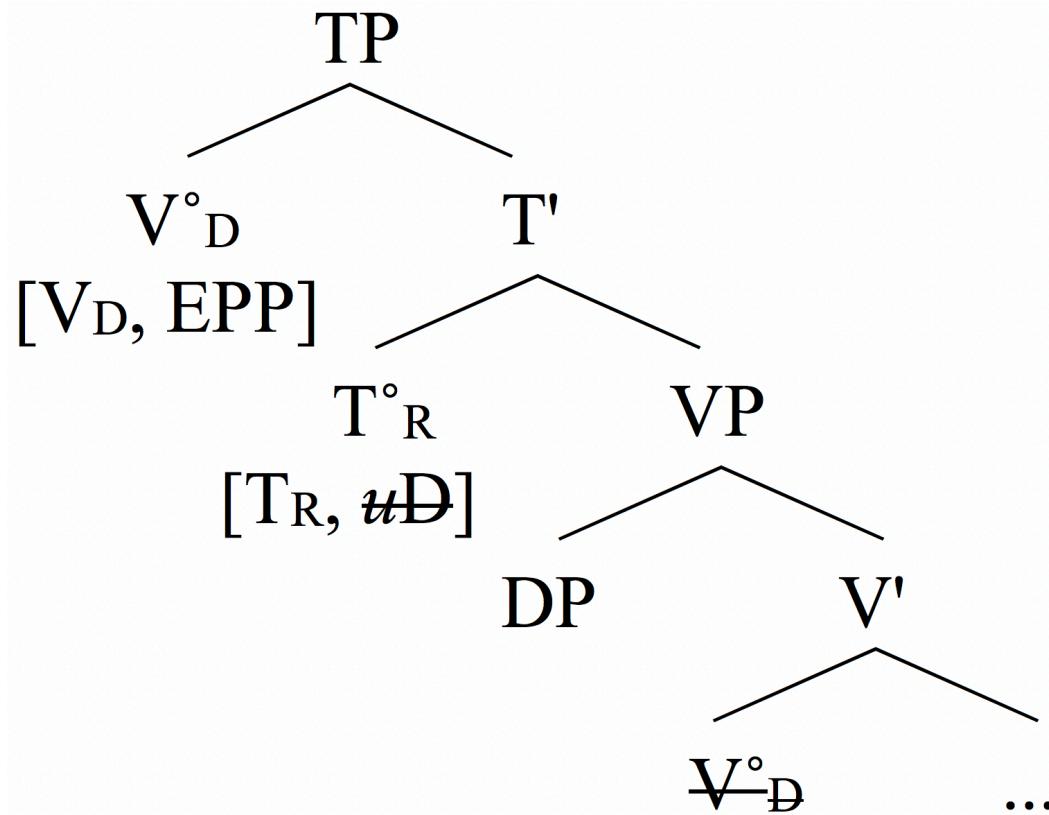
# Ex.: Romance V-to-T + subject movement

Step 1: Recessive  $T_R^\circ$  is Merged,  $[uD]$  is checked by Agree with VP-internal subject.



# Ex.: Romance V-to-T + subject movement

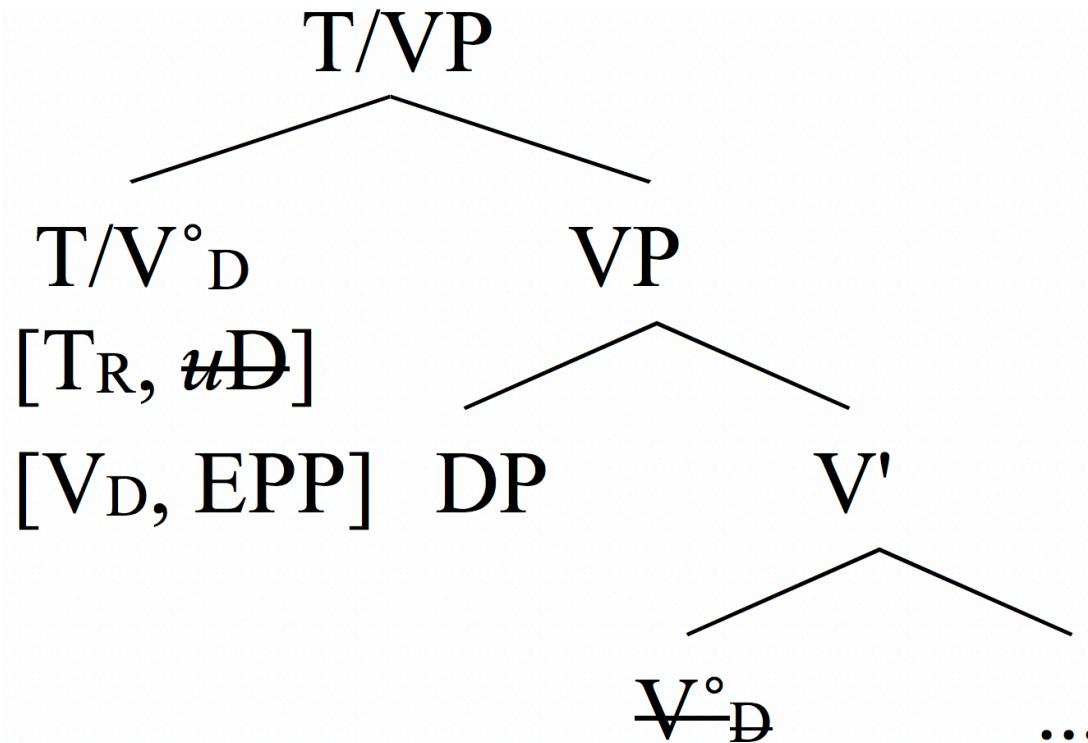
Step 2:  $V_D^\circ$  moves to Spec, TP.



# Ex.: Romance V-to-T + subject movement

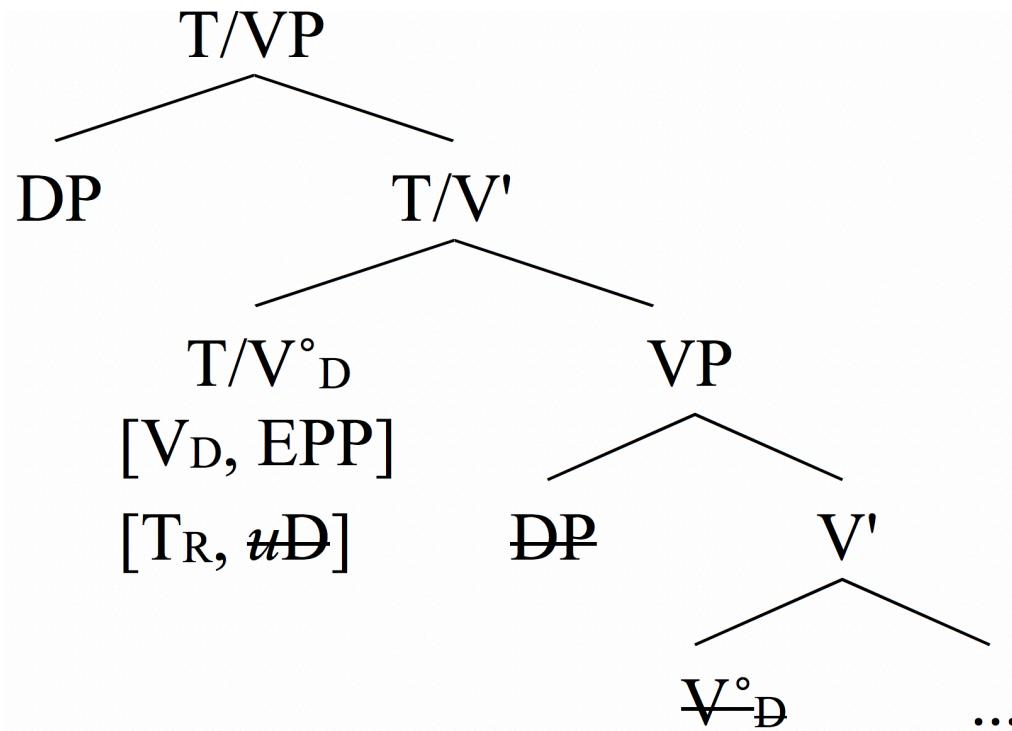
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Step 3: Coalescence bundles  $V_D$  and  $T_R$ .



# Ex.: Romance V-to-T + subject movement

Step 4: [*uD*] associates with [EPP] to trigger phrasal movement of the subject DP.



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# Unrestricted edge feature effects

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Phrasal movement can be triggered by several possible probes.

Ex.: First position (Spec, CP) in German V2:

- Objects must be topics, or focus. (ex. from Mohr 2009)

(5) Diesen minister **hat** die Presse schon lange kritisiert *Topic*  
This-ACC minister has the press already long criticized  
'This minister has long been criticized by the press.'

(6) Einen MINISTER **hat** die Presse schon lange kritisiert, *Focus*  
A minister has the press already long criticized  
'The press has already criticized a MINISTER for a long time, (not the chancellor)'



# Unrestricted edge feature effects

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Phrasal movement can be triggered by several possible probes.

Ex.: First position (Spec, CP) in German V2:

- Subjects do not need to be topics or focus. (ex. from Fanselow & Lenertová 2010)

- (7) Ein Kind hat einen hasen gefangen *non-topic, non-focus*  
A child has a rabbit caught  
'A child has caught a rabbit.'



# Unrestricted edge feature effects

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This “flexibility” cannot be accounted for in terms of a single probe on C (Fanselow & Lenertová 2010).

However, such patterns are predicted in the proposed feature system, with minor addl. claims:

- One head can include multiple recessive features (by iterative application of Coalescence)
- [EPP] can associate with only one probe in a given head.



# Unrestricted edge feature effects

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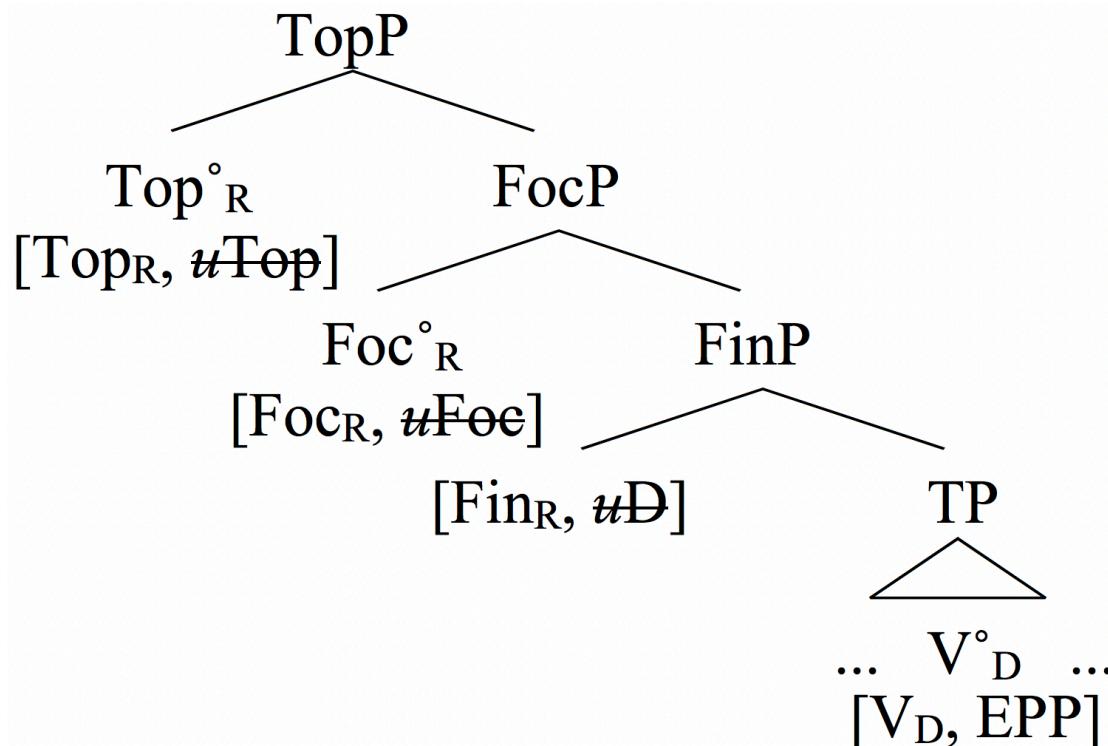
In German V2, probes of multiple recessive C-domain heads are bundled in one head:

- [ $uD$ ] subject probe on  $\text{Fin}_R$  (Poletto 2000, Aboh 2006)
- [ $u\text{Topic}$ ] topic probe on  $\text{Topic}_R$  (Rizzi 1997)
- [ $u\text{Focus}$ ] focus probe on  $\text{Focus}_R$  (Rizzi 1997)



# Unrestricted edge feature effects

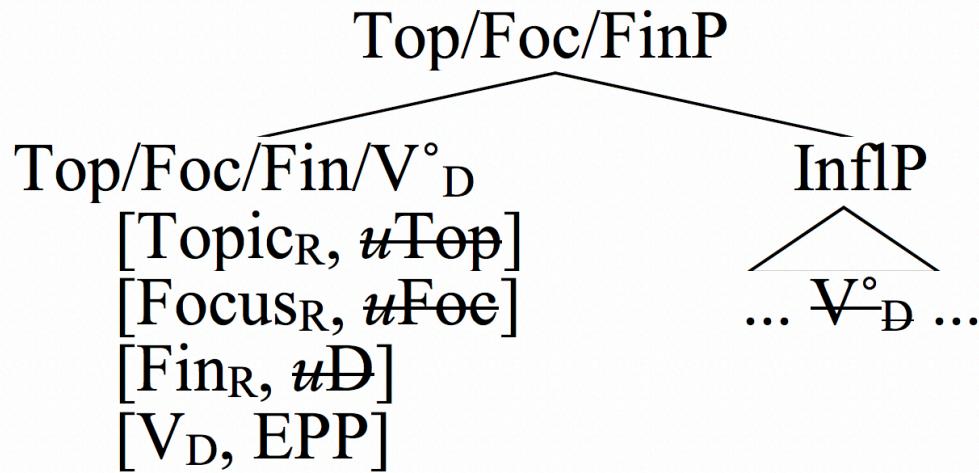
Each probe can be checked once its head has been Merged, but no phrasal movement can apply.



# Unrestricted edge feature effects

After verb movement and iterative application of Coalescence, each probe is bundled on one head.

Only one probe associates with [EPP], giving rise to "flexibility" in which feature triggers movement.



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# V2 vs. \*N2

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In V2, C-domain probes trigger phrasal movement only after bundling with a  $V_D$  or  $Aux_D$  with [EPP].

Recasting of Baker (2003):

- The defining syntactic property of verbs as a lexical category is the ability to license specifiers.

**My interpretation:** Probes of recessive Infl, C projections can inherit [EPP] as verbs move up.

# V2 vs. \*N2

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There are no known languages with “**noun-second**” order in which DPs regularly show N-to-D movement and a filled Spec, DP.

Unexpected for a few reasons:

- General parallels between clausal and nominal functional structure.
- Attested availability of N-to-D movement (Ritter 1988, Longobardi 1994), specifiers in D projections (Brugè 2002, Giusti 2002, Hsu & Syed 2019).



# V2 vs. \*N2

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The absence of N2 patterns is predicted by the same extension of Baker (2003): **N does not have [EPP]**.

- Even if  $N_D$  head-moves and bundles with recessive  $D_R$ , D probes cannot access [EPP].
- Nominal functional projections (Num, D, etc.) may be first Merged as dominant heads with [EPP], but this feature cannot be supplied to D probes by N movement + Coalescence.



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# Conclusion

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Bundling in head movement serves to “prune” tree structures by combining weak branches ( $X_R$ ) with prominent ones ( $X_D$ ).

[EPP] is restricted to prominent positions:

- Accounts for *delayed gratification* (head movement feeding phrasal movement)
- Accounts for *unrestricted edge feature* patterns (probes compete to associate with [EPP])



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# Thank you!



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