LONG DISTANCE AGREEMENT

How phases constrain operations and how to get out of them

Selected Topics in Syntax

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Polinsky, Maria, & Potsdam, Eric. 2001. "Long-distance agreement and topic in Tsez." *Natural Language & Linguistic Theory*, 19(3), 583–646. DOI: https://doi.org/10.1023/A:1010757806504.
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1 OVERVIEW

- In Brazilian Portuguese (and other languages), the verb agrees with the subject, but it cannot agree with the *embedded* subject across a finite CP.

(1) a. Os alunos parece-m [ter visitado o zoológico]. (*Br. Portuguese*)
the students seem.PRES-3PL have.INF visited the zoo
'It seems that the students visited the zoo.'

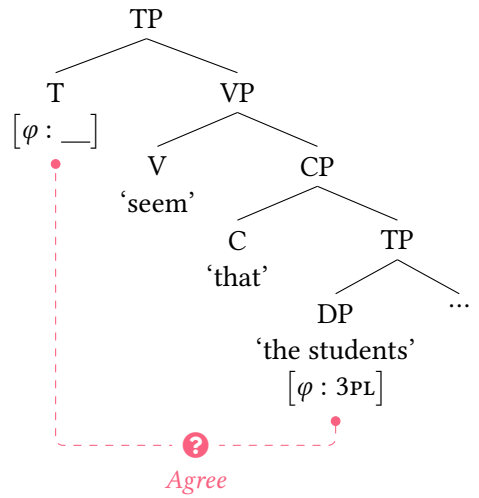
b. Parece [que os alunos visitaram o zoológico].
seem.PRES.3SG that the students visited.3PL the zoo
'It seems that the students visited the zoo.'

c. * Parece-m [que os alunos visitaram o zoológico].
seem.PRES-3PL that the students visited.3PL the zoo
Intended: 'It seems that the students visited the zoo.'

d. * Pareç-o [que eu visitei o zoológico].
seem.PRES-1SG that I visited.1SG the zoo
Intended: 'It seems that I visited the zoo.'

- Why are (1c–1d) ungrammatical? All the conditions imposed on Agree are met.

(2)

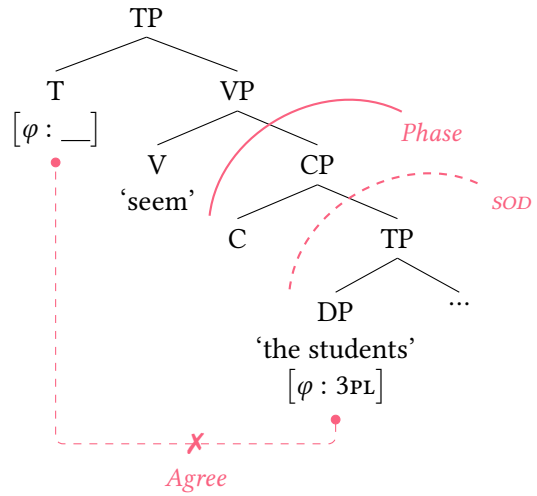


- ▷ (1c–1d) are instances of **Long Distance Agreement** (LDA), i.e. agreement across a clausal domain, specially a finite CP.
- ▷ We can, then, restate our question: why is long distance agreement impossible (in Br. Portuguese)?

❀ *Solution*: there is an additional, independent restriction that applies to syntactic operations in general, namely *phasehood*.

❀ A **phase** is a set of nodes the complement of which is spelled-out and therefore it becomes inaccessible to further syntactic operations, including Agree.

(3)



➟ According to this analysis, LDA is not possible because it violates the phasehood constraint imposed on syntactic operations: the subject that the matrix verb is trying to Agree with is contained inside the Spell-Out Domain (SOD) of the embedded CP, a phase.

❀ *But*: LDA is perfectly possible in Tsez.

(4) *Tsez, Northeast Caucasian*

a. enɪ-r [už-ā magalu b-āc-'r-uɬi] **r**-iy-xo.
mother-DAT [boy-ERG bread.III.ABS IV-eat-PST.PRT-NMLZ].IV IV-know-PRES
'The mother knows the boy ate the bread.'

b. enɪ-r [už-ā **magalu** b-āc-'r-uɬi] **b**-iy-xo.
mother-DAT [boy-ERG bread.III.ABS III-eat-PST.PRT-NMLZ].IV III-know-PRES
'The mother knows the boy ate the bread.'

- As we are going to see when we examine the data in more detail, in Tsez, the verb agrees with an ABS argument in nominal class (viz. I-IV).
- (4a): canonical agreement.
  - Class IV agreement in 'know' is either agreement with the embedded, nominalized clause or default agreement.
  - In the latter perspective, the reason behind default agreement is the absence of an ABS that the verb could agree with.
- (4b): LDA. The matrix verb has class III morphology, crossreferencing an *embedded* ABS argument.

How to constrain LDA in Br. Portuguese, while allowing it in Tsez?

1.1 Roadmap

- *Background*: phases (what they are, relevance, and empirical motivation)
- *Data*: LDA in Tsez
- *More background*: "covert" movement and the Copy Theory of Movement
- *Analysis*: escaping phases through covert movement to the edge
- *Conclusion*: LDA in Tsez demonstrates the reality of the effect of phases on Agree

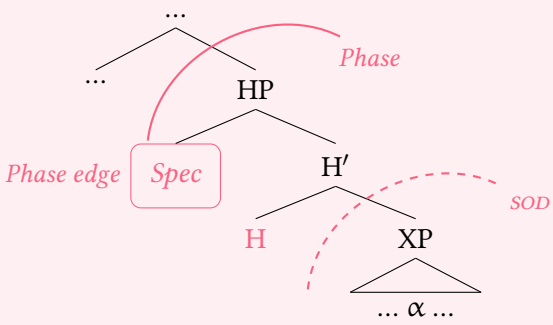
2 Background: phase theory

2.1 Internal make-up of a phase and impact on derivation

- A phase is a set of contiguous node dominated by some HP.
- Phases (HP in (5)): CP and transitive *v*P (maybe DP (cf. Aravind 2021; Van Urk 2020) and PP (cf. Van Urk 2020) too).
- A phase is internally divided into:
  - Edge: Spec-HP, head H, and adjunct to HP
  - Spell-Out Domain (SOD): Compl-HP

DEFINITION 1

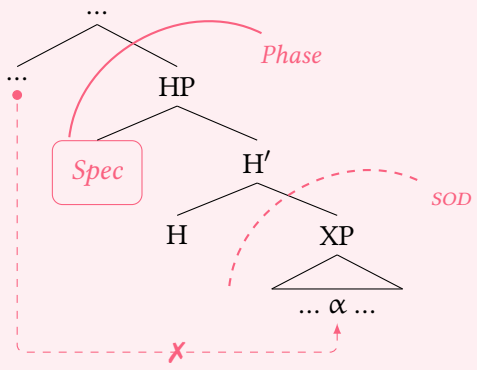
(5) *Components of a phase*



- SOD: complement to the phase HP is converted into the representations for phonological and semantic representations, i.e. PF and LF, respectively.
  - The derivation of a sentence, then, occurs "in chunks," i.e. phase-by-phase, with portions of each (viz. the SOD) being shipped off to the interfaces, thereby becoming invisible to the syntactic component.
    - *Cf.* derivation of the entire sentence "in one fell swoop."
  - Relevance of SOD: *if a structure is Spelled-out, it is no longer accessible for further syntactic operations.*

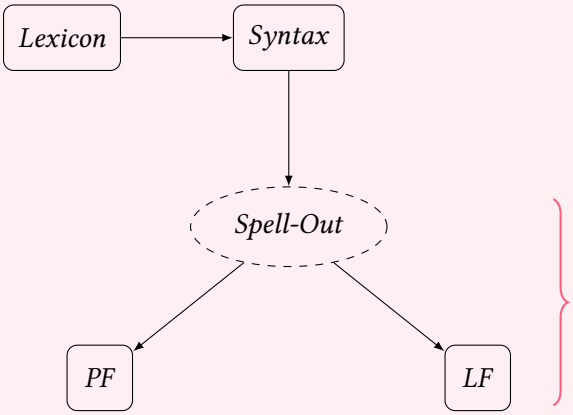
DEFINITION 2

(6) *No syntactic operation can target Spell-Out Domain*



  - This logic implies the following model of grammar:

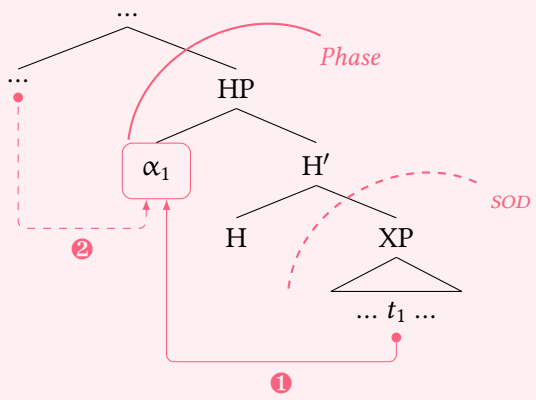
(7) *Inverted Y model of grammatical architecture*



❀ **Corollary**: *if some node α that is contained inside an* SOD *participates in some syntactic dependency with an element outside, specifically, above the phase HP that contains α, α must move to the phase edge first.*

DEFINITION 3

(8) *Escape hatch movement*



❀ In other words, phases and their internal make-up, specially as it pertains to the difference between phase edge vs. SOD, play an important role in determining the order of syntactic operations.[1]

2.2 EMPIRICAL SUPPORT FOR PHASEHOOD

❀ In some operation needs to target some α contained inside the SOD of some phase HP, the logic of a system that allows the derivation of a sentence "in chunks" requires the "escape hatch" movement

[1]A phase can also be used to delimit the application and/triggering of syntactic operations and dependencies, e.g.:

(i) i. An anaphor must be bound in the smallest phase that contains it.
ii. The Disjunctive Case Hierarchy applies as soon as the smallest phase is assembled.
...

depicted in (8).

- *But*: is there empirical evidence for a derivation that involves the steps in (8)? Yes, from:
  - Binding
  - Quantifier floating in West Ulster English
- See a ton of more data in Van Urk (2020).

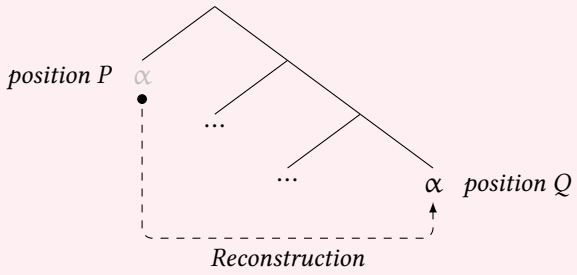
2.2.1 SUCCESSIVE-CYCLIC *WH*-MOVEMENT AND BINDING

- Consider the following sentence:

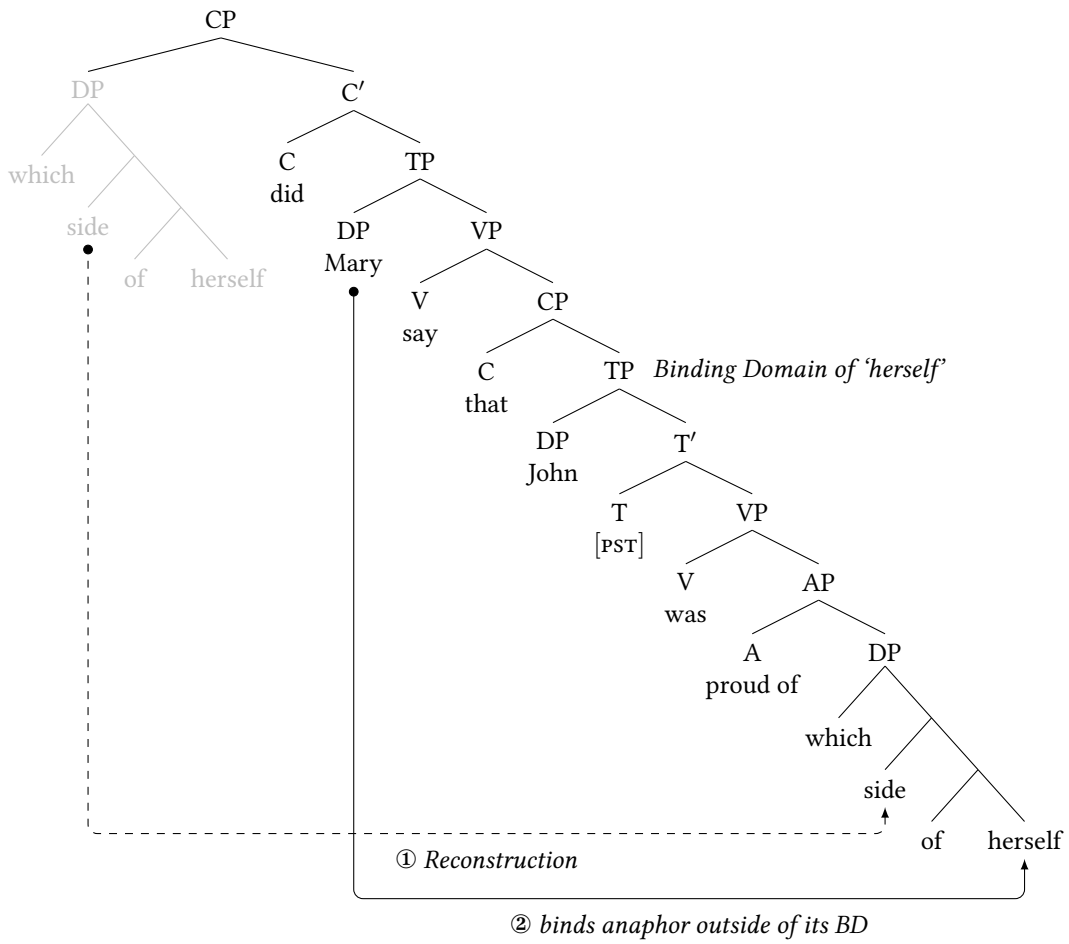
(9) Which side of herself$_1$ did Mary$_1$ say that John was proud of?

- We know that an anaphor such as *herself* in (9) must be bound by its antecedent in its Binding Domain. But how is binding possible in (9)?
- Even if we reverse engineer the *Wh*-movement in (9), so that *which side of herself* is Reconstructed back to the position where it is assigned a θ-role by *proud*, the antecedent *Mary* is still outside of the anaphor's Binding Domain, the embedded finite clause, as we see in (11).

(10) If a constituent α is pronounced at a position *P*, but interpreted at a position *Q*, where *P* c-commands *Q*, then α is said to **Reconstruct** to *Q*.

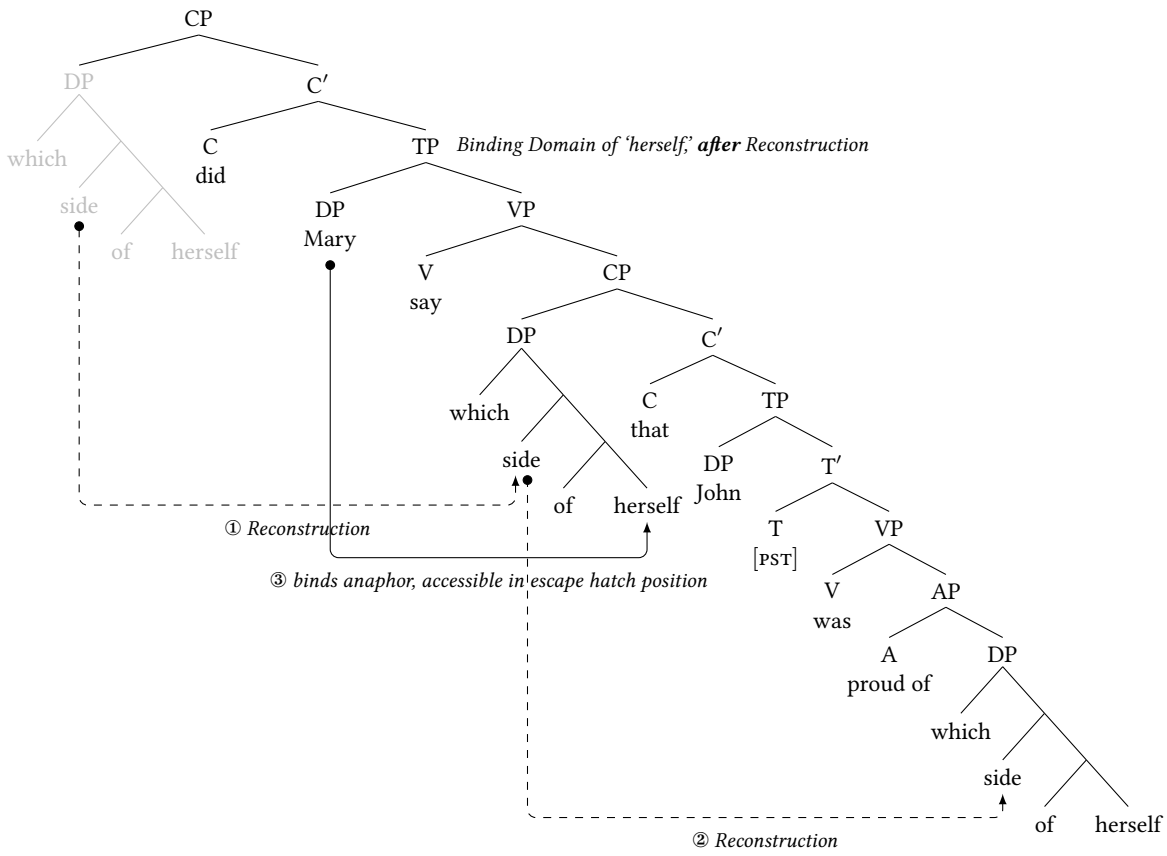


(11)



- The representation depicted in (11) predicts that the sentence (9) should be ungrammatical, since the anaphor *herself* is free in its Binding Domain: *Mary* c-commands *herself* after *which side of herself* is reconstructed, but *Mary* is outside of the embedded finite CP that is the anaphor's Binding Domain in this sentence.
  - This is, of course, undesirable, since (9) is perfectly grammatical.
- **Solution**: if the *Wh*-movement that *which side of herself* undergoes stops over at the *intermediate* Spec-CP, then, there is a point in the derivation when *herself* can be bound by the matrix subject *Mary* without a Condition A violation.

(12)

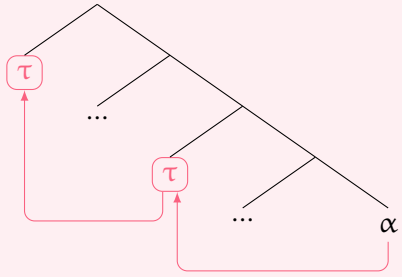


❀ Movement, as it is depicted in (12) is **successive-cyclic**:

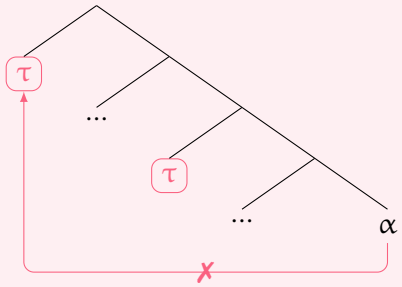
DEFINITION 4

If a constituent α targets a position of type τ, move α through all intermediate positions of the same type τ.

(13) a. *Step-by-step*



b. *One fell swoop*



- If movement is successive-cyclic, *which side of herself* in (9) cannot move from the position where it receives a θ-role from *proud* directly to the matrix interrogative Spec-CP.

  (14) ✗ *Movement in one fell swoop*

  [CP Which side of herself$_1$ [C′ did Mary say [CP that John was proud of t_1]?

- Rather, it moves to the intermediate Spec-CP in the embedded clause.

  (15) ✓ *Successive-cyclic movement*

  [CP Which side of herself$_1$ [C′ did Mary say [CP t_1 [C′ that John was proud of t_1]]]?

  - From that position, even though the embedded clause is finite, because this is an escape hatch position, the interrogative DP, including the anaphor *herself* is now visible to *Mary* in the matrix clause.
  - As such, *Mary* can bind *herself* without violating Condition A.

❀ *But*: why does *Wh*-movement have to be successive-cyclic?

- Movement to the highest Spec-CP is motivated because the matrix C is [+INT], i.e. it triggers the movement of an interrogative phase.
- The intermediate C is *not* [+INT], so there is no reason for *Wh*-movement to target this position.

❀ **Answer**: CP is a phase, so if some α contained inside its SOD remained inside this domain, it would never get the chance to move anywhere.

- In the case at hand, α = [*which side of herself*].
- As such, (15) is equivalent to the following diagram:

  (16) ✓ *Successive-cyclic movement as the result of escaping an* SOD

  [CP Which side of herself$_1$ [C′ did Mary say [CP t_1 [C′ that John was proud of t_1]]]?

  ❷ *True* [+INT] *movement* ❶ *Escape hatch movement*

➟ *Conclusion*: the reality of the intermediate movement to Spec-CP is evidenced by *the creation of a new antecedent for anaphor binding*.

2.2.2 Quantifier stranding in West Ulster English

❀ A classic argument in favor of intermediate movement to Spec-CP/Successive-cyclicity is provided by West Ulster English.

(17) a. **What** did you get __ for Christmas? (*West Ulster English*)
b. **Who** did you meet __ when you were in Derry?
c. **Where** did they go __ for their holidays?

(18) a. **What all** did you get __ for Christmas?
b. **Who all** did you meet __ when you were in Derry?
c. **Where all** did they go __ for their holidays?

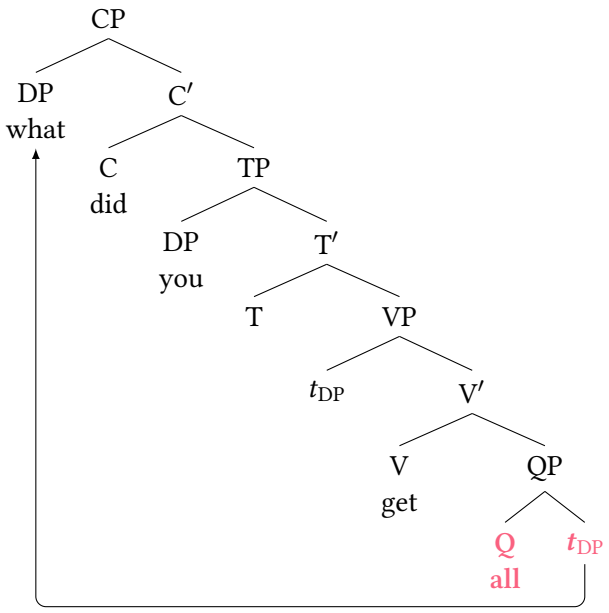
❀ Semantic difference between (17) and (18): the answer for the questions in (18) is a plurality and it must be an exhaustive list.

- Importantly, when the *Wh*-phrase is quantified over by *all*, this quantifier can appear separately from the *Wh*-phrase.

(19) a. **What** did you get [**all** __] for Christmas?
b. **Who** did you meet [**all** __] when you were in Derry?
c. **Where** did they go [**all** __] for their holidays?

- This is an instance of *quantifier stranding*: part of the QP moves, leaving Q stranded behind.
  - The position *P* of the stranded quantifier provides evidence that a phrase (i.e. a subcomponent of the QP headed by this quantifier) that is pronounced elsewhere occupied *P* at a previous point in the derivation.

(20) **What** did you get [all __] for Christmas?

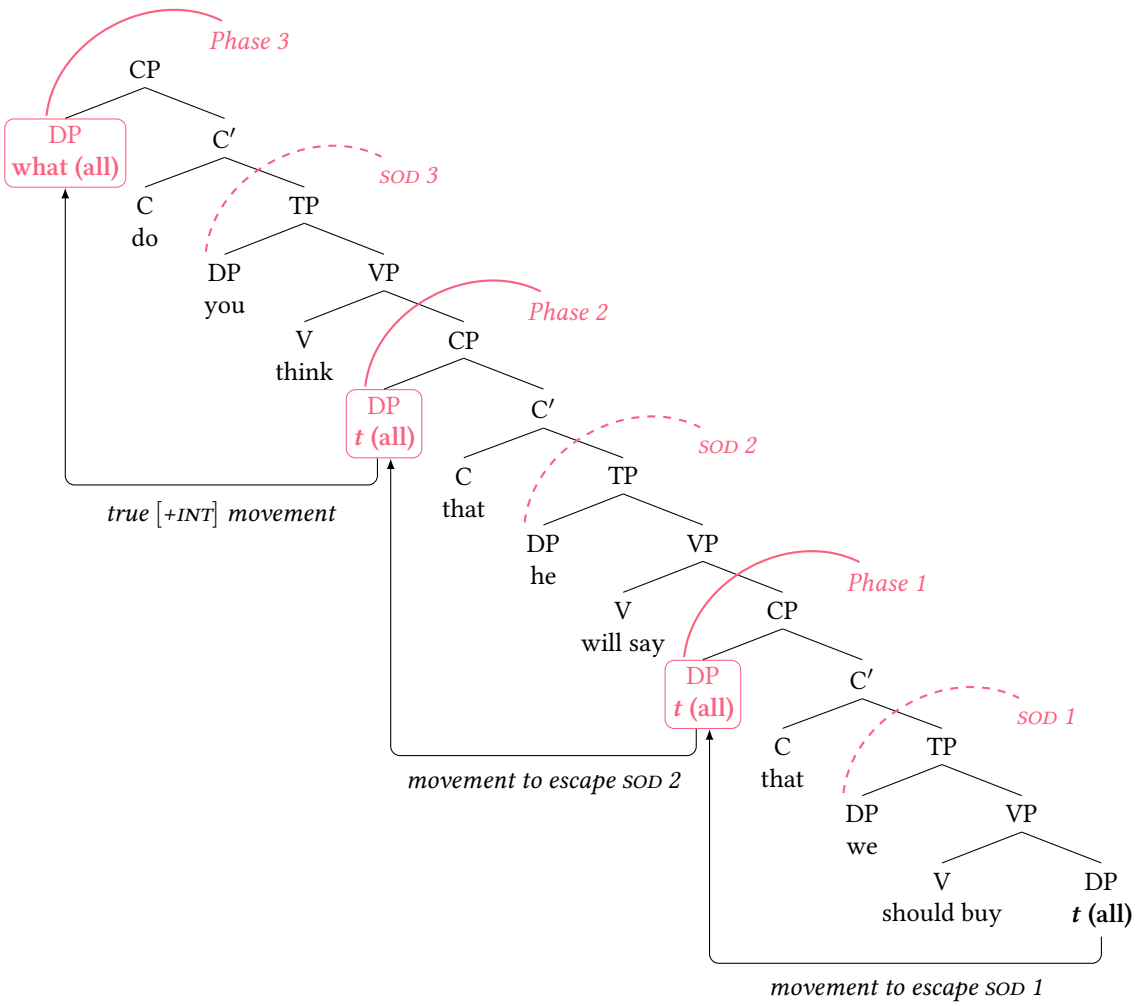


- Another remarkable property of quantifier stranding under *Wh*-movement in West Ulster English is that a quantifier can be floated in *any* position that the moving *Wh*-phrase occupies.

(21) a. **What all** do you think [$_{CP}$ __ that he'll say [$_{CP}$ __ that we should buy __]]?
b. **What** do you think [$_{CP}$ __ all that he'll say [$_{CP}$ __ that we should buy __]]?
c. **What** do you think [$_{CP}$ __ that he'll say [$_{CP}$ __ all that we should buy __]]?
d. **What** do you think [$_{CP}$ __ that he'll say [$_{CP}$ __ that we should buy __ all]]?

- The order in (21d) is straightforward: *all* marks the position where *what all* is base-generated and where it receives a θ-role.
- But what about (21b) and (21c) What position could *all* be stranded at?
- Given that *all* in (21b) and (21c) precedes a complementizer (and follow a subordinating verb), it is plausible that this quantifier is stranded at Spec-CP.

(22)



➟ *Conclusion*:

- As in the binding example from §2.2.1, the intermediate steps of successive-cyclic *Wh*-movement are not motivated by the need to fill the Spec-CP of an [+INT] C.
- Rather, [*what all*] moves to the intermediate Spec-CP positions in order to escape an SOD, so that it can, eventually reach the true [+INT] Spec-CP in the matrix clause.
- The difference between the two types of examples is that the evidence for the intermediate positions is given by a conspicuous stranded quantifier.

- Both (*i*) reconstruction for anaphor/the creation of new antecedents for anaphor binding, and (*ii*) quantifier stranding can be used as diagnostics for movement *in general*
- In other words, if you see some constituent α pronounced in some position *P* and you cannot tell whether α is pronounced at *P* because it was base-generated there or moved there, you can apply diagnostics like this.
- See more diagnostics in Pesetsky (2013).

2.3 BACK TO LDA

EXERCISE 1

Recall the Tsez LDA data:

(4) a. enɪ-r [už-ā magalu b-āc-'r-uɬi] **r**-iy-xo.
mother-DAT [boy-ERG bread.III.ABS IV-eat-PST.PRT-NMLZ].IV IV-know-PRES
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mother-DAT [boy-ERG bread.III.ABS III-eat-PST.PRT-NMLZ].IV III-know-PRES
'The mother knows the boy ate the bread.'

A. Given the logic of how phases work, assuming that the embedded clause inn (4) is a phase, what do we have to say about 'bread' in (4b) in order to account for how the matrix verb can Agree with it?
B. Does this analysis run into another problem?

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