LONG DISTANCE AGREEMENT

How phases constrain Agree and how to get out of them

Selected Topics in Syntax

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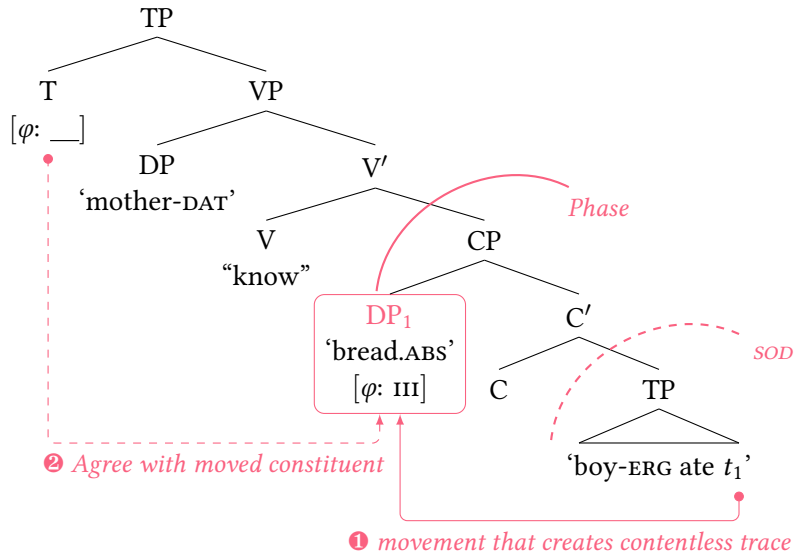
Polinsky, Maria, & Potsdam, Eric. 2001. "Long-distance agreement and topic in Tsez." *Natural Language & Linguistic Theory*, 19(3), 583–646. DOI: https://doi.org/10.1023/A:1010757806504.
Van Urk, Coppe. 2020. "How to detect a phase." In: van Craenenbroeck, Jeroen, Pots, Cora, & Temmerman, Tanja (eds), Recent developments in phase theory. Walter de Gruyter. DOI: https://doi.org/10.1515/9781501510199-005.

3 BACKGROUND: COVERT MOVEMENT

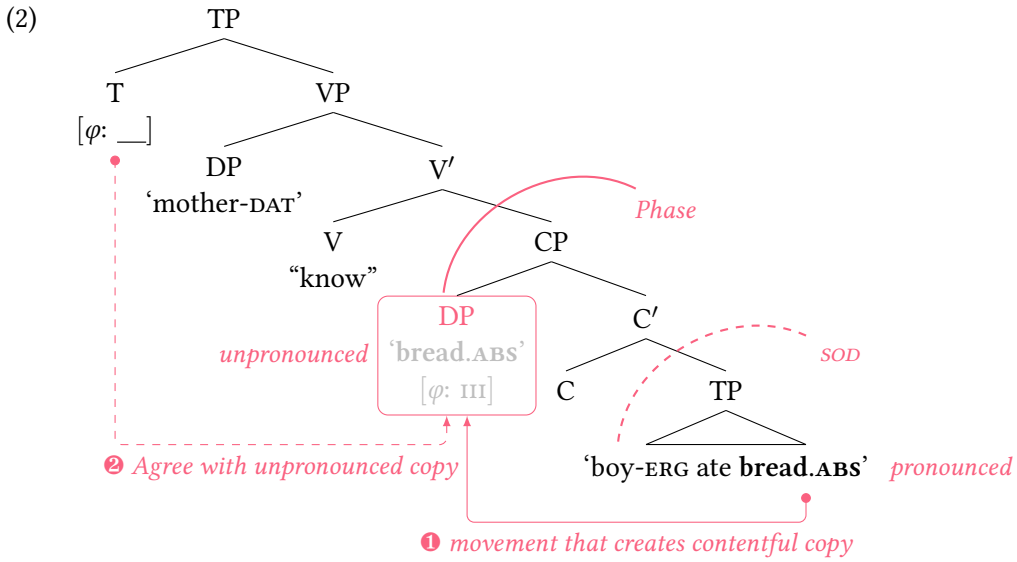
- Escape hatch movement provides a solution as to why LDA is possible in Tsez: the embedded ABS argument could move to the phase edge, thereby evading SOD and, at the same time, becoming visible to a matrix φ-probe:

(1) 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.'



- *But*: the embedded ABS long distance agreed with remains firmly inside the embedded clause, where it follows the embedded subject 'mother-DAT.'
- Solution: covert movement, analyzed in terms of the Copy Theory of Movement:

(2)



❀ *Consequence*: two instances (copies) of ABS argument available in the derivation, each fulfilling a different role:

- ▷ Higher copy at phase edge: copy that undergoes "escape hatch movement," thereby evading SOD and becoming accessible to matrix Probe.
- ▷ Lower copy inside SOD: where ABS argument is in fact pronounced.
  - ➠ Net effectL ABS argument can be *both* long distance agreed with, while *also* remaining inside the embedded clause.

❀ If a movement is covert, it means that it takes place, though it is "invisible."

- ▷ Under the Copy Theory of Movement, this means that a lower copy is pronounced, instead of a higher one, which is usually the case:

  pronounced *unpronounced*

  (3) [CP **Which side of herself** does Mary like which side of herself]?

- ▷ Obviously, it is suspicious to posit some "invisible" movement (more generally: it is suspicious to posit *any* operation that is invisible).

> 📌 Empirical support for covert movement is provided by phenomena where there is evidence for some constituent α occupying a higher position (e.g. it is interpreted there), while being pronounced in a lower position.
>
> *interpretation* *pronunciation*
>
> (4) [XP [... α ...] ... [YP ... **[**... α ...**]** ...]]
>
> *"covert" movement*

- ▷ Textbook example of this type of configuration: scope ambiguity, specifically, the availability of an inverse scope reading.

3.1 SCOPE AMBIGUITY REQUIRES COVERT MOVEMENT

3.1.1 THE PHENOMENON

❀ Roughly, scopally ambiguous sentences are those where there is more than one semantic operator (e.g. quantifiers, negation, modals, etc) and, even though the form of the sentence does not change,[1] it can have different meanings, depending on how these semantic operators interact with each other.

(5) All trees did not fall ...
  a. ... therefore, they are all still standing / no tree has fallen.
    (*For all* x, x *a tree,* x *has not fallen.*)
  b. ... because some have and some have not.
    (*It is not the case that, for all* x, x *a tree,* x *has fallen.*)

(6) Two students ate three pizzas, so ...
  a. ... there is total of six pizzas eaten.
    (*Two students ate three pizzas each.*)
  b. ... there is a total of three pizzas eaten.
    (*There are three pizzas such that two students ate them.*)

(7) A student will pet every dog, ...
  a. ... Her name is Jeynaba.
    (*There is a student who will pet every dog.*)
  b. ... so no student will go home sad.
    (*For every dog, a potentially different student will pet it.*)

(8) I am searching for a dog ...
  a. ... I don't care about the breed.
    (*The speaker is engaged in dog-searching.*)
  b. ... His / Its name is Fabin.
    (*There is a dog such that the speaker is searching for that dog.*)

(9) A Brazilian is likely to win the race ...
  a. ... Her name is Janaína.
    (*There is a Brazilian such that it is likely that they will win the race.*)
  b. ... No wonder, there are seven Brazilians very close to the finishing line.
    (*It is likely that some Brazilian or other will win the race.*)

❀ The surface scope reading is usually easier to get. But this does not mean there is no inverse scope reading.

▷ We can construct examples that are semantically ambiguous, but the surface scope reading is pragmatically implausible, allowing the inverse scope reading to become more readily acceptable.

[1] This is not completely true, as a change in prosody of a sentence can favor one reading, e.g. *ALL trees did not fall—because only some did.*

(10) A man is robbed every five minutes in St. John's ...

a. ... Crime rates in the city have been going up.
(*Every five minutes, a different man/person is robbed in St. John's.*)

b. ... What an unlucky guy! / His name is John.
(*There is man who is robbed every five minutes in St. John's.*)

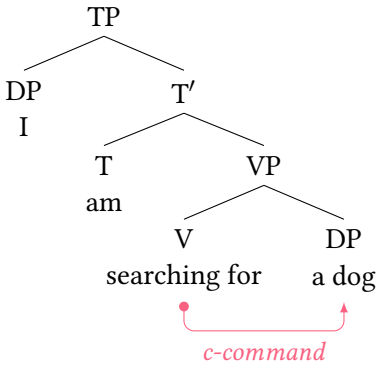
3.1.2 Modeling scope ambiguity

- Now that we know what the phenomenon looks like, the obvious question to ask is, how to model it?
- *Assumption*: scope requires c-command.

> **Definition 1**
>
> (11) The scope of an expression is that expression's **sister**/*c-command domain* in the structure that we interpret.

- This gives us the surface scope reading:

(12) I am searching for a dog. (I don't care about the breed.) search for ≫ **a dog**

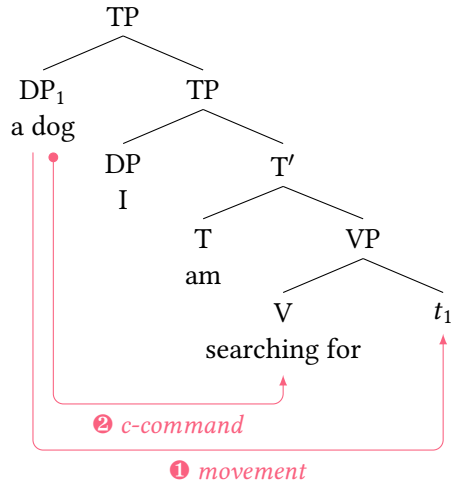


'I am searching for some x such that x is a dog.'

- This reading is called surface scope because the scope or c-command relationships correspond to the pronounced sentence.

- *But*: a reading where **a dog** ≫ search for will require that the former be in a position that is above the latter. How would that be possible?
  - Solution: via movement!

(13) I am searching for a dog. (Her name is Arlo.) **a dog** ≫ search for



'There is an x such that x is a dog and I am looking for x.'

- ▷ This reading is called **inverse scope** because it reverses the order of the surface structure, as a consequence of movement.

❀ (13) is the structure necessary for the inverse scope reading and movement plays a crucial role in taking the indefinite *a dog* to a position where it can c-command and, therefore, scope over *search for*.

- ▷ *But*: is there empirical support for movement?
- ▷ *Prediction*: if movement is, for some reason, blocked, then the inverse scope reading (which depends on movement) should no longer be available.
- ▷ This prediction is borne out by facts (i.e. *yes*, there is empirical support for movement).

(14) a. … I am searching for a dog. I don't care about the breed.
b. … I am searching for a dog. Her/Its name is Arlo.

(15) a. … I went dog-searching over the break. I don't care about the breed.
b. … I went dog-searching over the break. Her/Its name is Arlo.

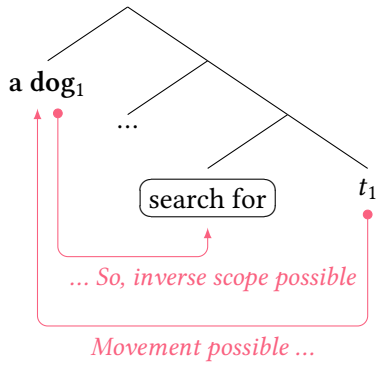
- ▷ For independent reasons (which do not have to concern us), movement is not possible out of a compound:

(16) a. Jeynaba is searching for the dog.
b. … THE DOG$_1$, Jeynaba is searching for t_1 (though not the cat).

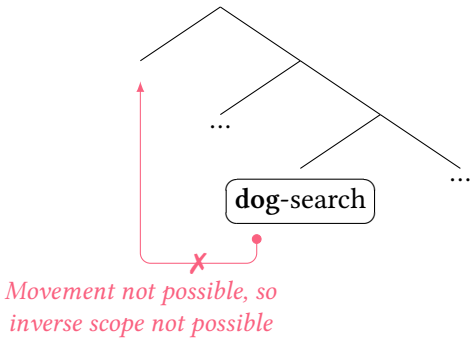
(17) a. Jeynaba went dog-searching.
b. … DOG$_1$ Jeynaba went t_1-searching (not cat).

❀ In sum, *search for a dog* vs. *dog-search*:

(18)



(19)



- ▷ The complement of *search for* can be moved.
- ▷ As such, if that complement is a scope-taking element such as an indefinite, then it can also move.

➟ Inverse scope reading possible.

- ▷ The N part of an N–V compound such as *dog-search* **cannot** be moved.
- ▷ As such, no new c-command relationships are established.

➟ Inverse scope reading **not** possible.

EXERCISE 1

A constraint on Reconstruction is that an element can only reconstruct to a position that it has occupied previously in the derivation. With this in mind, consider the sentences below.

(20) A technician inspected every plane.

a. Surface scope: *There is a certain technician who inspected every place.*

b. Inverse scope: *For every plane, a different technician inspected it.*

(21) A technician will complain [$_{\text{CondP}}$ if you damage every plane].

a. Surface scope: *There is a certain technician who will complain if you damage every place.*

b. # Inverse scope: *For every plane, a different technician will complain if you damage it.*

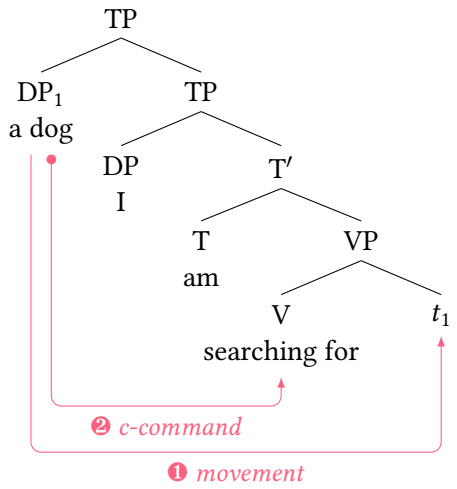
Explain why (21) lacks an inverse scope reading, taking into account the following sentence:

(22) * What will a technician complain [$_{\text{CondP}}$ if you damage __]?

3.1.3 INVERSE SCOPE IS CREATED BY COVERT MOVEMENT

- ❀ (13), repeated below, is the configuration necessary for inverse scope.
- ❀ *But*: while **a dog** moves to a position where it c-commands search for, it is still firmly pronounced post-verbally, as is usually the case for an SVO language like English.

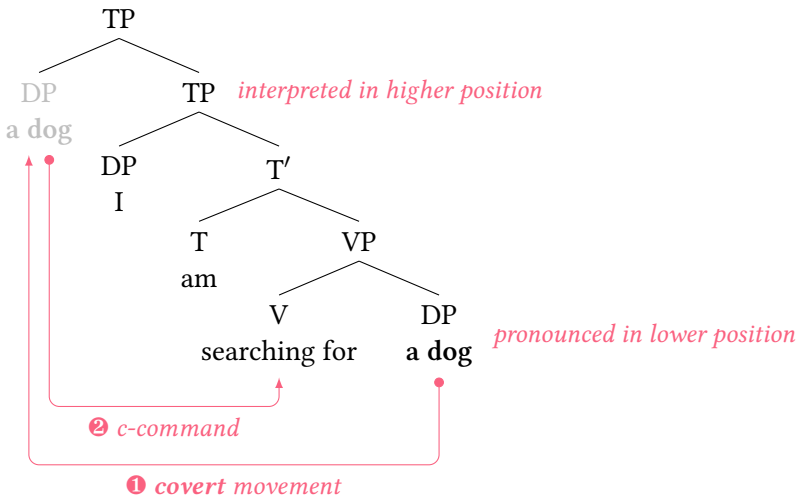
(23) I am searching for a dog. **a dog** ≫ search for



❀ **Solution**: the movement that quantified nominal expressions such as *a dog* undergo is **covert**.

- ▷ Movement targets a higher position, as usual, but the constituent that underwent movement is still pronounced in a lower position, as if it had not undergone movement.
- ▷ The evidence for movement having taken place, despite the absence of a phonological effect (i.e. the displacement), is the very fact that the quantified nominal is interpreted in the higher position.

(24)



❀ But how is covert movement modeled?

3.2 MODELING COVERT MOVEMENT

❀ In the history of Generative of Grammar, there are two main ways to model covert movement, which are based on the following contrast:

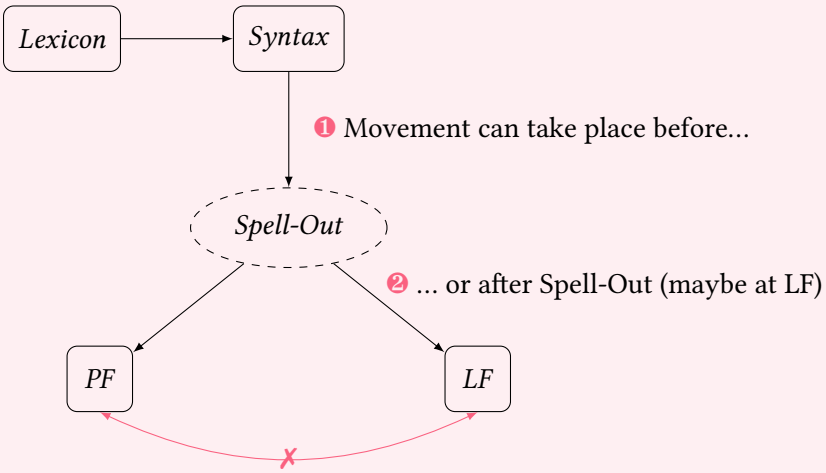
- ▷ When movement takes place, before or after Spell-Out, and
- ▷ Movement always take place before Spell-Out, but it creates copies, any of which can be pronounced.

❀ Each will be briefly investigated in turn.

3.2.1 COVERT MOVEMENT BASED ON TIMING OF MOVEMENT

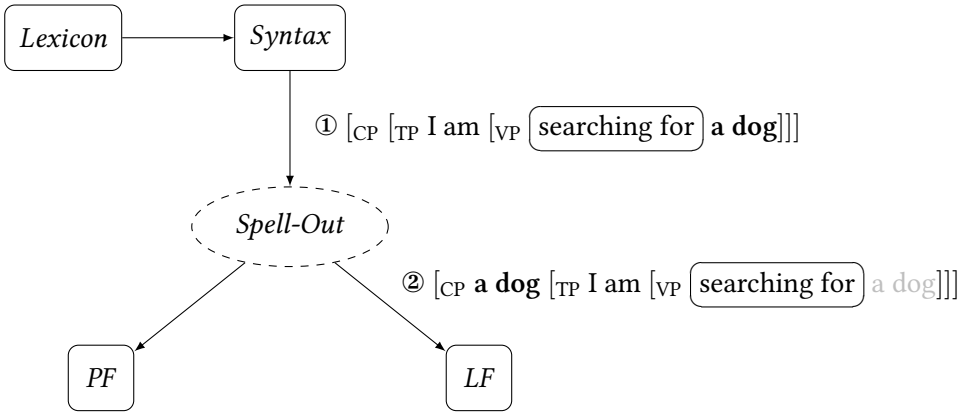
- Recall the following inverted Y model of grammatical architecture:

(25) *Inverted Y model and the timing of movement*



- Because there is no interface between PF and LF after Spell-Out, if...
  - ❶ Movement occurs *before* Spell-Out, then: **overt movement**.
  - ❷ Movement occurs *after* Spell-Out, then: **covert movement**.
- According to this model, there is one single operation Move. The difference between overt and covert movement is a consequence of whether or not this operation is visible to PF.
  - ❶ Movement takes places at the Syntax, which feeds both PF and LF.
  - ❷ Movement takes place at a moment in the derivation after Spell-Out or at LF. Either way, PF has no access to it.
- Inverse scope reading modeled as LF movement:

(26)



  - ① At the Syntactic component, no movement has taken place that affects scope, so search for c-commands **my dog** ➠ *surface scope reading*.
  - ② At LF, the indefinite object moves, so **my dog** c-commands search for ➠ *inverse scope reading*.

- **A dog** undergoes movement at a point of derivation that has reflexes to LF, i.e. the creation of the inverse scope reading.
- However, at this point, there is no longer any communication with PF, so the new reading has no phonological counterpart.
- What PF has access to is the structure in ①, which feeds both LF and, crucially, PF.

❀ The availability of an inverse scope reading is a phenomenon where there is mismatch between form and meaning.

▷ Specifically, the same form (viz. the string *I–am–searching–for–a–dog*) corresponds to more than one meaning (viz. the surface and inverse scope readings).
▷ This is captured in the present model as the consequence of the fact that the same representation (viz. [$_{CP}$ [$_{TP}$ I am [$_{VP}$ searching for **a dog**]]]) feeds both PF and LF, but, in the latter, some instance of movement that is not visible to PF takes place, but which nevertheless affects the semantic interpretation.

3.2.2 COVERT MOVEMENT BASED ON THE COPY THEORY OF MOVEMENT

❀ Usually, movement is represented as an operation that leaves behind contentless traces:

(27) [$_{CP}$ **Which side of herself**$_1$ does Mary like t_1]?

▷ *But*: if the trace is contentless, how can we account for the fact that (27) is a grammatical sentence, where Condition A was obeyed?
▷ Solution: movement actually involves the creation of a copy.

DEFINITION 2

(28) *Copy Theory of Movement*

Displacing a node α consists in copying α in a position P and, subsequently merging that copy of α in a position Q, such that Q c-commands P.

▷ Under this view, binding is possible in (27) because *Mary* binds the lower copy of *herself*:

(29) [$_{CP}$ **Which side of herself** does Mary like which side of herself]?
binding

▷ In this case, *Reconstruction* does not have to be interpreted as a sui generis operation in the Grammar. Rather, it consists in choosing a lower copy of movement for semantic interpretation (as opposed to actually reverse-engineering the movement).
▷ Further support for the Copy Theory of Movement is provided by *multiple copy pronunciation phenomena*, e.g.:

(30) **Wen** glaubt Hans, [**wen** Jakob gesehen hat] ? (*German, German*)
whom believes Hans whom Jakob seen has
'Who does Hans believe Jakob saw?'
(*Literally*: 'Who does Hans believe [who Jakob saw]?')

(31) **Liknot**, hi **kanta** et ha-praxim. (*Hebrew, Semitic*)
buy.INF she buy.PST.3FEM.SG ACC the-flowers
'As for buying, she bought the flowers.'
(*Literally*: 'To buy, she bought the flowers.')

▷ *But*: it is usually the case that only one copy in a movement chain is pronounced.[2]

DEFINITION 3

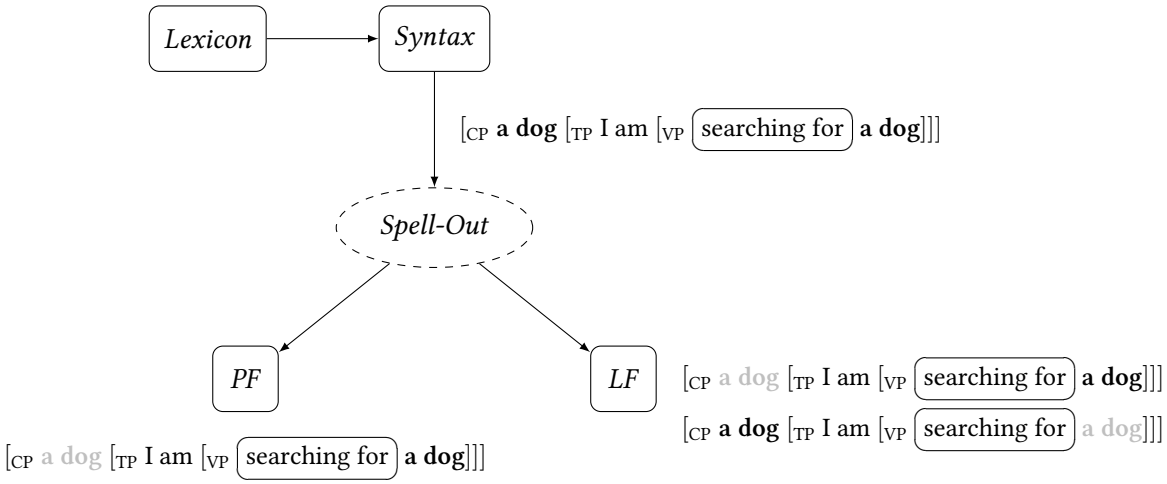
(32) *Copy deletion*
If α and β are copies of the same displaced node, if α c-commands β, then delete β (i.e. the lower copy), unless independent constraints are imposed on the realization of β.[3]

▷ This is the case of e.g. *Wh*-movement in a language like English:

(33) [$_{CP}$ **Which side of herself**$_{\alpha}$ does Mary like which side of herself$_{\beta}$]?

❀ Inverse scope reading modeled with the Copy Theory of Movement:

(34)



▷ First, movement takes place at the Syntax, creating two copies of **a dog**, one that c-commands search for and another that is c-commanded by it (higher and lower copies, respectively).
▷ This representation, containing two copies of **a dog** feeds *both* PF and LF.
▷ At PF: higher copy deleted, lower copy pronounced (i.e. "covert" movement).
▷ At LF:
  ○ If lower copy interpreted: search for c-commands **a dog** ➠ *surface scope reading*.
  ○ If higher copy interpreted: **a dog** c-commands search for ➠ *inverse scope reading*.

[2] An algorithm such as (32) is only called for if the residue of movement is contentful (as is the case in the Copy Theory of Movement—a copy is, obviously, contentful). Cf. contentless traces, which are phonologically null to begin with. However, a theory of movement that is based on contentless traces is hard-pressed to account for multiple copy pronunciation phenomena such as (30–31).

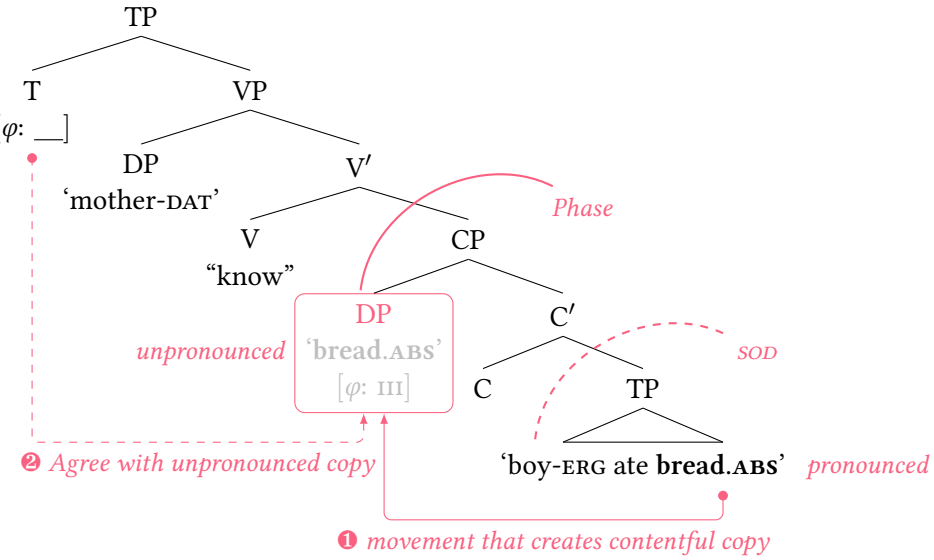
[3] The generic "independent constraints" in (32) are meant to cover cases of multiple copy pronunciation.

- In this model, the form–meaning mismatch that characterizes inverse scope is the result of the two copies of the indefinite **a dog** being dealt with differently at PF and LF:
  - At PF: just one instance phonologically interpreted (viz. the lower one).
  - At LF: semantic interpretation of either copy taken into account.
- But: why can LF take the two copies into account (each in turn), but PF cannot?
  - Presumably, because of the restrictions imposed on how chains of movement (interpreted as copies) are pronounced.

3.3 BACK TO LDA

- Recall the conundrum of LDA in Tsez: embedded ABS must be *simultaneously* at the phase edge (where it can be Agreed with by the matrix φ-probe) and inside the SOD (where it is pronounced).
- The Copy Theory of Movement allows for exactly that, except that the simultaneity actually consists of the ABS having two copies.

(35) 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.'



- Next: LDA data and motivation for a derivation that involves covert movement, as depicted in (35).

REFERENCES

Landau, Idan. 2006. "Chain resolution in Hebrew (V)P-fronting." *Syntax* 9 (1): 32–66. DOI: https://doi.org/10.1111/j.1467-9612.2006.00084.x.

Polinsky, Maria, and Eric Potsdam. "Long-distance agreement and topic in Tsez." *Natural Language & Linguistic Theory* 19, no. 3 (2001): 583-646.