Moving away from antilocality

A defense of very local movement

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Constraints on movement

Standard assumption: movement must be local.

Example:

Phase Impenetrability Condition (Chomsky 2000:108)

In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

The other side of the coin: Can movement be **too local**?

The antilocality conjecture

- A chain link must "have some length". (Bošković 1997:27)
- "Movement must not be too local." (Grohmann 2003:26)
- "[M]ovement cannot be too short." (Abels 2012:107)

Example definition:

Spec-to-Spec Anti-locality (Erlewine 2020:2)

"Movement of a phrase from the Specifier of XP must cross a maximal projection other than XP."

(See also: Saito and Murasugi 1999; Grohmann and Haegeman 2003; Grohmann and Panagiotidis 2015; Ticio 2005; Schneider-Zioga 2007; Abels 2012; Grohmann 2011; Bošković 2015, 2016; Erlewine 2016, 2020; Brillman and Hirsch 2016; Brillman 2017; Amaechi and Georgi 2019; Deal 2019; Martínez Vera 2019; Davis 2020, 2023; Newman 2020; Zyman 2021; Arregi and Murphy 2022; Branan 2022; Toquero-Pérez 2022; Fritzsche 2023; Petersen O'Farrill 2023; Richards to appear)

The big questions

Is antilocality **theoretically** motivated?

- Does the computational system need a generalized antilocality constraint?
- Or is superfluous 'too local' movement independently ruled out?

Is antilocality **empirically** motivated?

- Do 'antilocal' phenomena have alternative explanations?

Is antilocality empirically **adequate**?

- Does very local movement not exist at all?

Our response

A generalized antilocality constraint is **theoretically unmotivated**.

- The ban on 'antilocal movement' arose as a response to other theory-internal assumptions.
- Once those are discarded, the constraint becomes superfluous.

Antilocality is **empirically unnecessary**.

- Core phenomena explained by antilocality have adequate alternative explanations.

Antilocality is **empirically inadequate**:

Very local movement exists!

Very local movement exists

Case study: possessor relativization in West Circassian

- DP is a phase

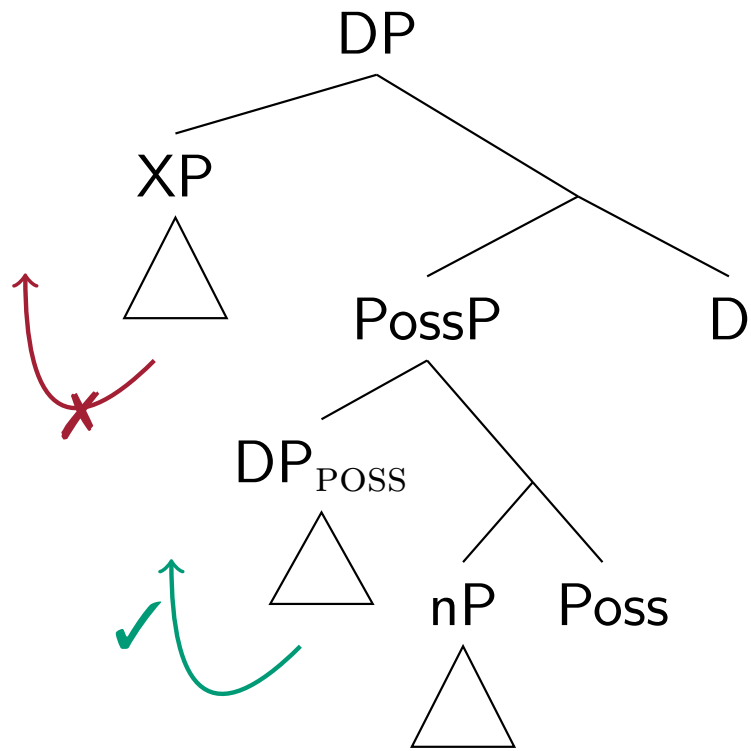
  (e.g. Matushansky 2005; Hicks 2009; Bošković 2013)

  ⇒ SpecDP (= phase edge) is opaque

  (e.g.Chomsky 2008; Bošković 2015; Ershova 2024)

- DP_{POSS} is **not** opaque

  ⇒ merged below Spec,DP
  —in Spec,PossP



Very local movement exists

Case study: possessor relativization in West Circassian

- DP is a phase

  (e.g. Matushansky 2005; Hicks 2009; Bošković 2013)

  $\Rightarrow$ DP_{POSS} $\bar{\text{A}}$-moves to Spec,DP

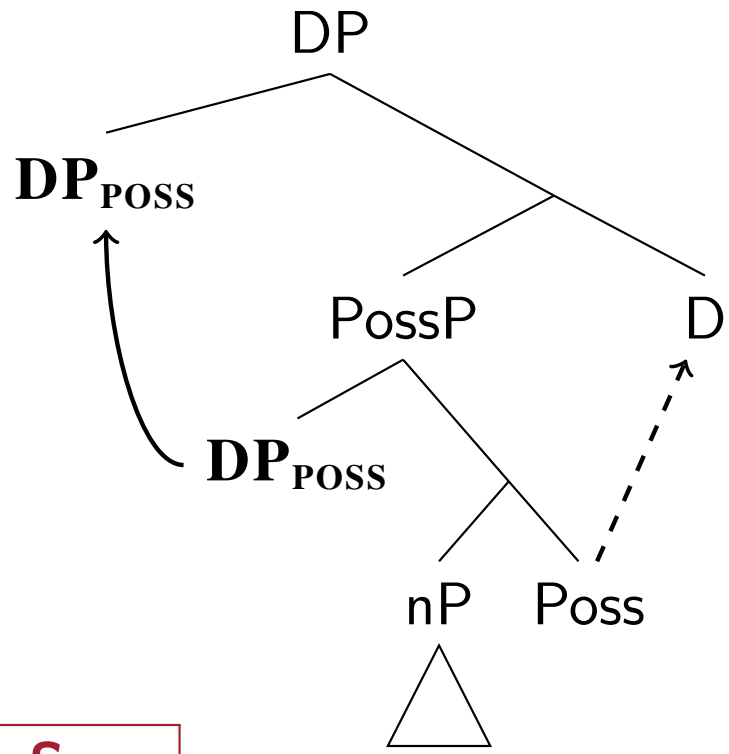
  (successive-cyclically)

- **D and Poss are adjacent**

  Poss triggers allomorphy on D

  but they are not linearly adjacent:
  Poss is a prefix, D is a suffix

DP_{POSS} moves antilocally: Spec-to-Spec



Roadmap

- **Theoretical groundwork of antilocality:**
  a brief history and critique.
- **Antilocal phenomena explained in other ways:**
  constraints on subject extraction.
- **A defense of very local movement:**
  possessor relativization in West Circassian.

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The trajectory of antilocality theories

- Saito and Murasugi (1999[1993]); Bošković (1994, 1997):
  chain links have a minimal length
- Grohmann (2003):
  *domain-internal movement is banned by the interfaces**
- Abels (2003, 2012):
  complement of XP cannot move to Spec,XP
- Bošković (2015, 2016); Erlewine (2016, 2020):
  movement must cross a defined phrasal boundary

**See critiques by Fitzpatrick (2005); Hagstrom (2006); Boeckx (2007, 2008); Abels (2012).*

The origin: Chain links must have some length

Saito and Murasugi (1999[1993]); Bošković (1994, 1997)

Barriers: movement proceeds by adjunction to a fixed set of (nonargument) XPs (Chomsky 1986)

Locality condition: Minimize Chain Links (Chomsky and Lasnik 1993)

- Movement must proceed through every available landing site.
- Representational approach: assign violations after movement.

Chain links must be **as short as possible**.
Potentially predicts endless adjunction to the same XP.

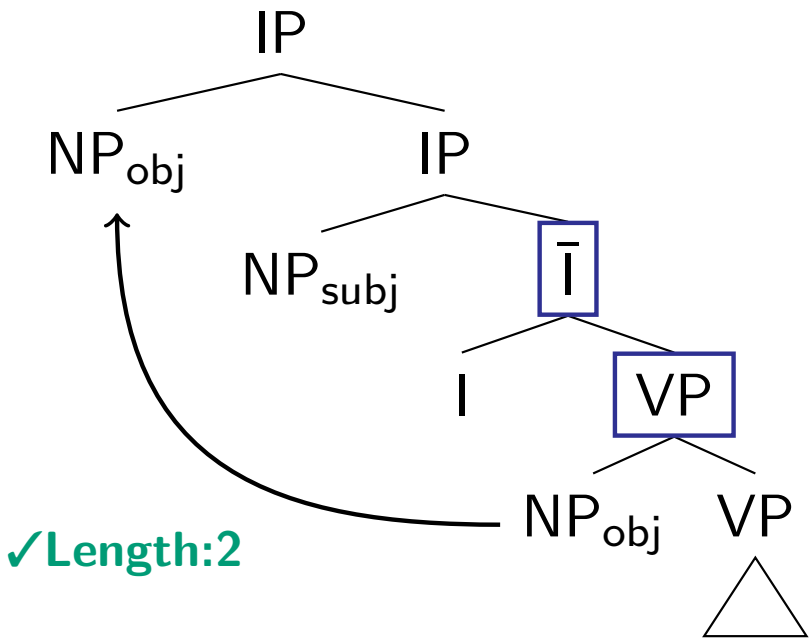
$\Rightarrow$ Chain links must "have some length". (Bošković 1997:27)

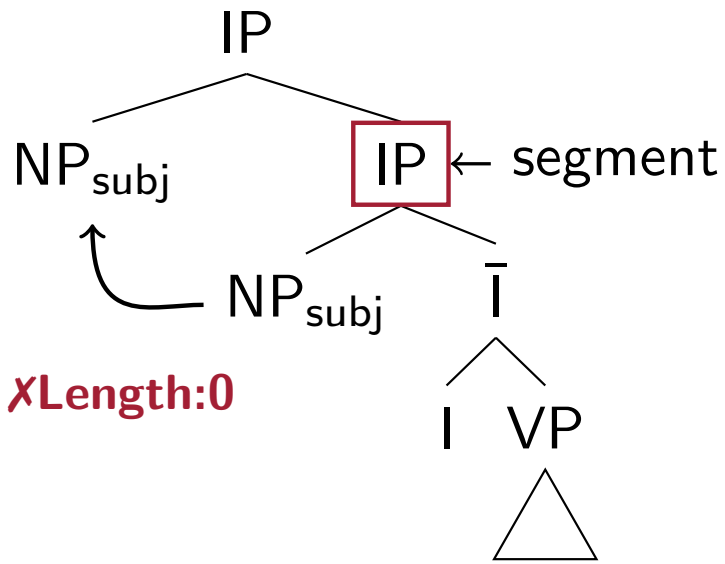
Chain links must have some length

Saito and Murasugi 1999:182 (our emphasis)

a. A chain link must be **at least of length 1**.

b. A chain link from A to B is of length n iff there are "n" nodes (X, $\bar{X}$ or XP, but not segments of these) that dominate A and exclude B.





Minimal chain links vs. feature-driven movement

If we discard:

- a representational definition of movement chains
- Minimize Chain Link

There is no need for a lower bound on movement.

Superfluous adjunction is independently ruled out by Last Resort:

Last Resort (Abels 2012:105)

A constituent α may only be merged–internally or externally– if that leads to the immediate sharing of a feature.

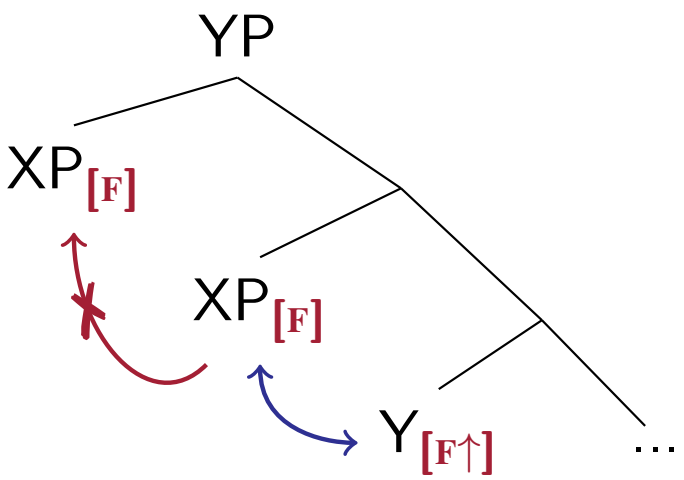
(Chomsky 1993; Svenonius 1994; Lasnik 1995; Bošković and Takahashi 1998; Pesetsky and Torrego 2006, a.o.)

‘Antilocal’ movement = impossible feature checking

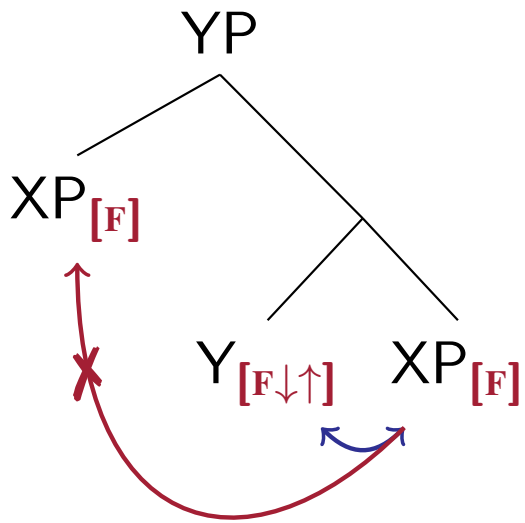
Abels (2003, 2012): antilocality is a by-product of Last Resort

- Probe-Goal features are checked by c-command.
- Last Resort: movement must result in feature checking.

Consequence: No phrase-internal movement



***Phrase-internal Spec to Spec**



***Phrase-internal comp to Spec**

How are features checked?

Abels (2003, 2012):
Probe features are checked by c-command.

Heck and Müller (2007); Müller (2010), etc:
Some Probe features must be checked by Merge.

$\approx$ EPP / strong features (Chomsky 1982, 1995)

Probe features are hierarchically ordered

= must be checked one at a time.

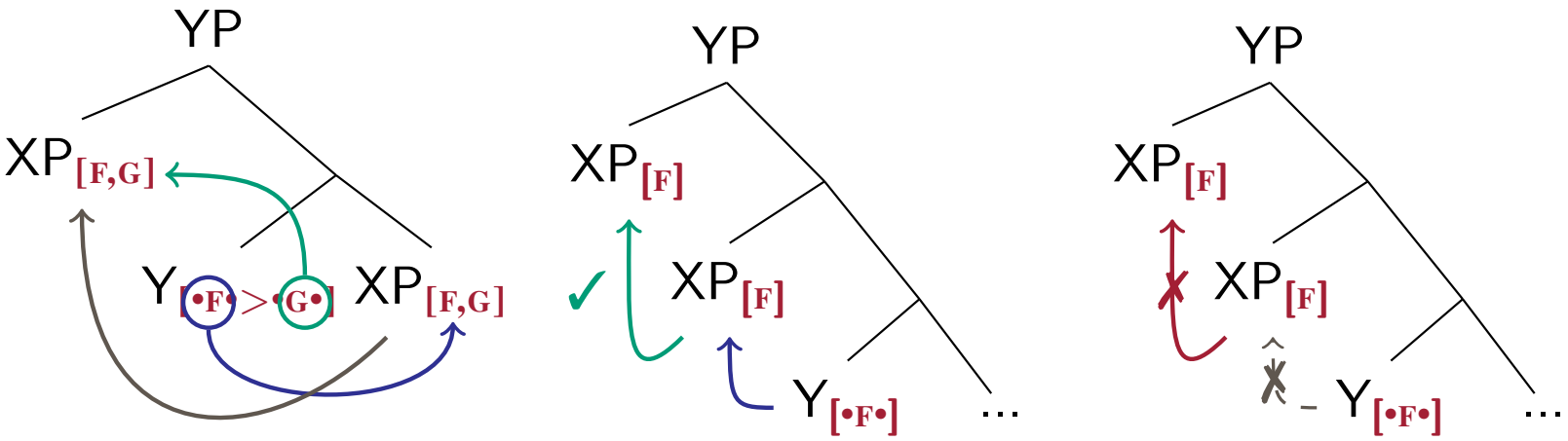
(Georgi and Müller 2010; Müller 2010; Georgi 2014, 2017; Martinović 2015, 2023; Ershova 2019, 2024)

Redefined features change antilocality constraints

- Some Probe features must be checked by Merge.
- Features are hierarchically ordered
  = must be checked one at a time.

⇒ Complement of X cannot check a Merge feature on X in situ
⇒ complement to Spec movement is possible.

⇒ Phrase-internal movement can be limited by the search domain of the Probe (e.g. m-command vs. c-command).



The empirical question: how are features constrained?

- Abels (2003, 2012): complement to Spec movement is impossible because of the **Stranding Generalization**

> A complement of a phase head cannot move, stranding the phase head.
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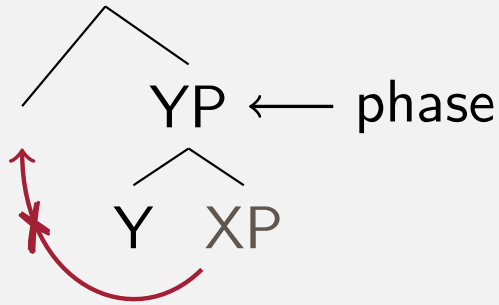
> 
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- Stranding of functional heads C, v and D is difficult to test.
- Counterevidence from P-stranding languages
  – requires positing additional (unpronounced) structure.
- Bošković (2015):
  counterevidence from AP and NP phases in Serbo-Croatian.

(But see Arregi and Murphy 2022)

Ruling out superfluous remerging

Merge features allow complement to Spec movement.
Perhaps erroneously? The jury is still out.

Question: Should Merge features allow phase-internal Spec to Spec movement?

Answer: Depends on your theory of successive-cyclic movement.

Edge features only probe down

Successive-cyclic movement is triggered by edge features*.

(Chomsky 2000, 2001, 2008; Heck and Müller 2003; Müller 2010, 2011; Georgi 2014, 2017, a.o.)

*Not contentful $\bar{A}$ features (cf. McCloskey 2002; Abels 2012; van Urk 2015, 2020).

Ershova (2024):

•EF• is inserted on phase head α iff there is an unchecked movement feature in the **c-command domain** of α.

⇒ Successive-cyclic movement has a lower bound:

- Specifiers cannot remerge phrase-internally.
- No successive-cyclic movement out of specifier.

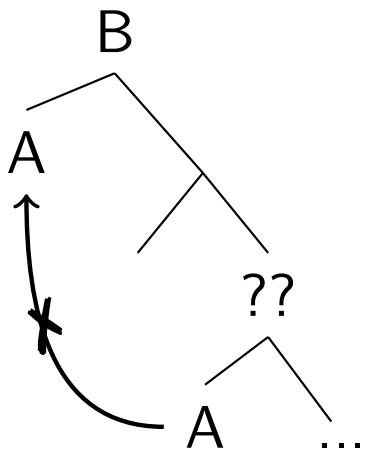
Feature-based 'antilocality'

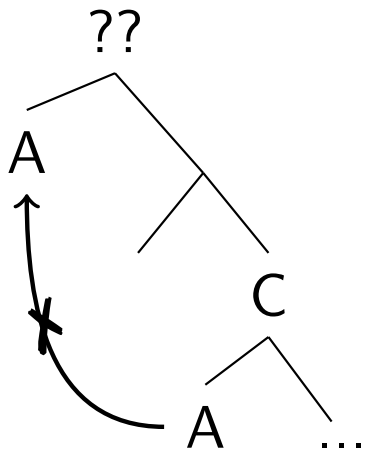
- Lower limits on movement are epiphenomenal to how Probe features are defined, **not** a stipulation of the grammar.
- Merge features + constraints on edge feature insertion rule out superfluous specifier remerging.
- If Probes are defined by prosodic requirements, linear adjacency between Probe and Goal may rule out some types of local movement (Richards 2016)
- But they **do not** rule out very local movement across the board.

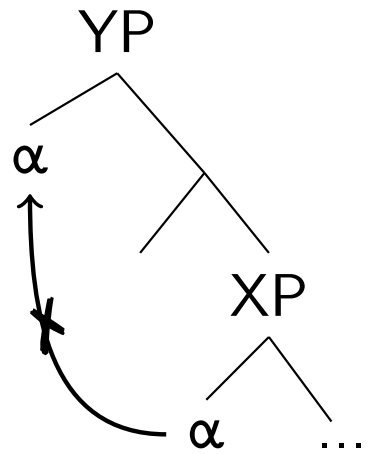
Spec-to-Spec Anti-locality: return to chain links?

"Movement of A targeting B **must cross** *a projection distinct from B (where unlabeled projections are not distinct from labeled projections)."* (Bošković 2015, 2016)

"Movement of a phrase from the Specifier of XP **must cross** *a maximal projection other than XP."* (Erlewine 2016, 2020)







Spec-to-Spec Anti-locality: some things to note

The two definitions are not equivalent:

- Erlewine (2016, 2020) rules out all and only Spec-to-Spec movement.
- Bošković (2015, 2016) allows some Spec-to-Spec movement and rules out some long-distance movement.

Spec-to-Spec Anti-locality is **not predicted** by feature-driven movement* $\Rightarrow$ must be stipulated as a primitive constraint.

*Some Spec-to-Spec movement is ruled out in Contiguity Theory.

(Richards 2016, to appear)

Should Spec-to-Spec Anti-locality be a primitive grammatical constraint?

Is Spec-to-Spec Anti-locality a primitive constraint?

Our response: No.

Spec-to-Spec Anti-locality is **empirically unnecessary**:

- Empirical motivation: constraints on subject extraction

  (e.g. Bošković 2015, 2016; Erlewine 2016, 2020; Brillman and Hirsch 2016; Brillman 2017; Amaechi and Georgi 2019; Davis 2020, 2023)
- These constraints have other, equally adequate explanations.

Spec-to-Spec Anti-locality is **empirically inadequate**:

> Spec-to-Spec movement is possible.

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Subject Ā-movement motivates Spec-to-Spec Anti-locality

Bošković (2016); Erlewine (2020): antilocality explains

- complementizer-trace effects

  (1) Who did he say ***(that)** hid the rutabaga?
  (2) What did he say **(that)** Laura hid?

- no do-support with short subject questions

  (3) Who bought the car? / *Who did buy the car?
  (4) What did John buy? / *What John bought?

- anti-agreement, ban on subject resumptives, etc.

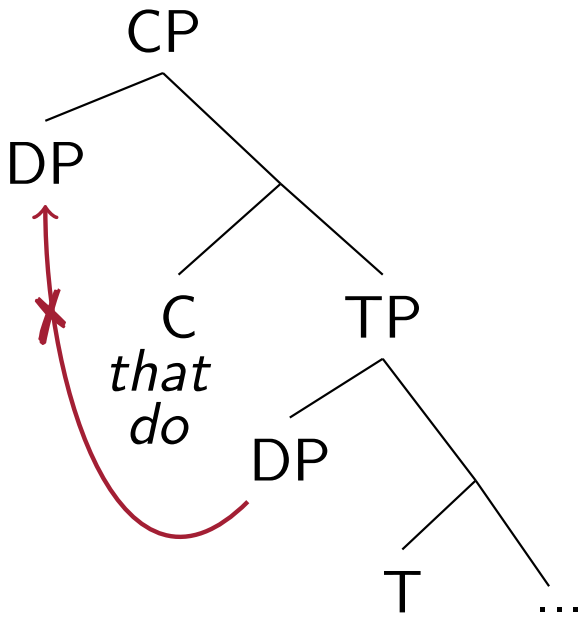
The antilocality explanation

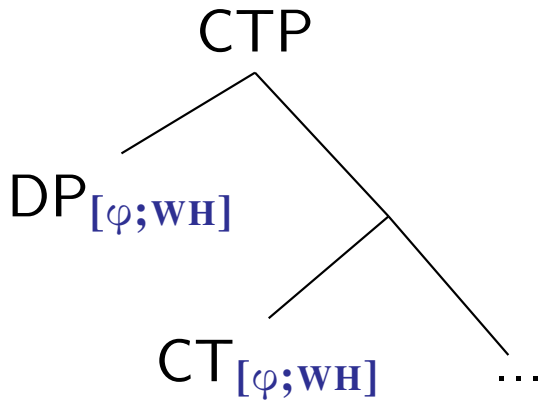
Movement from Spec,TP to Spec,CP is too local

$\Rightarrow$ Subjects cannot move to Spec,CP.

Repair: no separate CP layer or subjects aren't in Spec,TP

E.g. subject wh-questions involve 'bundling' of C+T (Erlewine 2020)





There's something fishy about subject movement

The empirical generalization: Subject $\bar{A}$-movement in the left periphery displays special properties.

Does this warrant a generalized antilocality constraint?

Our conjecture: No.

- The absence of structure between T and C is difficult, if not impossible, to diagnose.

  See e.g. proposals for multiple CP layers / expanded left periphery.

  (Iatridou 1991; Iatridou and Kroch 1992; Rizzi 1997, a.o.)

- More likely explanation is based on properties of the left periphery and interactions between C and T.

Alternative approaches to subject extraction

- Martinović (2015, 2023):
  CT originates as single head and splits when necessary.

- Pesetsky (2023):
  C and T agreeing with the same DP leads to dissimilation.

Head splitting instead of head bundling

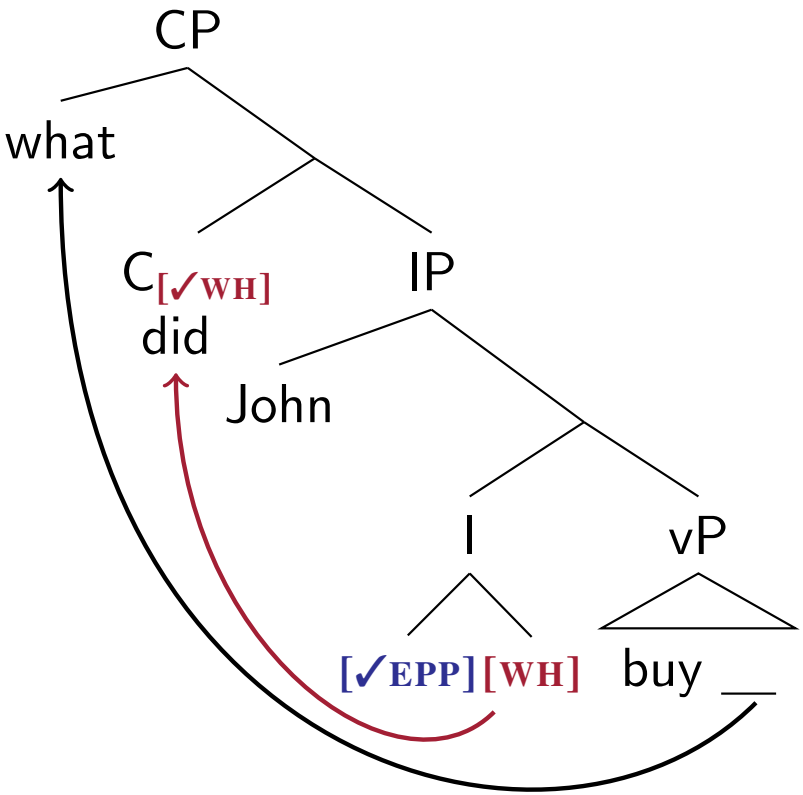
Martinović (2015, 2023):

- Composite C^{I} hosts [EPP] for subject and (optionally) [WH]
- [WH] probe on C^{I} reprojects when unchecked.
- Explains clause type distribution in Wolof.
- May also explain effects of subject Ā-extraction:

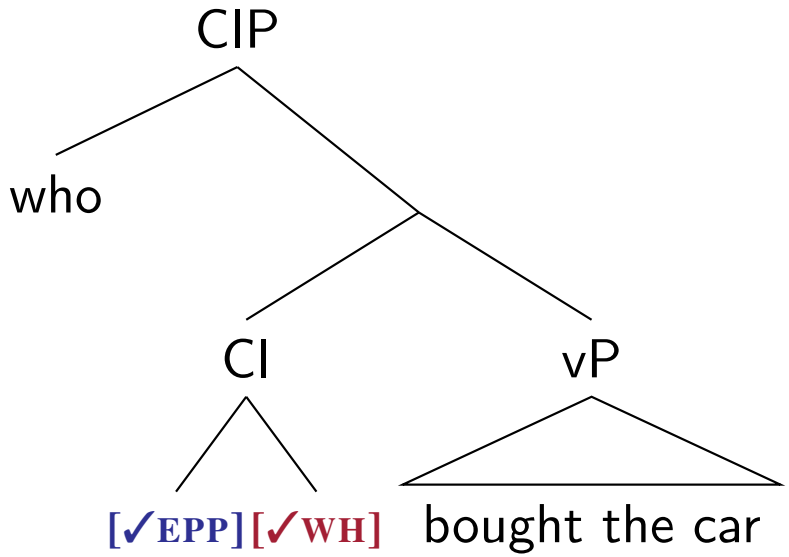
> C^{I} does not reproject if subject checks [WH] feature in situ.

Composite CI can explain subject Ā-extraction

Object wh-movement:



Subject wh-movement:



Subject never moves from Spec,IP to Spec,CP because of properties of CI. ⇒ **No antilocality constraint required.**

Local subject movement triggers dissimilation

Pesetsky (2023): If two adjacent heads agree with the same element, one of them undergoes "featural reduction"

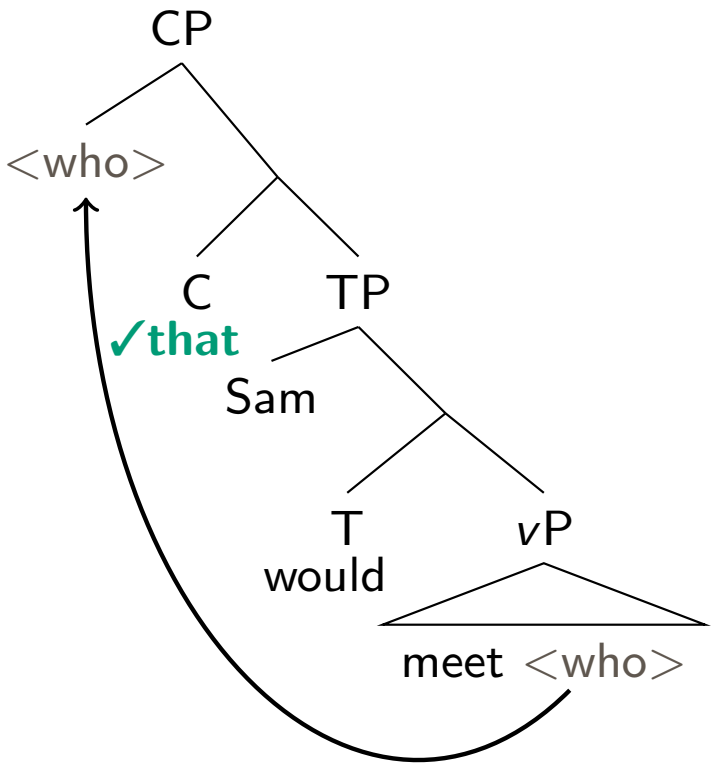
$\sim$ Kinyalolo's Constraint

Subject moves from Spec,TP to Spec,CP

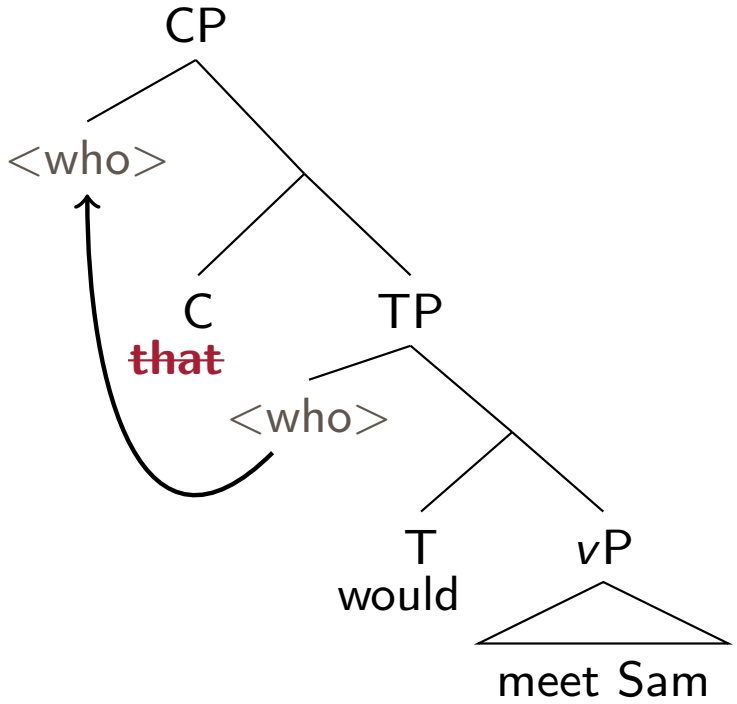
$\Rightarrow$ features of T or C must be deleted.

Dissimilation can explain subject Ā-extraction

Who did John say...



Object wh-movement
⇒ no dissimilation



Subject wh-movement
⇒ C–T dissimilation

Dissimilation triggered by T–C adjacency

⇒ **No antilocality constraint required.**

Another possibility: Multiple independent explanations

Complementizer-trace effects might be prosodic:

(Kandybowicz 2006, 2007; Sato and Dobashi 2016)

- Obviated by material **linearly** between complementizer and gap.

  (5) Who did she say [**that tomorrow** __ would regret his words]?

  (Bresnan 1977)

  (6) * Who did she say [**that** __ would regret his words **tomorrow**]?

- Are unattested in complementizer-final languages (as far as we know).

Anti-agreement effects might be WH-agreement

$\sim$ morphological impoverishment (Baier 2018)

- Variability in obviation effects with additional material.
- Agreement doesn't always correlate with subject movement to Spec,TP (Baier 2017)

Alternatives to antilocality: summary

- Generalized Spec-to-Spec Antilocality is not predicted by properties of probes or Agree
  $\Rightarrow$ must be stated as a primitive constraint
- Evidence for Spec-to-Spec Antilocality:
  constraints on subject $\bar{\text{A}}$-movement.
- Can be plausibly analyzed without appealing to length of movement path.
  $\Rightarrow$ Same empirical coverage without stipulating a lower bound on movement.

Spec-to-Spec Antilocality is empirically unnecessary.

Next: Spec-to-Spec Antilocality is empirically inadequate.

Very local movement is possible!

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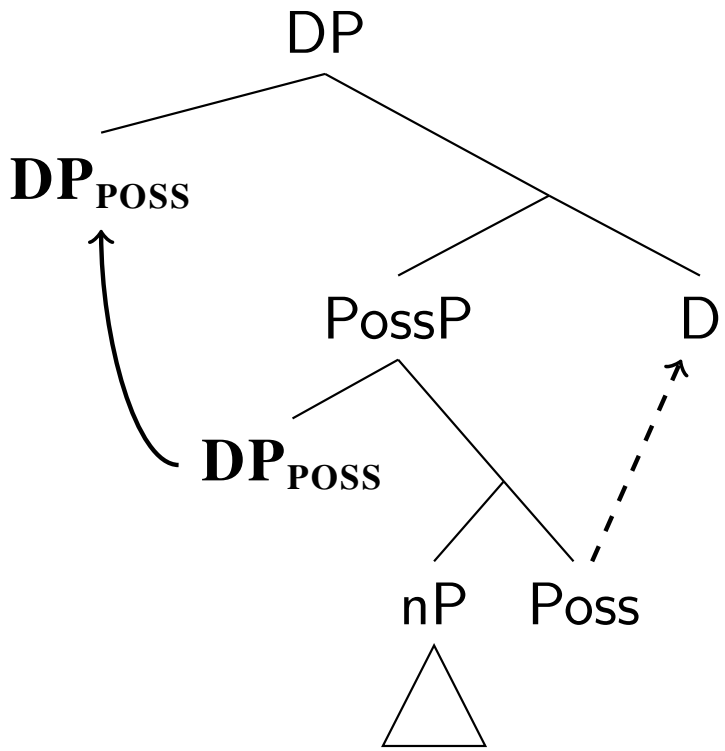
Possessor relativization is antilocal

- DP_{POSS} is merged in Spec,PossP
  - allows for subextraction
  - inherent case + agree with Poss
- DP_{POSS} Ā-moves through Spec,DP
  - DP is a phase
  - movement is successive-cyclic
- Poss and D are adjacent
  - Poss conditions allomorphy on D
  - Poss and D are not adjacent at PF

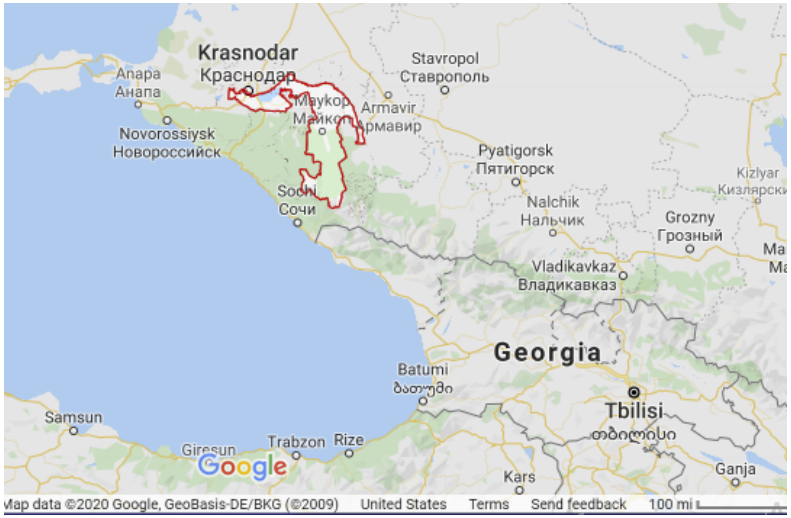


Possessor movement violates Spec-to-Spec antilocality.

West Circassian

West Circassian (or Adyghe):

- Northwest Caucasian
- Republic of Adygea, Russia
- agglutinating, polysynthetic
- ergative case and agreement



Data:

- fieldwork on the **Temirgoy dialect** in the Shovgenovsky district of Adygea (KE in 2017-2019)
- Adyghe Corpus by Timofey Arkhangelskiy, Irina Bagirokova, Yury Lander, and Anna Lander (`http://adyghe.web-corpora.net/`)
- other published sources

West Circassian is polysynthetic

Head marking and pro-drop:

səqəpfarjəʁeλeʁʷəʁ

me **for your sake** **to them** **he**

sə-	qə-	p-f-	a-r-	jə-	ʁe-	λeʁʷə	-ʁ
1SG.ABS-	DIR-	2SG.IO-BEN-	3PL.IO-DAT-	3SG.ERG-	CAUS-	see	-PST

'He showed me to them for your sake.'

(Korotkova and Lander 2010:301)

Agreement order: **ABS-** **IO+APPL-** **ERG-**

Head marking on nominals

Possessor agreement:

s-	šəpχ^{w}əxer
1sg.poss-	sister.pl.abs

‘**my** sisters’

Case marking is ergative

	S		
mə	pŝaŝe-**r**	daxew	qaŝ^{w}e
this	girl-**ABS**	well	dances

'This girl dances well.'

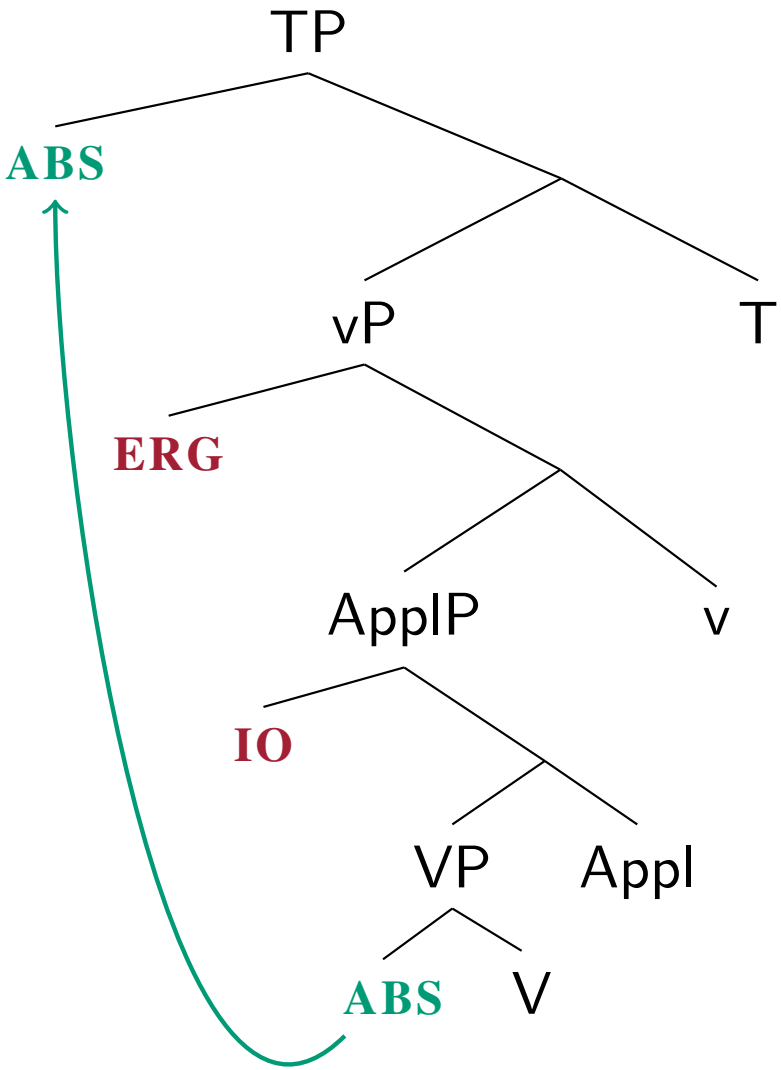
A	**O**	
sabəjxe-**m**	haxe-**r**	qaλeʁ^{w}əʁ
children-**ERG**	dogs-**ABS**	saw

'The children saw the dogs.'

West Circassian is high absolutive

- ABS DP obligatorily raises to Spec,TP.
- ERG and IO DPs remain in situ.
- **Evidence:** parasitic gaps and reciprocal binding

  (Ershova 2019, 2021, 2023)



Structure of relative clauses

(Caponigro and Polinsky 2011; Lander 2012; Ershova 2021)

Finite clause:

a-š’	txəλə-r	[mə	ç̣əfə-m	]
that-ERG	book-ABS		this person-OBL	

Ø-	Ø-	r-	jə-	tə-ʁ
3ABS-	3SG.IO-	DAT-	3SG.ERG-	give-PST

‘S/he gave a book to this person.’

Relative clause:

WH-AGREEMENT

WH-MOVEMENT

[Op	txəλə-r	__IO	Ø-	ze-	r-	jə-	tə-ʁe	]
	book-ABS		3ABS-	WH.IO-	DAT-	3SG.ERG-	give-PST	

ç̣əfə-r

person-ABS

‘the person to whom s/he gave the book’ (Lander 2012:276)

Possessor relativization

ŝʷəzewᵢ	[__IO	zə-	qʷe](ABS)	hapsem
woman		WH.POSS-	son	prison.OBL

Ø-Ø-č̣-a-ʒaʁe-r

3ABS-3IO.SG-LOC-3PL.ERG-throw.PST.ABS

'the woman whose son they threw in jail'

- ✓ from ABS internal argument
- ✓ from ABS external argument
- ✓ from complement of P
- ✓ **from possessor of ABS**

⇒ **not phase edge**

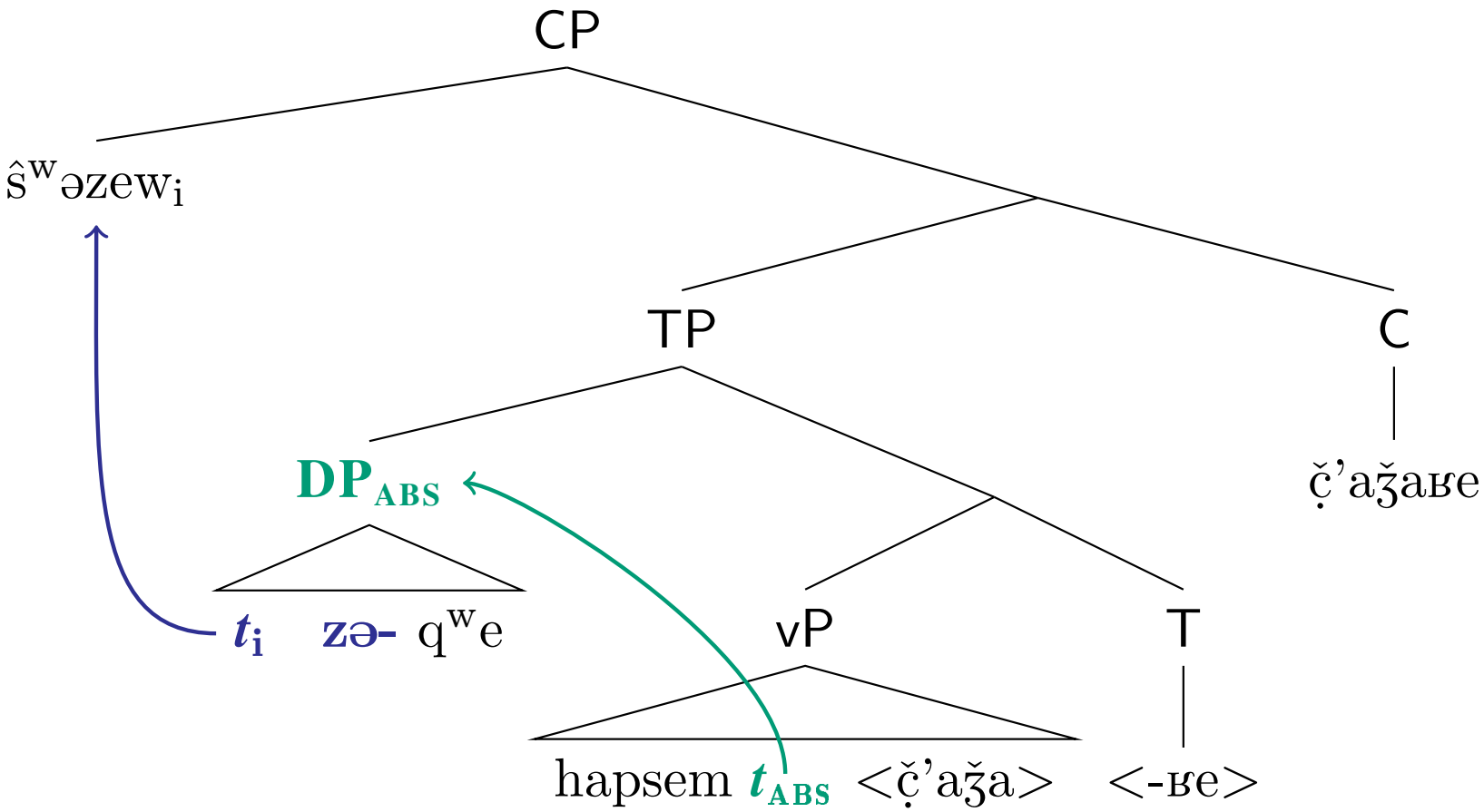
- ✗ from ERG DP
- ✗ from IO DP

phase edges

Spec,vP (Chomsky 2000, etc.)
Spec,ApplP (McGinnis 2000, 2001)

(Ershova 2024)

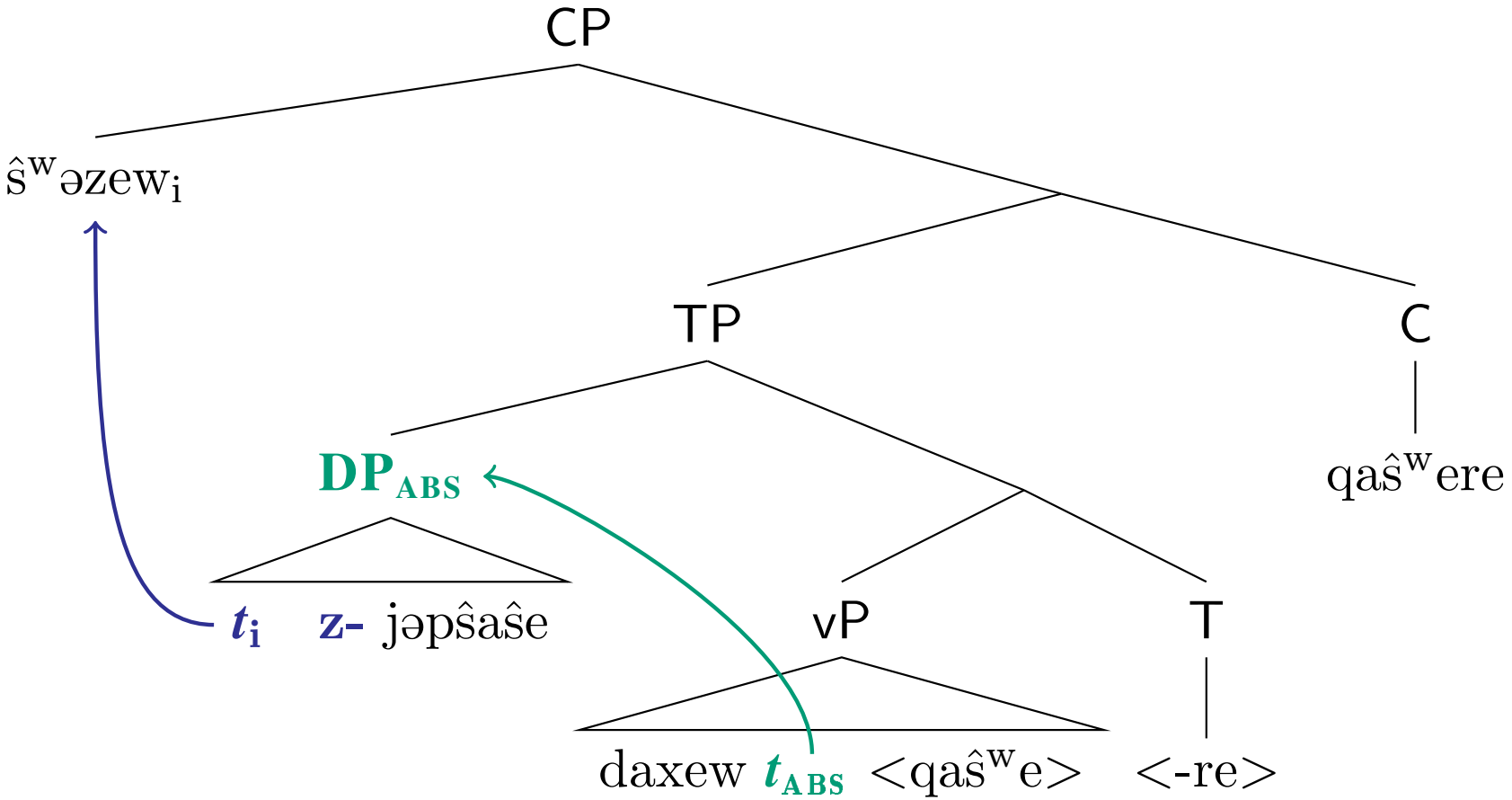
Possessor relativization from ABS theme



ŝʷəzewᵢ	[t_i zə-	qʷe]	hapsem	t_{ABS}	č̣'aʒaʁe	-r
woman	WH.POSS-	son	prison.OBL		they threw	-ABS

'the woman whose son they threw in jail'

Possessor relativization from ABS external argument



ŝʷəzewᵢ	[t_i	z-	jəpŝaŝe]	daxew	t_{ABS}	Ø-qaŝʷere -r
woman		WH.POSS-	girl	well		3ABS-dance.PRS -ABS

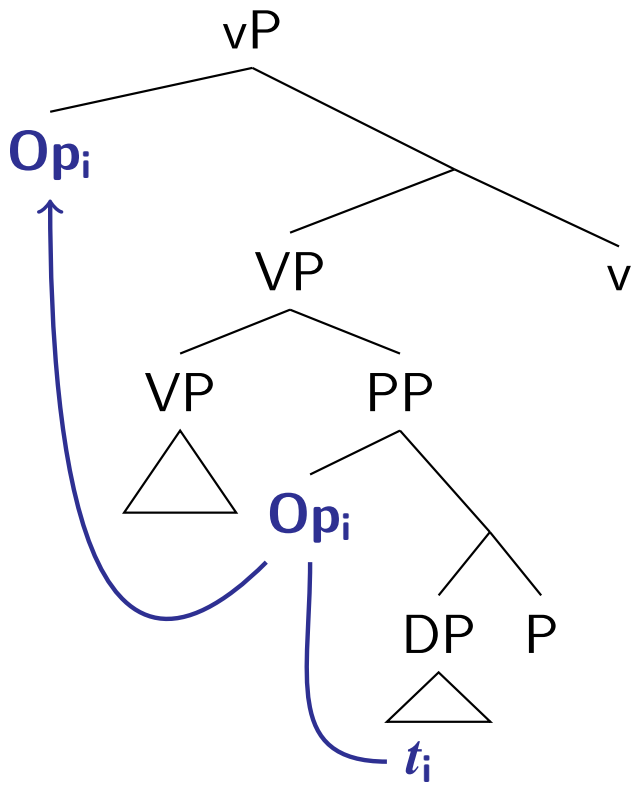
'the woman whose daughter dances well'

Possessor relativization from complement of P

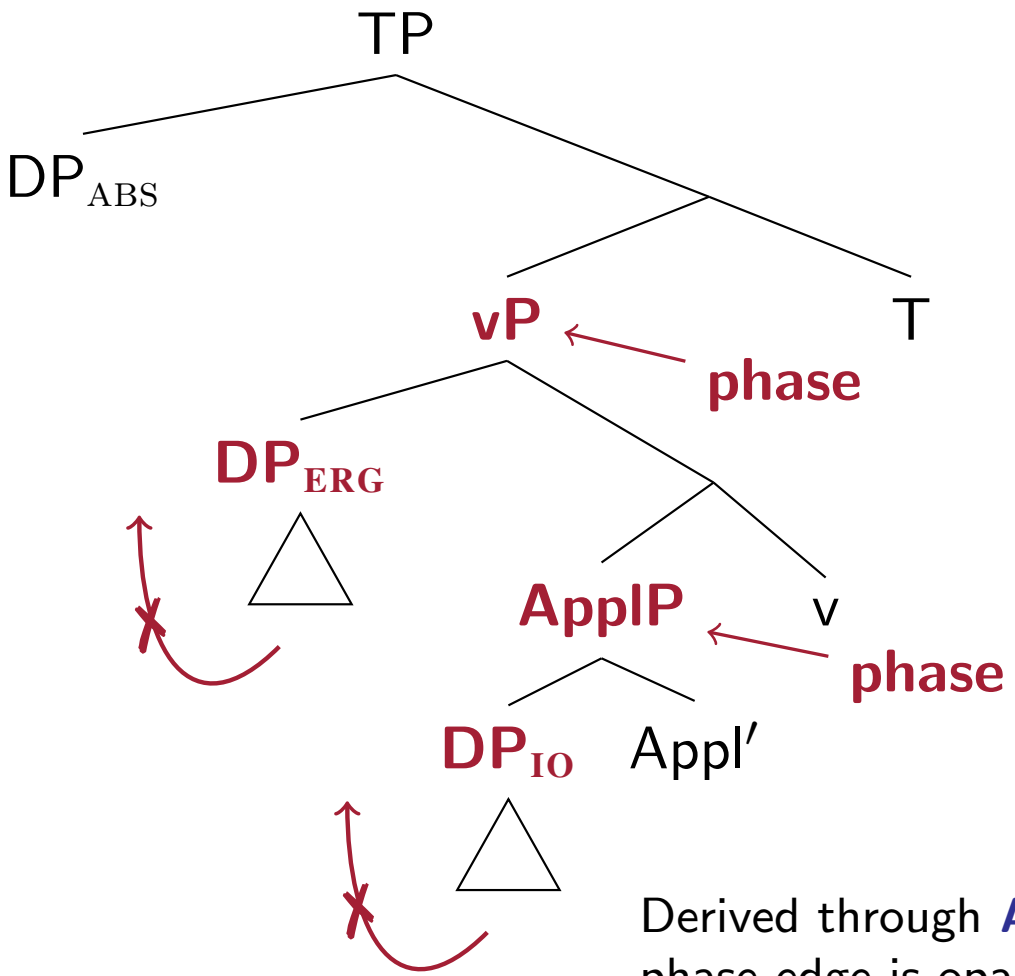
Op$_i$	[$_{PP}$ t_i	**zjə-**wəne	dež']	mezə-r	ʁerjeḳ^{w}e
		WH.POSS-house	at	forest-ABS	last year

Ø-Ø-š'ə-stəʁer
3ABS-3SG.IO-LOC-burn.PST.ABS

'the one near whose house the forest burned last year'



Relativization from phase edges is ungrammatical



Derived through **Agree-based phasehood**:
phase edge is opaque because phase intervenes

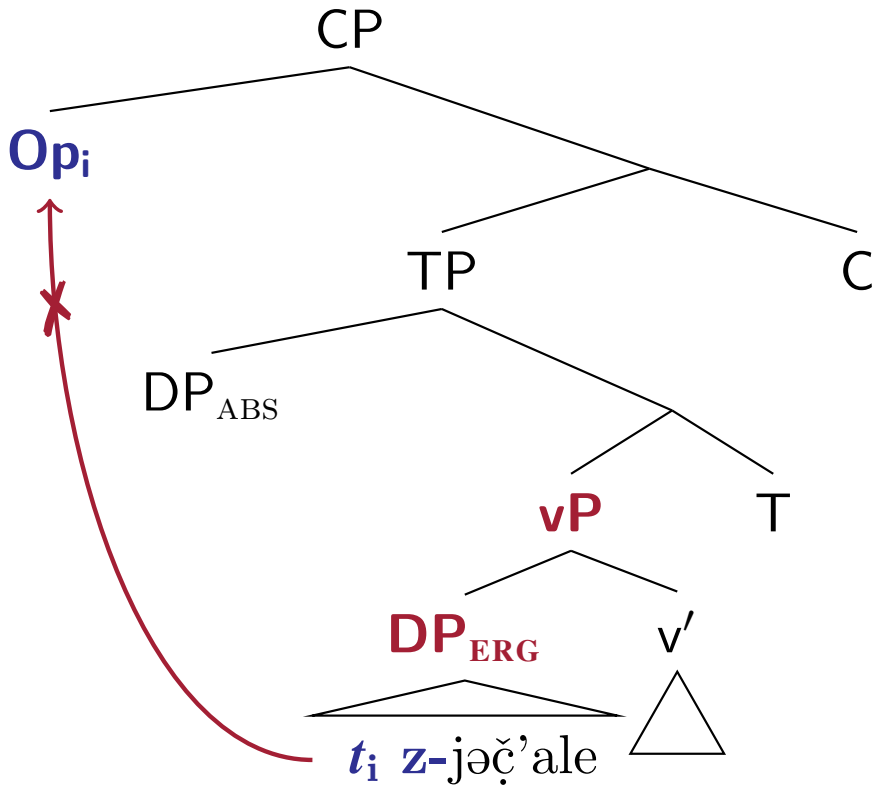
(Rackowski and Richards 2005; van Urk and Richards 2015; Halpert 2019; Ershova 2024) (Appendix)

Possessor of ERG cannot be relativized directly

* Op_i [t_i **z-**jəč'ale] daxew wered Ø-q-ə-ʔʷerer

WH.POSS-boy well song 3ABS-DIR-3SG.ERG-sing.PRS.ABS

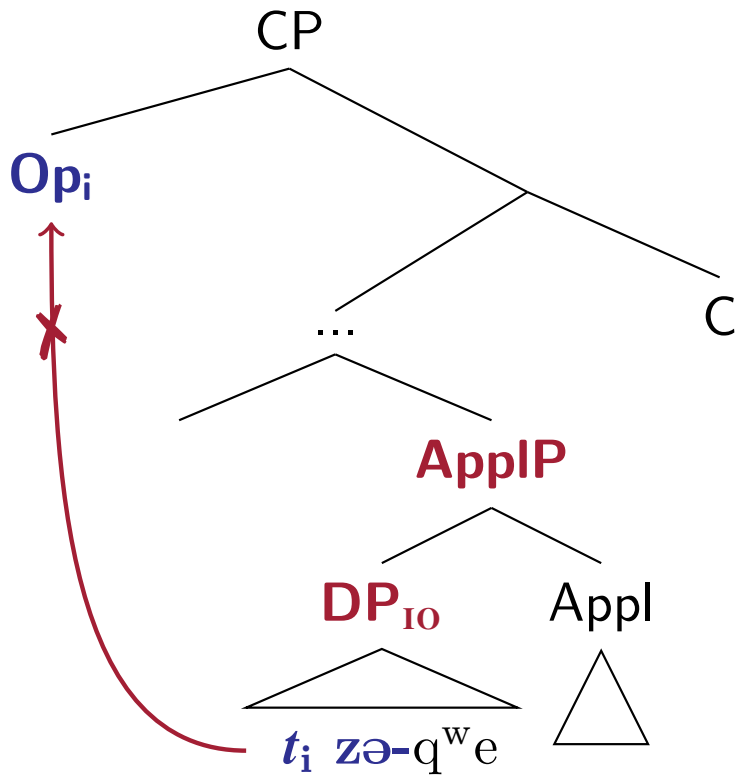
Intended: 'the one whose son sings well'



Possessor of IO cannot be extracted

* ŝʷəzewᵢ [t_i **zə-** qʷe] č̣'elejeʁaǯer Ø-je-c̣eč̣aʁer
woman **WH.POSS-** son teacher.ABS 3ABS-3SG.DAT-scold.PST.ABS

Intended: 'the woman whose son the teacher scolded'



Interim summary: Phase edges are opaque

Possessor relativization is possible from:

- ✓ ABS internal argument
- ✓ ABS external argument

} **Spec,TP**

- ✓ complement of P — **PP = adjunct to VP**

Possessor relativization is impossible from:

- ✗ ERG external argument
- ✗ IO applied object

} **phase edges**

Possessor relativization is also possible from possessor DPs
⇒ **possessors are not at a phase edge (Spec,DP)**

Possessor relativization from a possessor

pʂaɕew$_i$	[DP [DP t_i	zə-šəpχ^w](POSS)	Ø-jəpʂeɕeʁ^w](ABS)♦
girl		WH.POSS-sister	3SG.POSS-girlfriend
dexededew		Ø-qaɕ^{w}ere]	-r
very beautifully		3ABS-dance.PRS	-ABS

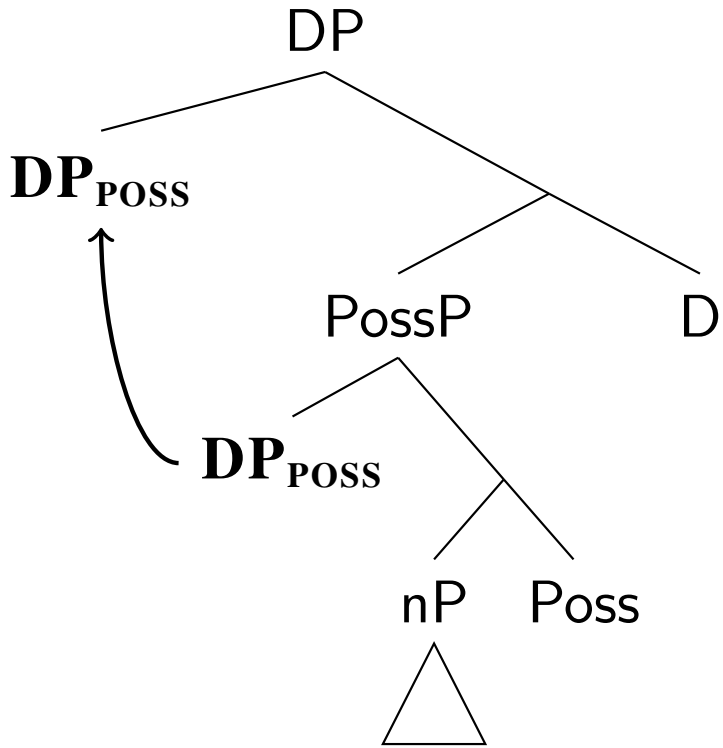
'Here is the girl whose sister's friend dances very beautifully.'

♦Only possible from ABS DP.

⇒ **Possessor DP is not in Spec,DP (=phase edge).**

Possessor is in Spec,PossP

- Influential tradition assumes the possessor to originate in Spec,PossP immediately under DP (Szabolcsi 1983, 1994).
  - Common in literature on Turkic (Kharytonava 2011; Tat 2013; Lyutikova and Pereltsvaig 2015; Öztürk and Taylan 2016; Ótott Kovács 2023)
- Movement to Spec,DP follows.



The morphology of D = case suffixes

Overt case suffixes correlate with definiteness/specificity.

(Arkadiev and Testelets 2019)

ʔaze-deʁʷə**-m**	wjəʁeχʷəž'əš't
doctor-good**-ERG**	will cure you

'**The** good doctor will cure you.'

ʔaze-deʁʷə	wjəʁeχʷəž'əš't
doctor-good	will cure you

'**A** good doctor will (be able to) cure you.' (Arkadiev and Testelets 2019:726)

Case suffix = D (definiteness + case)

Morphological effects with D: case fusion

PossP and DP are structurally adjacent:
but structural adjacency is usually hard to pinpoint.

West Circassian features a revealing morphological effect:
morphologically-conditioned **case fusion** in certain environments

Environment 1: Proper nouns

- OBL morphology on nouns: ç̌'ale**-m** 'boy-OBL'
- proper nouns are either not compatible with case markers or take them optionally (Rogava and Keraševa 1966):

  mose 'Moses.OBL,' or mose**-m** 'Moses-OBL'

Case fusion with number

Environment 2: Plural obliques

- PL and OBL morphology on nouns: ç̌’ale**-xe-m** ‘boy-PL-OBL’
- preferred: plural oblique combines number and case in a single marker (Rogava and Keraševa 1966)

  ç̌’ale**-me** ‘boy-PL.OBL’

Case fusion with Poss

Environment 3: Singular possessives

- Possessives involve a POSS marker:

  ɬəẑə-m **jə-**paʔʷe ‘old.man-OBL POSS-hat’

- Possessives are compatible with case markers:

  ɬəẑə-m **jə-**paʔʷe**-xe-m** ‘old.man-OBL 3SG.POSS-hat-PL-OBL’

- No case marking in singular possessives (Rogava and Keraševa 1966):

  ɬəẑə-m **jə-**paʔʷe**(*-m)** ‘old.man-OBL POSS-hat(*-OBL)’

Takeaway: case fusion with D

D tends to fuse with its neighbor in certain environments.

- **Environment 2:** ç̣’ale**-me** ‘boy-PL.OBL’
- Two suffixes: [Pl] – [Obl] ⟶ [Pl, Obl]

  Structural adjacency + linear adjacency

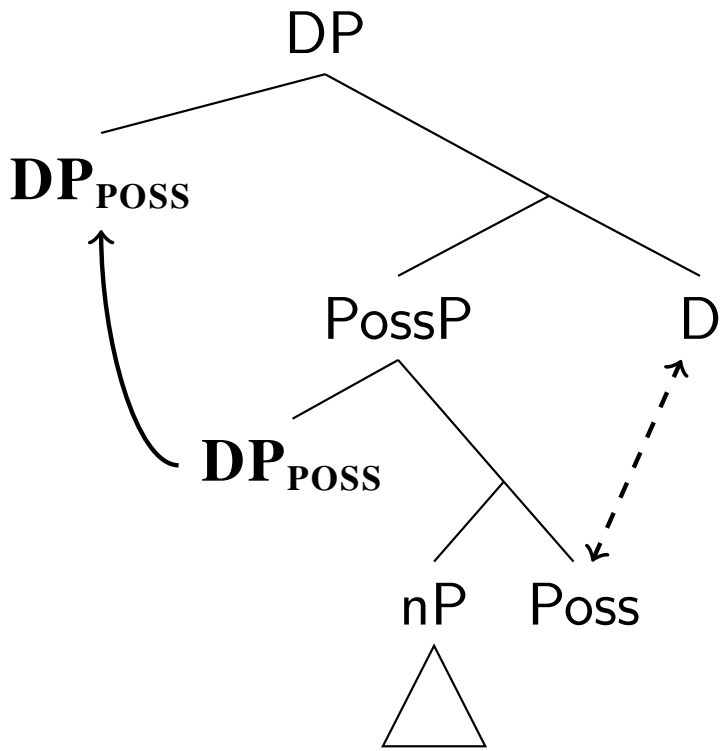
- **Environment 3:** λəẑə-m **jə-**paʔʷe ‘old.man-OBL POSS-hat.OBL’
- A prefix and a suffix:

  [Poss] – [Obl] ⟶ [Poss, Obl] // [Sg]__ (Or Root if Sg is pruned)

  Structural adjacency

Evidence from morphology: Poss movement is very local!

- The possessive morpheme jə- realizes Poss
- Case bundles with Definiteness
  ⇒ OBL is in D.
- Poss and OBL interact across an overt noun root
  ⇒ interaction prior to linearization
  ⇒ structurally adjacent Poss and D
- Movement to Spec,DP is very local.



Conclusion: Do we need antilocality?

Generalized antilocality constraints are **theoretically unmotivated** and **empirically implausible**.

- Feature-driven Merge rules out superfluous movement steps.
- 'Antilocal' phenomena have alternative explanations.

There is no need to stipulate a lower bound on movement dependencies.

Evidence against antilocality

Possessor relativization in West Circassian is derived with **very local movement**, violating Spec-to-Spec Antilocality.

Evidence for locality: allomorphy between Poss and D

- Poss triggers allomorphy on D despite not being linearly adjacent.
- Allomorphy is disrupted by additional structure between Poss and D (NumP).

The significance of morphological evidence

- Antilocality is sensitive to **minor structural changes**: The addition of **a single projection** can make antilocal movement 'long enough'. (Baier 2017; Deal 2019; Erlewine 2020; Richards to appear)
- There is no broadly accepted heuristic for establishing the presence/absence of unpronounced structure.
- This makes testing antilocality predictions very difficult.
- Local allomorphy effects can be a testable diagnostic.
- For example, if movement from Spec,XP to Spec,YP disrupts allomorphy triggered by X on Y, additional structure must have been added!

Thank you!

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- Participants of 24.956 (Fall 2023) at MIT.

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