

A-movement across domains in Zimbabwean Ndebele

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1 Introduction

- Two types syntactic evidence for the phasehood of CP:

(i) *Operational opacity*

- (1) a. **Abby** seems [_{TP} <Abby> to be home].
b. ***Abby** seems [_{CP} (that) <Abby> is home].

(ii) *Footprints of successive cyclic movement*

Belfast English: Subject-aux inversion in CPs targeted by wh-movement

(2) I asked them [_{CP} **what** had they done <what>]?

(3) **What** did Mary claim [_{CP} did they steal <what>]? (Henry 1995)

- Evidence for the phasehood of vP (or some other clause internal category) has primarily come from successive cyclicity (i.a. Legate 2003; Aldridge 2008; Bennett et al. 2012; van Urk 2015).

This talk

Evidence from operational opacity for a clause-internal phase in Ndebele.

The operation in question: Subject movement to Spec,TP

(4) **UZondi**_i u-a-phek-a [_{vP} *t_i* *t_V* inyama].
1Zondi 1-PST-cook-FV 9meat
'Zondi cooked meat.'

(5) Ku-a-phek-a [_{vP} **uZondi** *t_V* inyama].
15-PST-cook-FV 1Zondi 9meat
'Zondi cooked meat.' (Answers: Who cooked meat?/What happened?)

Claim

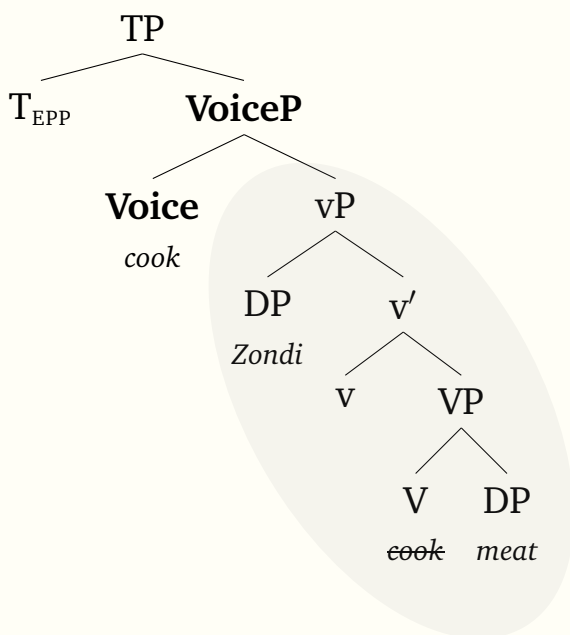
When the subject stays inside vP, it's because T cannot reach it across *phasal VoiceP*.

Overview

- §2. Proposed account of the optionality of subject movement to Spec,TP
- §3. Supporting evidence
- §4. Alternative accounts of the optionality of subject movement to Spec,TP
 - i) optional EPP in T
 - ii) optional expletive *pro*
 - iii) movement targets an optional feature of DPs
- §5. Summary and implications for successive cyclic movement

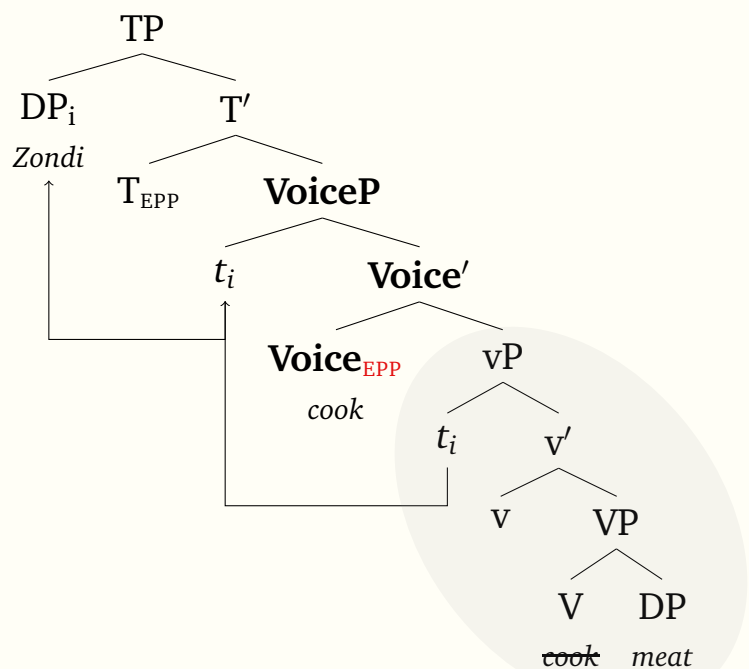
2 Proposed account: optional movement to phase edge

(6) No EPP in Voice → VSO



in-situ subject inaccessible to T

(7) Voice has EPP → SVO



subject in Spec, VoiceP accessible to T

- There is an opaque/phasal XP between the theta domain and the inflectional domain in Ndebele, call it Voice.¹
- Voice has optional EPP
 - its presence feeds subject movement to Spec,TP.
 - its absence bleeds subject movement to Spec,TP.

¹ External arguments are generated in Spec,vP. This can be adjusted if we were to further articulate the syntax of the argument structure domain, e.g. by assuming a split-Voice system (see Wurmbbrand 2021 and references cited there).

- PIC: Phasal complement is inaccessible to the next phase up (Chomsky 2000).
- EPP need not find a goal for the derivation to converge.²

3 Supporting evidence

3.1 A-movement and subject agreement go hand-in-hand

In-situ subjects cannot control agreement on T (class 15 is default agreement):

- (8) **Ku/*U**-a-phek-a [_{VP} uZondi t_V].
15/*1-PST-cook-FV 1Zondi
 ‘Zondi cooked.’

Subjects in Spec,TP obligatorily control agreement on T:

- (9) UZondi_i **u/*ku**-a-phek-a [_{VP} t_i t_V].
 1Zondi **1/*15**-PST-cook-FV
 ‘Zondi cooked.’

In-situ subject is inaccessible to **both** EPP and ϕ in T

- (10) [_{TP} T_{EPP, u ϕ} [_{VoiceP (phase)} Voice cook [_{VP} **Zondi** v [_{VP} t_v]]]]
-

Subject in Spec,VoiceP, is accessible to **both** EPP and ϕ in T

- (11) [_{TP} T_{EPP, u ϕ} [_{VoiceP (phase)} **Zondi** Voice_{EPP} cook [_{VP} t_i v [_{VP} t_v]]]]
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3.2 All-or-nothing movement and agreement in Aux-V constructions

In Bantu languages, EPP and ϕ appear on other functional heads than T.

(i.a. Carstens 2001; Carstens & Kinyalolo 1989; Baker 2008; Pietraszko 2017)

- (12) [_{TP} **Ubaba** **u**-be [_{PerfP} **e**-se [_{AspP} **e**-si- [_{VoiceP} dla.]]]]
 1father 1-AUX.PST 1-AUX.PRF 1-PROG- eat
 Father had already been eating.

When the subject moves to Spec,TP, it must control agreement on all functional heads:

- (13) **Ubaba** **u/*ku**-be **e/*ku**-se **e/*ku**-si-dla.
 1father 1/*15-AUX.PST 1/*15-AUX.PRF 1/*15-PROG-eat

² This can be implemented as the assumption that features can fail to trigger operations (Preminger 2014) or by last-resort insertion of null expletive when EPP finds no goal in the structure.

When the subject stays in-situ, it cannot control agreement on any head:

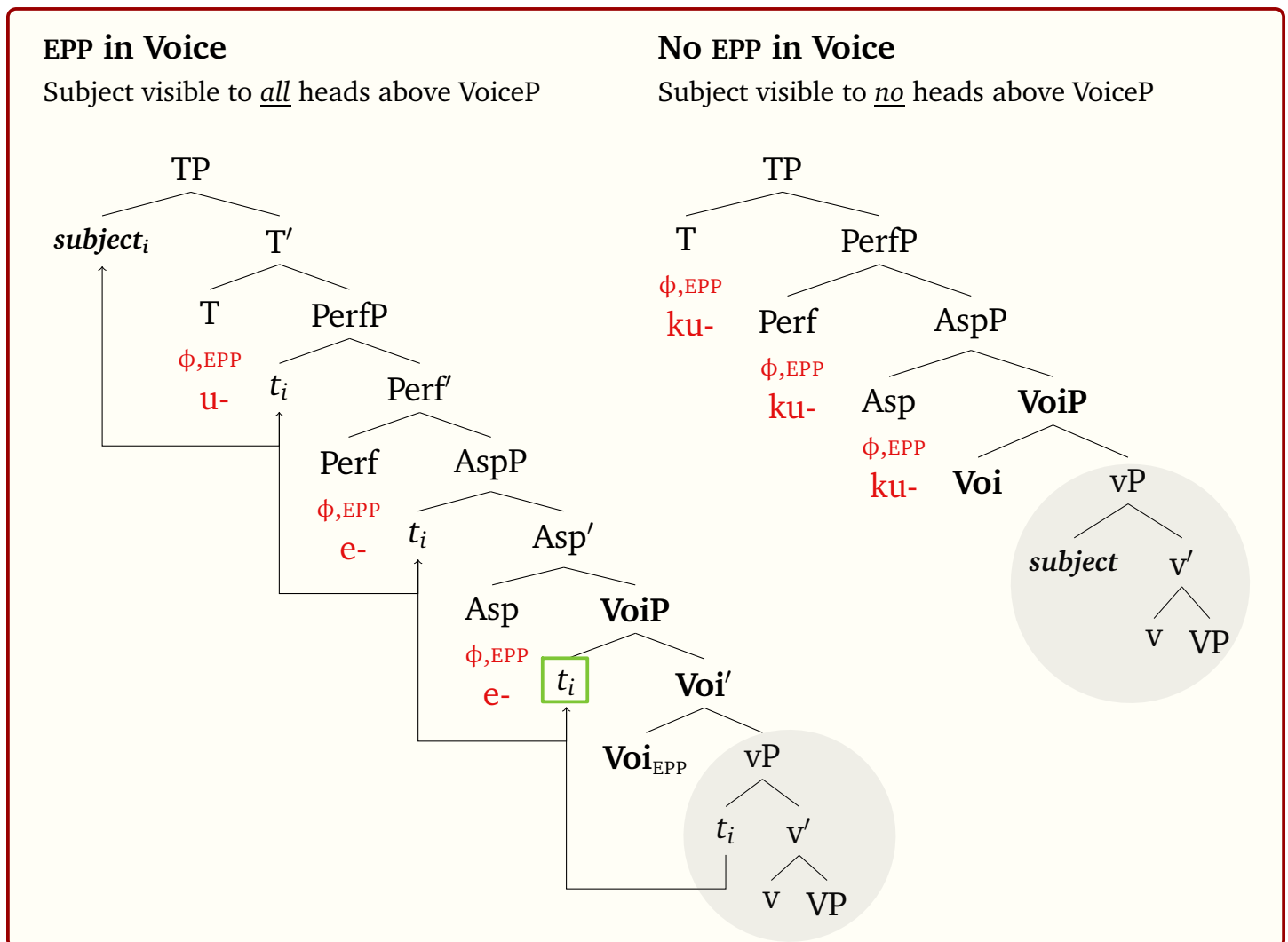
- (14) **Ku/*U**-be **ku/*e**-se **ku/*e**-si-dla **ubaba**.
 15/*1-AUX.PST 15/*1-AUX.PRF 15/*1-PROG-eat 1father
 Father had already been eating.

The subject cannot move to an intermediate position, irrespective of agreement:

- (15) * $[_{TP} U/ku\text{-be} \quad [_{PerfP} e/ku\text{-se} \quad [_{AspP} \mathbf{ubaba} \ e/ku\text{-si-} \quad [_{VoiP} \mathbf{dla}]]]]]$
 1/15-AUX.PST 1/15-AUX.PRF 1father 1/15-PROG eat
- (16) * $[_{TP} U/ku\text{-be} \quad [_{PerfP} \mathbf{ubaba} \ e/ku\text{-se} \quad [_{AspP} e/ku\text{-si-} \quad [_{VoiP} \mathbf{dla}]]]]]$
 1/15-AUX.PST 1father 1/15-AUX.PRF 1/15-PROG eat

→ **Aux-V constructions exhibit all-or-nothing movement and agreement**

- The subject either moves all the way to Spec,TP or doesn't move at all.
- Either *all* functional heads agree with the subjects or none do.

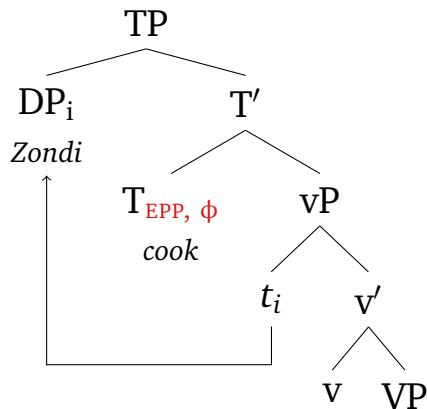


4 Alternative accounts

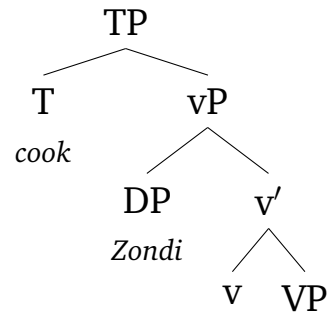
4.1 Alternative 1: Optional EPP in T

Carstens and Mletshe (2015): T in Xhosa optionally lacks the $[EPP, u\phi]$ bundle.

(17) UZondi u-a-phek-a.
1Zondi 1-PST-cook-FV
'Zondi cooked.'



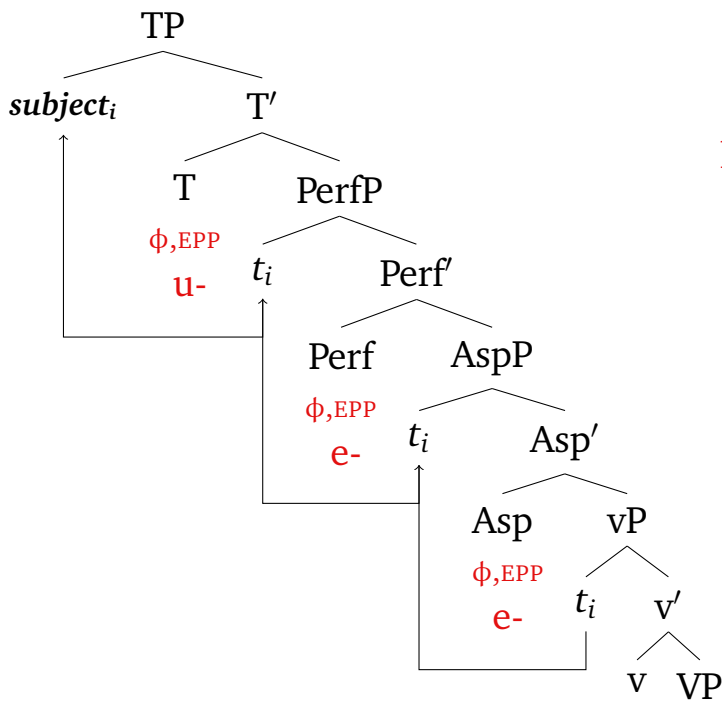
(18) Ku-a-phek-a uZondi.
15-PST-cook-FV 1Zondi
'Zondi cooked.'



Problem 1: No explanation for agree/mvmt uniformity in Aux-V constructions

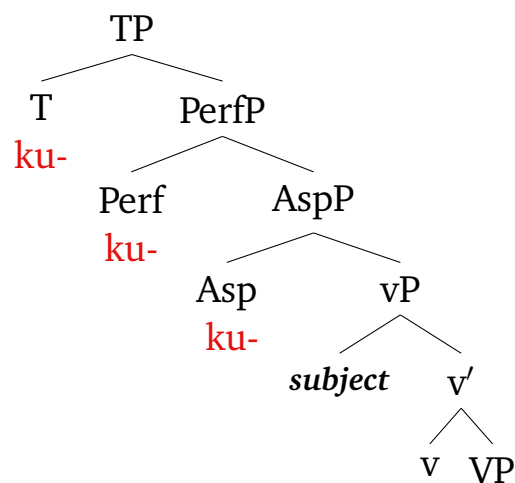
Movement & agreement all the way up

All functional heads have $[EPP, \phi]$



No movement or agreement

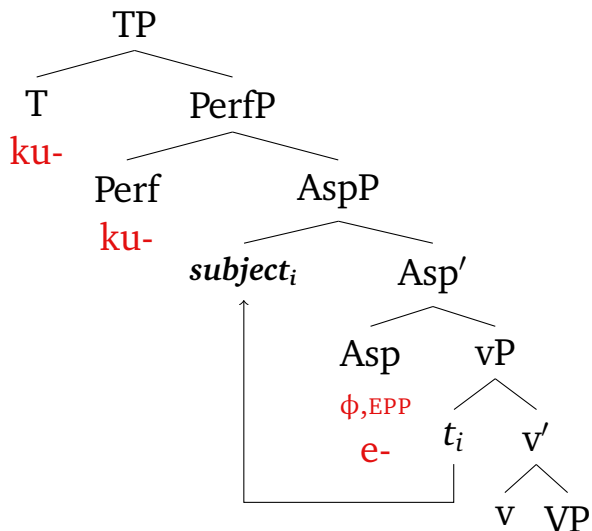
No functional heads have $[EPP, \phi]$



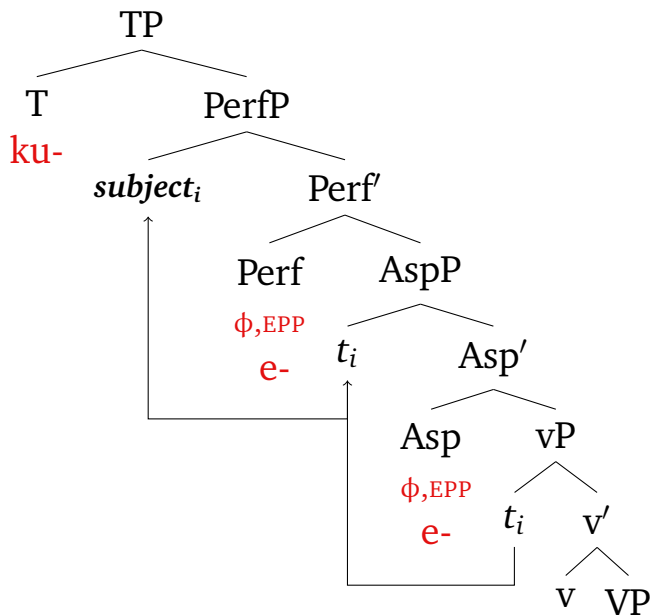
Nothing prevents merging some heads with $[EPP, \phi]$ and some without!

→ Incorrectly predicts that movement can terminate in AspP or PerfP (19)-(20).

(19) When only Asp has [EPP, ϕ], movement should terminate in AspP:



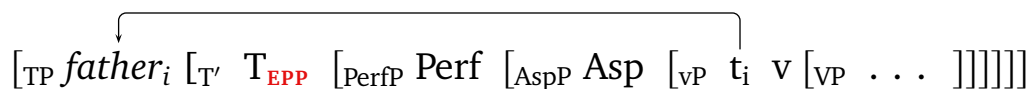
(20) When only Asp and Perf have [EPP, ϕ], movement should terminate in PerfP:



Both predictions are incorrect (15)-(16).

A modification to Carstens & Mletshe (2015) that might solve Problem 1:

(21) *Asp and Perf don't have EPP → either movement to TP or no movement at all*

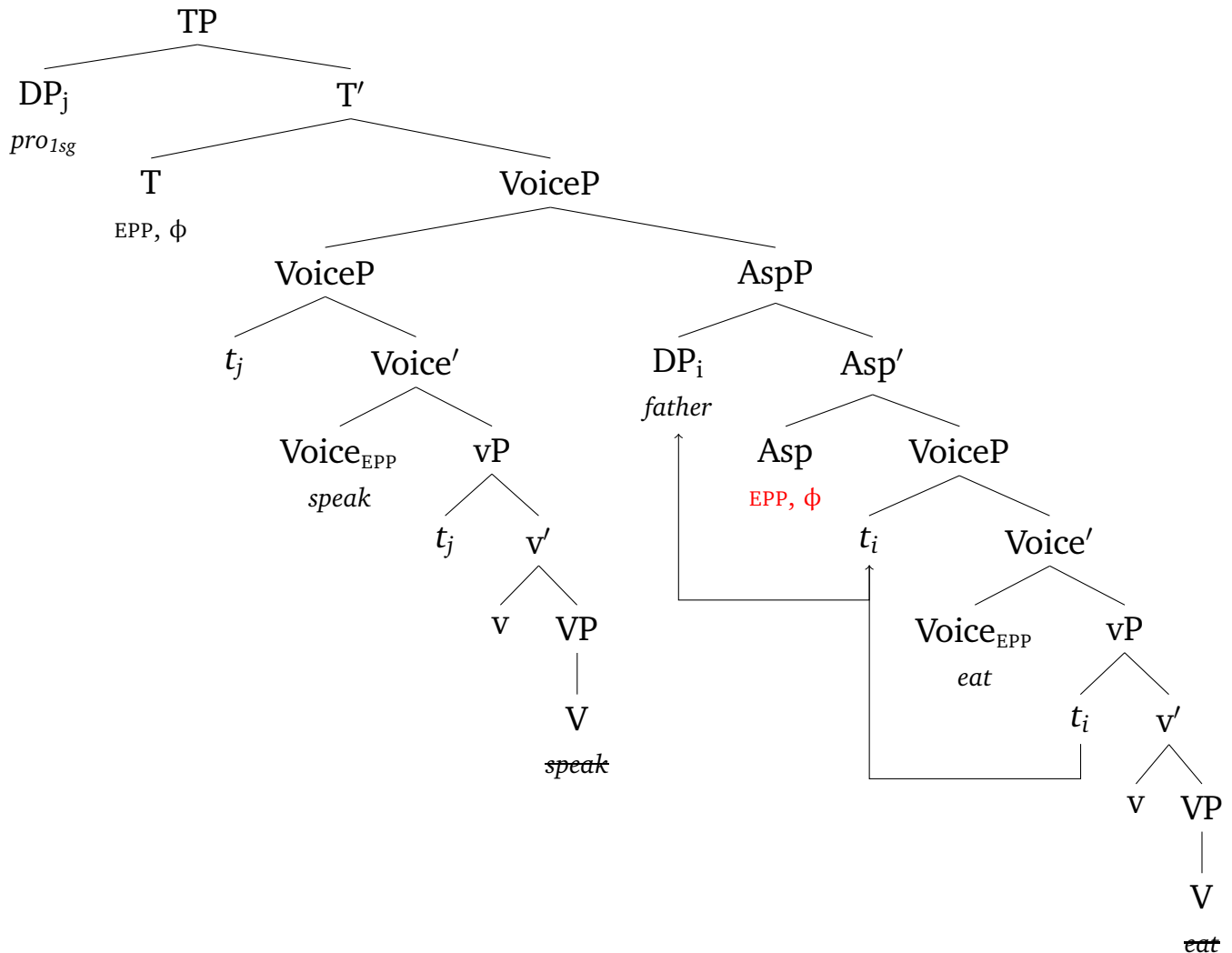


- A separate explanation is needed for uniform (non-)agreement.
- Evidence from reduced clauses that Asp does in fact have EPP.

Reduced clauses (AspPs) have pre-verbal agreeing subjects:

(22) Ngi-khulume [_{AspP} ubaba e-si-dla.]
 1sg-speak.PST 1father 1.PTCP-PROG-eat.
 'I spoke while father was eating.' (Lit. I spoke, father eating.)

(23) Ngi-khulume [_{AspP} (*ukuthi) ubaba {e/*u}-(*ya/*a)-*(si)-dla.]
 1sg-speak.PST (*COMP) 1father {1.PTCP/*1}-(*PRS/*PST)-*(PROG)-eat.



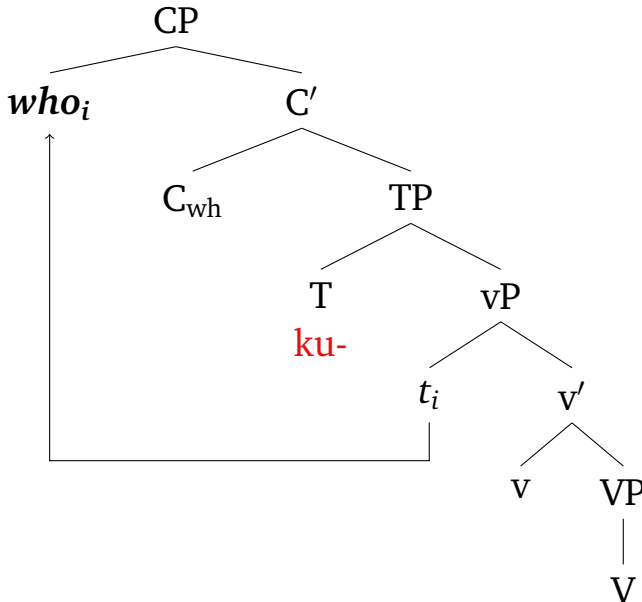
LESSONS FROM REDUCED CLAUSES

- Subject movement can terminate in Spec,AspP (23).
 → **Asp has/can have EPP.**
- But when the clause contains a TP, movement must proceed to Spec,TP (15).
 → **T always has EPP in Ndebele.**

Problem 2: No explanation for obligatory agreement with wh-moved subjects.

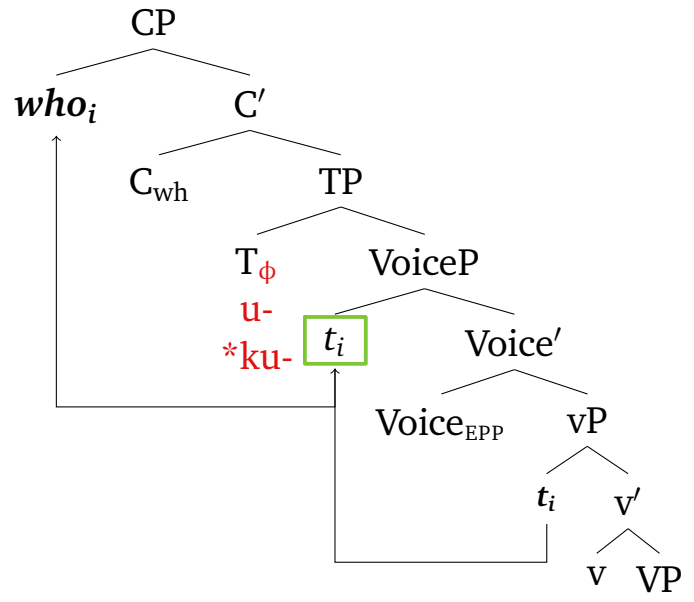
(24) Ng-ubani a-**{u/*ku}**-za-pheka?
 COP-1who REL-**{1/*15}**-FUT-cook
 ‘Who will cook?’

(25) Optional EPP in T account



Movement to Spec,CP shouldn't require [EPP, φ] on T

(26) Phasal VoiceP (present account)



Movement to Spec,CP must stop in Spec, VoiceP, exposing the DP to T.

4.2 Alternative 2: Optional expletive *pro*

Buell (2005, 2007, 2012) derives VS vs SV in Zulu by proposing that T can freely choose between moving the subject and merging a null expletive of class 15.

- (27) *Two ways to satisfy the EPP in Zulu* (Halpert 2015:257)
- Insert *pro_{expl}* directly in Spec,TP
 - Search for an argument of the verb and move it to Spec,TP

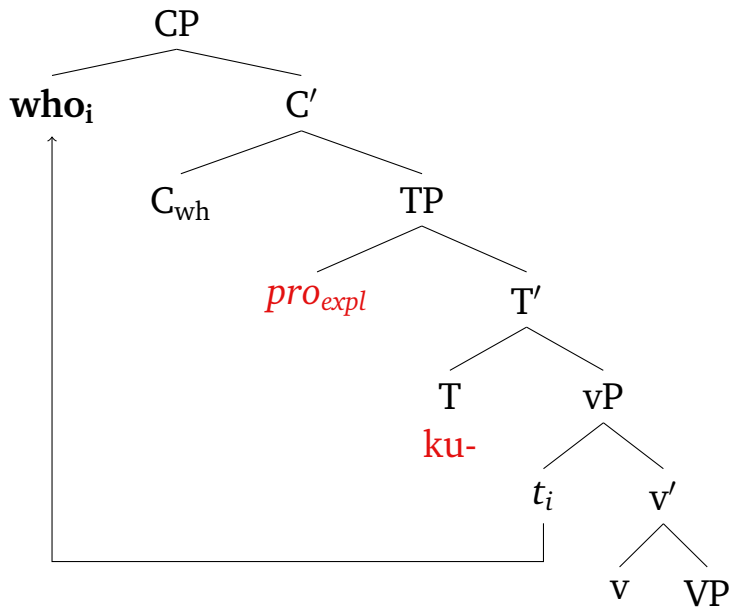
This account faces the same two problems as Carsten & Mletshe's account:

Problem 1: In Aux-V constructions, we expect non-uniform movement/agreement because an expletive in Spec,TP shouldn't preclude movement to Spec,AspP.

(28) *_{[TP *pro_{expl}* Ku-be} [_{AspP} **ubaba_i** e-si- [_{vP} *t_i* dla]]]
 EXPL 15-AUX.PST 1father 1-PROG eat
 Father was eating.

Problem 2: Wh-movement should be able to cross an expletive subject, incorrectly allowing class 15 agreement in subject wh-questions.

- (29) Ng-ubani a-*{u/*ku}*-za-pheka?
 COP-1who REL-*{1/*15}*-FUT-cook
 ‘Who will cook?’

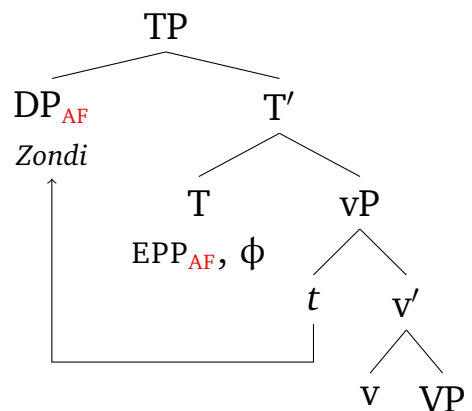


4.3 Alternative 3: Movement targets an optional feature on DPs

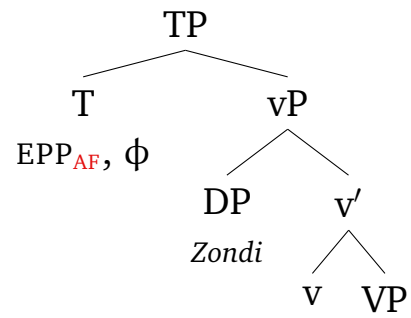
Zeller’s (2008; 2015) account of the same facts in Zulu:

- T always has EPP but it only attracts DPs with the Antifocus (AF) feature.
- DPs may lack this feature, in which case they cannot move to Spec,TP.
- Agreement is parasitic on movement.

- (30) UZondi u-a-phek-a.
 1Zondi 1-PST-cook-FV
 ‘Zondi cooked.’



- (31) Ku-a-phek-a uZondi.
 15-PST-cook-FV 1Zondi
 ‘Zondi_{Foc} cooked.’

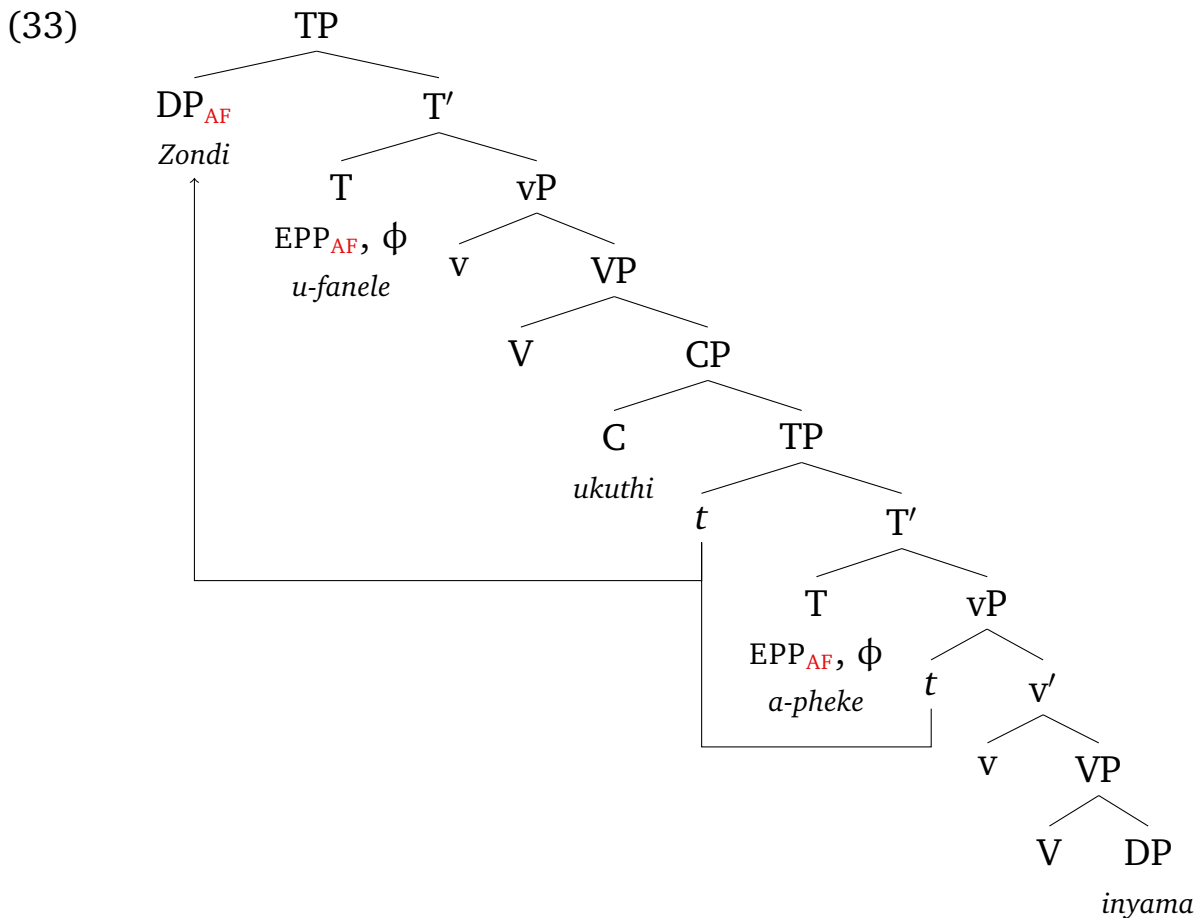


Problem 1: T in Ndebele *can* attract focused DPs (Pietraszko 2021).

Problem 2: T isn't relativized to any optional feature of DPs.

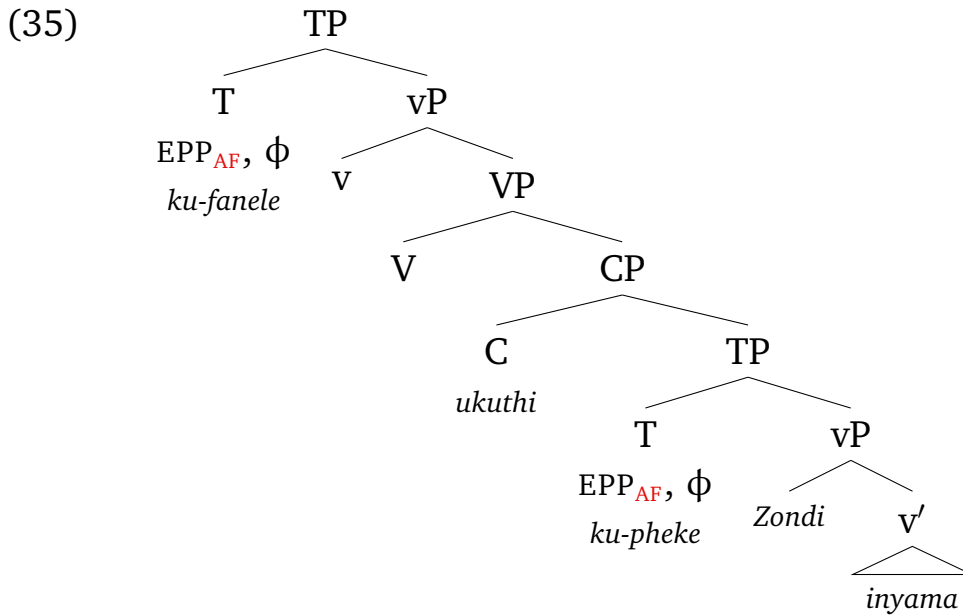
- (32) a. **UZondi_i** u-fanele [_{CP} ukuthi t_i a-pheke t_i inyama.]
 1Zondi 1-must COMP 1-cook.SBJV 9meat
 ‘Zondi must cook meat.’ ≈
- b. **Inyama_i** i-fanele [_{CP} ukuthi t_i i-phekwe t_i ng-uZondi.]
 9meat 9-must COMP 9-cook.PSV.SBJV by-Zondi
 ‘The meat must be cooked by Zondi.’

Explanation for (32): The subject moves all the way to matrix TP because it has AF.



- (34) **Ku**-fanele [_{CP} ukuthi **ku**-pheke **uZondi** inyama.]
 15-must COMP 15-cook.SBJV 1Zondi 9meat
 ‘Zondi must cook meat.’

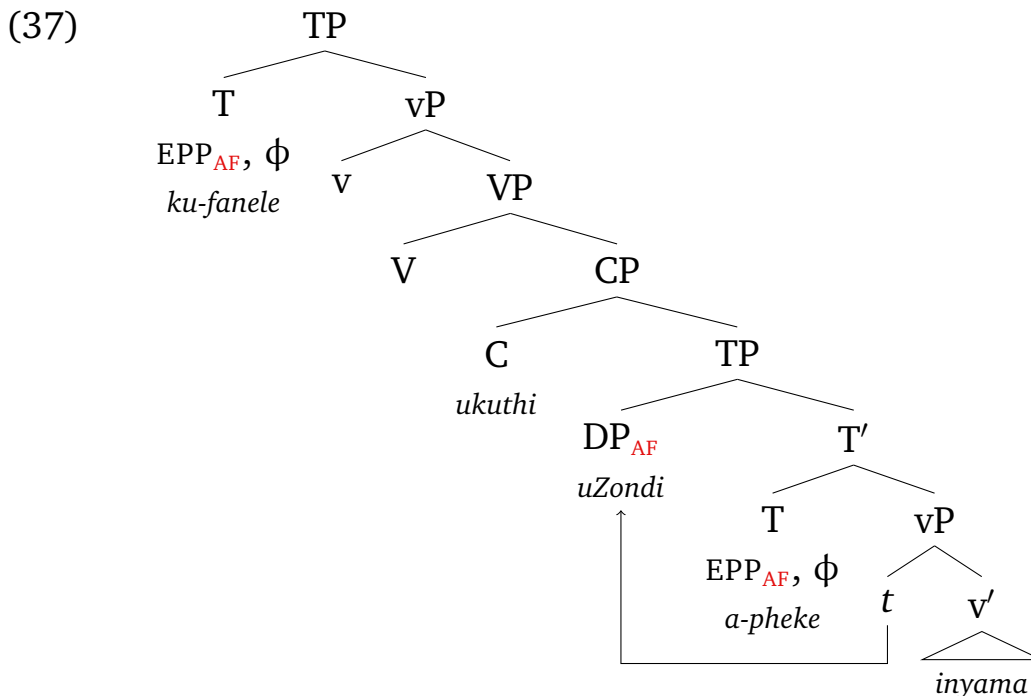
Explanation for (34): → When the subject doesn’t have AF, it doesn’t move at all.



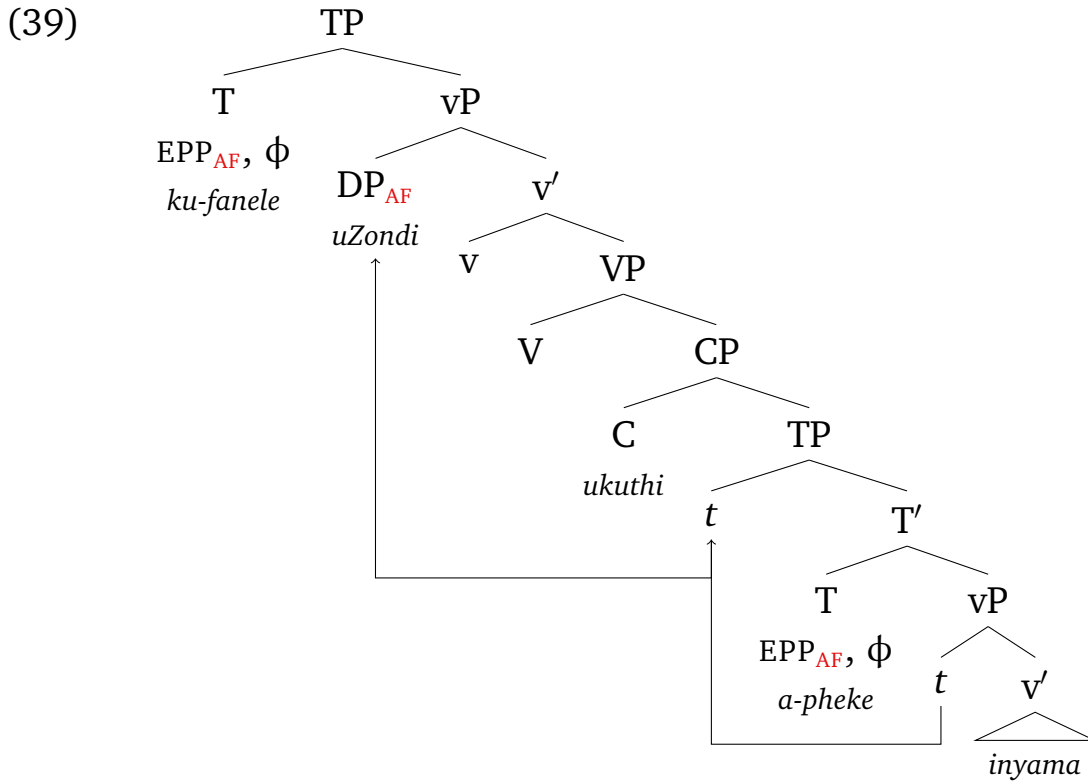
Intermediate landing site 1: embedded Spec,TP

- (36) **Ku**-fanele [_{CP} ukuthi **uZondi_i** **a**-pheke *t_i*.]
 15-must COMP 1Zondi 1-cook.SBJV
 ‘Zondi must cook meat.’

Explanation for (36): The subject has AF but the CP is optionally opaque.



- (38) a. **Ku/*u**-fanele **uZondi**_i [_{CP} ukuthi t_i **a**-pheke t_i inyama.]
 15/*1-must 1Zondi COMP 1-cook.SBJV 9meat
 ‘Zondi must cook meat.’ ≈
- b. **Ku/*i**-fanele **inyama**_i [_{CP} ukuthi t_i **i**-phekwe t_i ng-uZondi.]
 15/*9-must 9meat COMP 9-cook.PSV.SBJV by-Zondi
 ‘The meat must be cooked by Zondi.’



INCORRECT PREDICTION OF THE RELATIVIZED PROBING ANALYSIS

The subject in (38)

- i. has AF (because it controls agreement in the embedded clause)
- ii. is in the matrix clause, i.e. visible to matrix T
 → should be attracted by matrix T, contrary to fact.

No matter what feature T needs, the subject in (38) has it.

→ Lack of movement to Spec,TP cannot be derived by feature relativization.

- A-movement is successive-cyclic.
- Successive cyclic movement can be **optional**.

The implementation of this optionality depends on one's theory of successive cyclic movement:

- Feature-free movement (i.a. Bošković 2002, 2007; Heck & Müller 2003; Chomsky 2013):
 - no featural trigger for successive cyclic movement
 - movement is free to not apply → optionality
- Feature-driven movement (i.a. Chomsky 1995; McCloskey 2002; Abels 2012; Georgi 2014; van Urk 2015):
 - successive cyclic movement is triggered by a feature on the phase head
 - if a feature can be optionally absent, movement can be optional.

PREDICTION OF THE FEATURE-FREE APPROACH
 Successive cyclic movement is always a possibility.
 → *incorrect*

A-movement of the subject + A-bar movement of the object:

- (41) **Ng-ubani_i** [_{TP} **abafana_j** a-ba-m-bonayo [_{VP} **t_j** **t_i**]]?
 COP-1who 2boys REL-2-1o-see
 'Who do the boys see?'

Both movements are optional – neither has to take place:

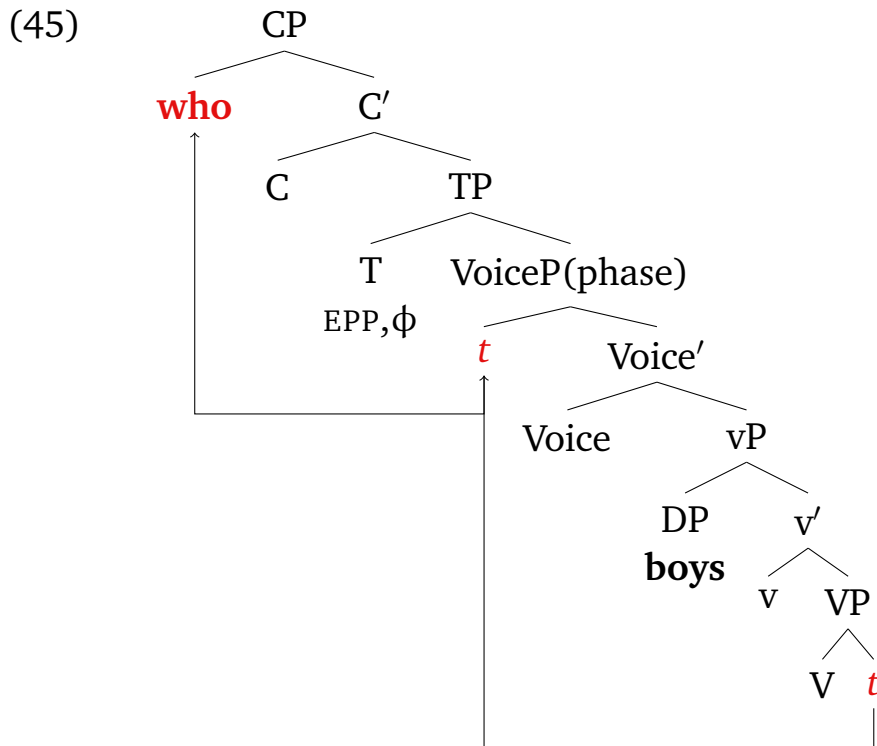
- (42) Ku-bona [_{VP} **abafana ubani**]?
 15-see 2boys 1who
 'Who do the boys see?'

The A and A-bar movements are not independent of one another:

- (43) **Abafana_j** ba-bona [_{VP} **t_j** **ubani**]? *only A mvmt ✓*
 2boys 2-see 1who
 'Who do the boys see?'

- (44) ***Ng-ubani_i** o-ku-(m)-bona [_{VP} **abafana t_i**]? *only A-bar mvmt ✗*
 COP-1who REL-15-(1o)-cook 2boys
 'Who do the boys see?'

The feature-free approach incorrectly predicts (44) to be grammatical – the *wh*-object should be able to move irrespective of the position of the subject:



A FEATURE-BASED ANALYSIS

The only scenario where the object can't move to Spec, VoiceP is when the subject doesn't move either, i.e. **when Voice lacks EPP**.

(46) Voice has no EPP → neither DP can move (42)

[_{TP} T [_{VoiceP (phase)} Voice see [_{vP} **boys** v [_{VP} *t_v* **who**]]]]

(47) Voice has EPP which probes once → only the subject moves (43)

[_{TP} T [_{VoiceP (phase)} **boys_j** [_{Voice'} Voice_{EPP} see [_{vP} *t_j* v [_{VP} *t_v* **who**]]]]]

(48) Voice has EPP which probes twice → both DPs move (41)

[_{TP} T [_{VoiceP (phase)} **boys_j** **who_i** [_{Voice'} Voice_{EPP} see [_{vP} *t_j* v [_{VP} *t_v* *t_i*]]]]]]

(49) Impossible: The EPP on Voice skips the subject (44)

[_{TP} T [_{VoiceP (phase)} Voice_{EPP} see [_{vP} **boys** v [_{VP} *t_v* **who**]]]]

----- X (intervention) -----

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