

Cyclic Selection and verbal periphrasis

Asia Pietraszko

University of Rochester

asia.pietraszko@rochester.edu

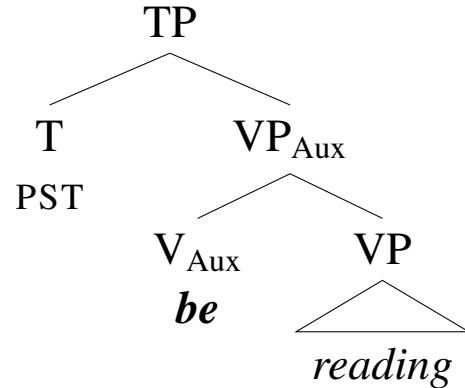
Universität Göttingen

July 7, 2021

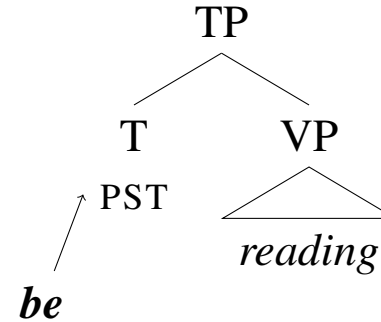
1 Introduction

(1) I was reading.

(2) Base-generation of the auxiliary



(3) Insertion of the auxiliary



- Arguments for the insertion approach: **last-resort** distribution and **overflow** pattern
- **Claim:** both last-resort and overflow are compatible with base-generation
- **Proposal:** Auxiliaries are c-selected as specifiers (**Cyclic Selection**)
- **Evidence** from Swahili and auxiliaries are merged in a Spec position.

2 Approaches to default periphrasis

default periphrasis = compound tenses with an auxiliary verb (*be* or *have*)

- (4) a. She **is** eating.
b. She **has** eaten.
c. It **was** eaten.

Default auxiliaries "**support**" inflections:

- (5) a. *She work-**ing-s**.
b. She **i-s** work-**ing**.

They are impossible unless necessary (a **last-resort** phenomenon):

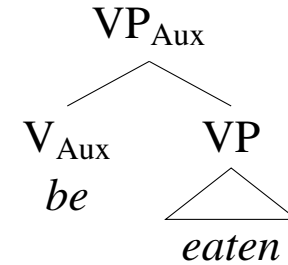
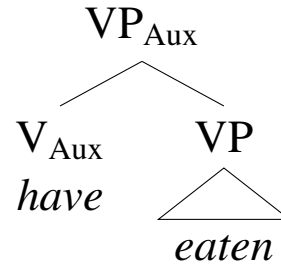
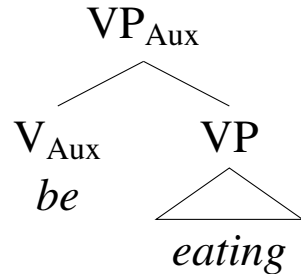
- (6) a. She work-**s**.
b. *She **i-s** work.

2.1 Auxiliary verbs: base-generation vs insertion

The traditional approach to compound tenses: auxiliaries are **base-generated** as...

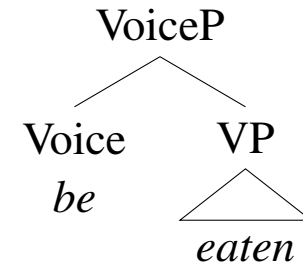
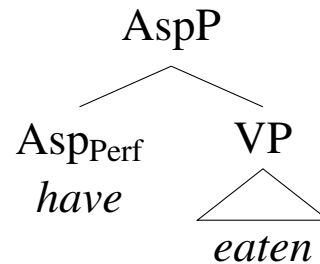
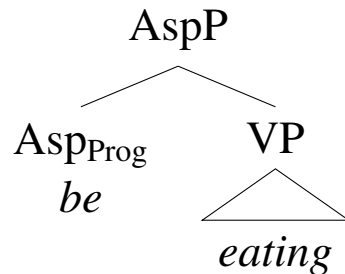
- a verb

(i.a. Ross 1967, 1969; Huddleston 1974; Emonds 1978; Pollock 1989; Déchaine 1993; Déchaine 1995; Roberts 1998; Schütze 2003).



- a functional head

(i.a. Hoffman 1966; McCawley 1988; Tenny 1987; Cinque 1998, 1999, 2001).

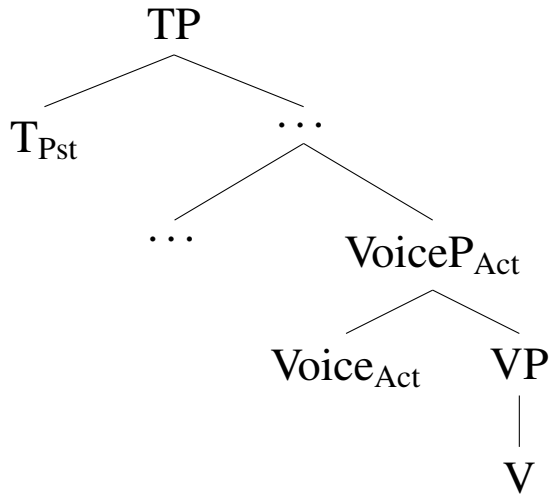


The insertion approach: auxiliaries are **inserted** into an independently built syntactic structure

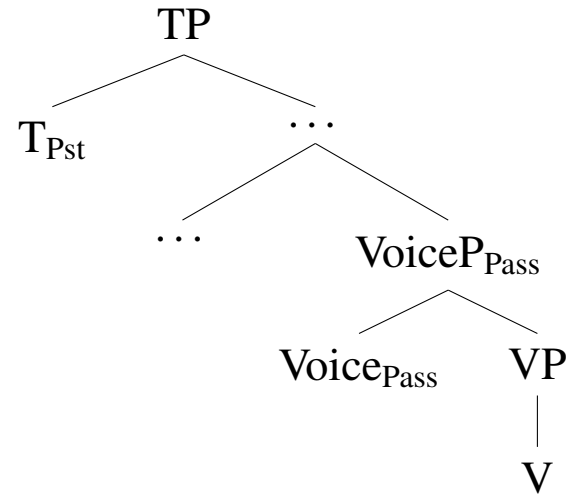
(Bach 1967; Embick 2000; Arregi 2000; Cowper 2010; Bjorkman 2011; Arregi & Klecha 2015; Fenger 2019, 2020; Calabrese 2019).

Synthetic and periphrastic tenses are structurally the same

(7) I ate.



(8) It was eaten.



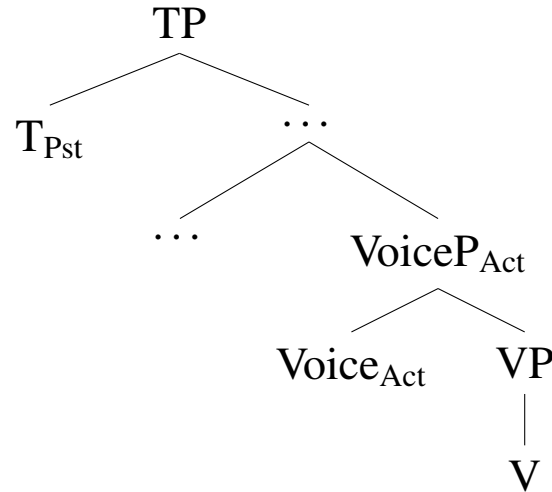
No special projection for the auxiliary

The Insertion Approach: components

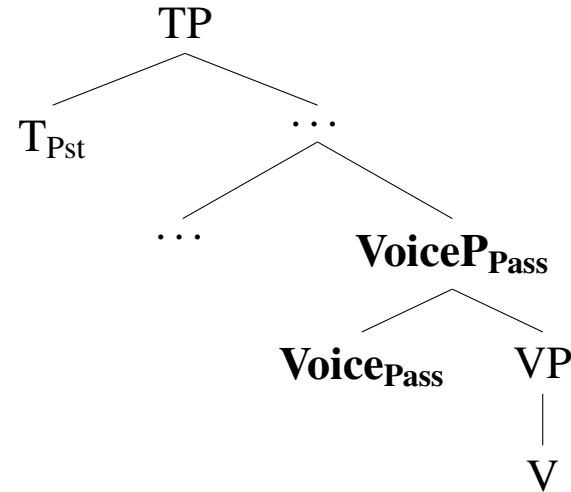
I. A Stranded Infl Constraint: ***[Infl]**

Inflectional heads need to be in a relation with a verb (relation = agreement/head movement)

(9)



(10)



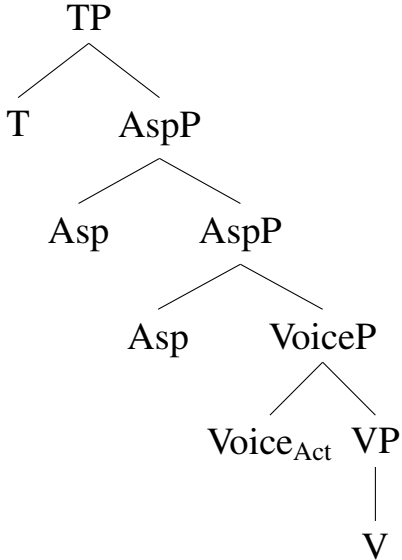
II. A distinction between *transparent* and *opaque* heads.

Opaque heads, like Voice_{Pass}, prevent higher heads from establishing this relation with V. Other heads are transparent in this sense (e.g. Voice_{Act}).

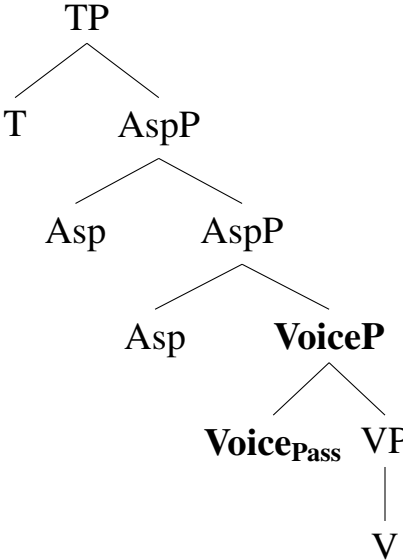
III. An auxiliary-insertion rule: **[Infl]** → **[Infl V]**

Opaque heads in English: **Voice_{Pass}**, **Asp_{Prog}** and **Asp_{Perf}**

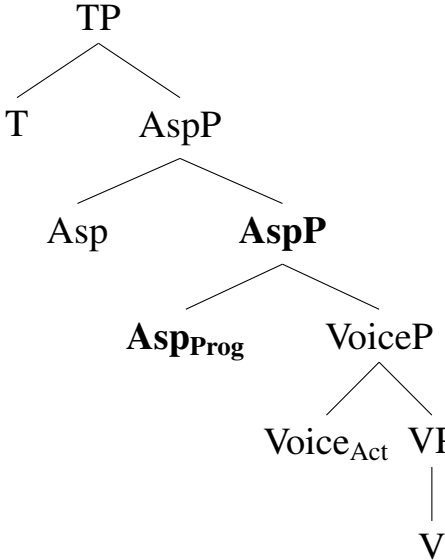
(11) I eat.



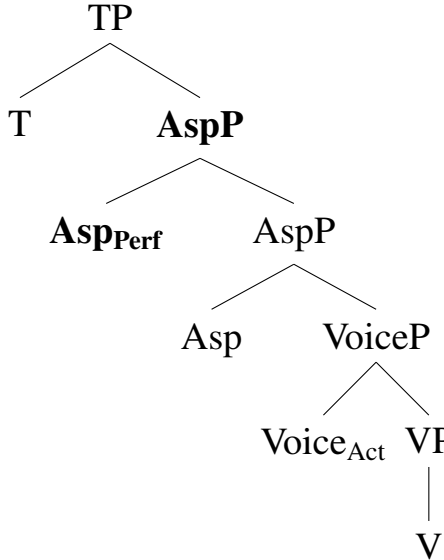
(12) It was eaten.



(13) I am eating.

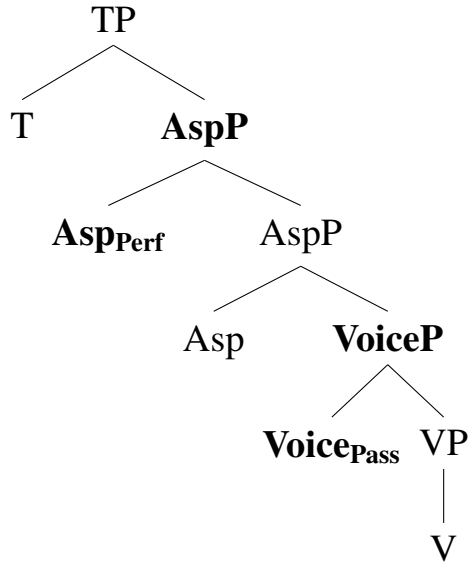


(14) I have eaten.

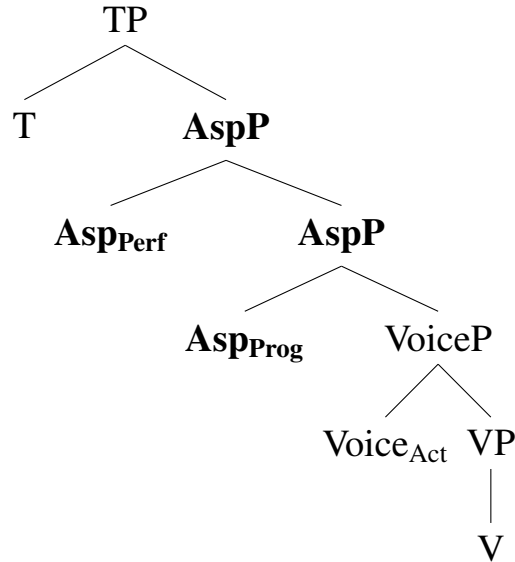


Opaque heads in English: **Voice_{Pass}**, **Asp_{Prog}** and **Asp_{Perf}**

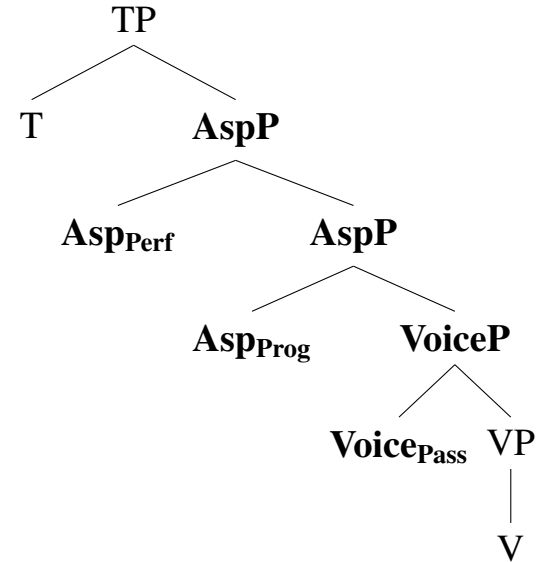
(15) It has been eaten.



(16) I have been eating.



(17) ?It has been being eaten.



3 Why insertion, not selection?

Last-resort/elsewhere distribution

Crosslinguistic pattern:

- (18) a. She **i-s** work-**ing**.
b. *She work-**ing-s**.

- (19) a. She work-**s**.
b. *She **i-s** work.

Unattested pattern:

- (20) a. *She **i-s** work-**ing**.
b. She work-**ing-s**.

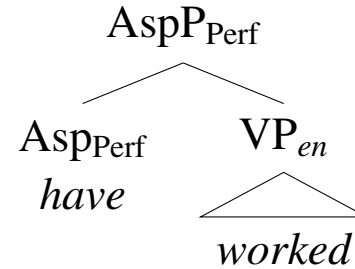
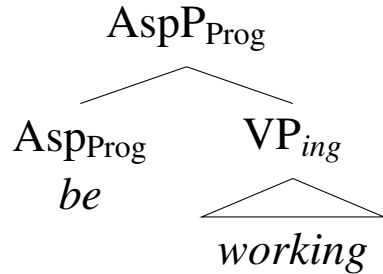
- (21) a. *She work-**s**.
b. She **i-s** work.

The overflow pattern of periphrasis (Bjorkman, 2011)

In English, there is **one-to-one correspondence** between inflectional categories and auxiliaries:

- (22) a. She **is** working.
b. She **was** working.
c. She will **be** working.

- a. She **has** worked.
b. She **had** worked.
c. She will **have** worked.



There is no progressive tense without the auxiliary *be*.

There is no perfect tense without the auxiliary *have*.

In many languages, there no such one-to-one correspondence between aux and a given inflection:

(23) *Swahili*

- | | | | |
|----|--------------------------------------|--|---------------------|
| a. | ni- li -kuwa | ni- na -soma. | Past Progressive |
| | 1SG- PST -AUX | 1SG- PROG -read | |
| | 'I was reading'. | | |
| b. | ni- li -soma. | | Simple Past |
| | 1SG- PST -read | | |
| | 'I read' (Past). | | |
| c. | ni-∅- na -soma | (*ni-∅- kuwa ni- na -soma) | Present Progressive |
| | 1SG- PRES - PROG -read | | |
| | 'I am reading'. | | |

Overflow periphrasis (Bjorkman 2011):

Neither Asp_{Prog} nor T_{Pst} requires an auxiliary.

→ **The auxiliary cannot be (in a selectional relation with) either.**

→ a problem for the base-generation approach

Swahili perfect tenses look the same: periphrasis in the past, synthesis in the present

(24) *Swahili perfect tenses*

a. ni-**li**-kuwa ni-**me**-soma
1SG-PST-AUX 1SG-PERF-read
'I had read.'

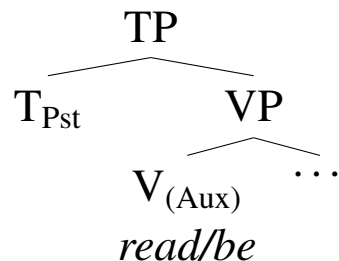
b. ni-∅-**me**-soma (*ni-∅-**kuwa** ni-**me**-soma)
1SG-PRES-PERF-read
'I have read'.

→ a crosslinguistically robust pattern

Base-generation approaches are based on selection, i.e. a lexical idiosyncrasy

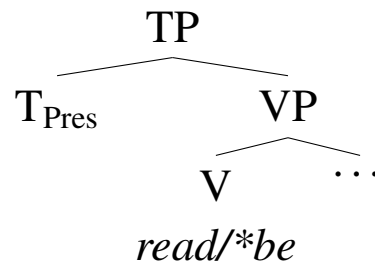
Past T:

[Sel: V_{±Aux}]



Present T:

[Sel: V_{-Aux}]

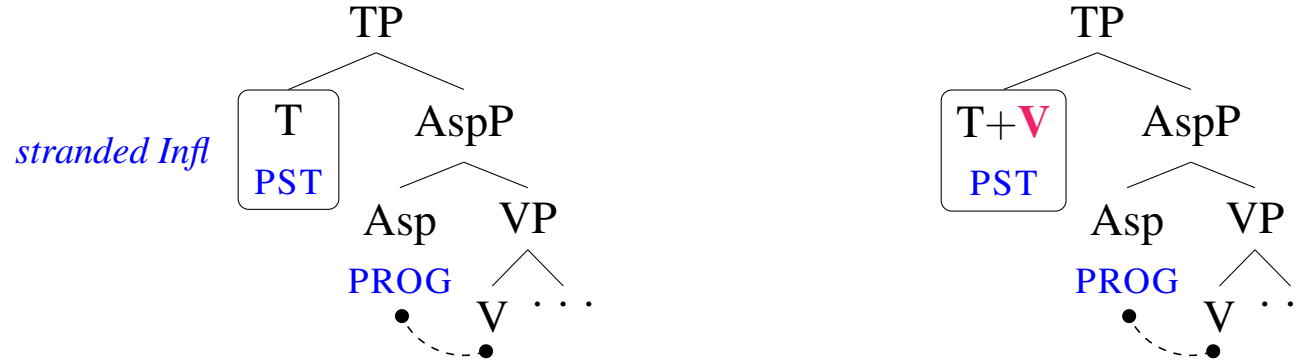


An insertion approach can derive overflow periphrasis from underspecification

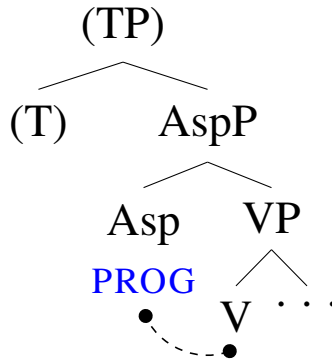
(Bjorkman, 2011; Pietraszko, 2016, 2017)

Hypothesis: Present tense is/can be syntactically unmarked (absence of some or all features)

(25) Past T is featurally marked → has to be supported when stranded



(26) Present T is featurally unmarked → nothing to support



- In English, there is periphrasis in the present tense

(27) a. I am reading.

b. I have read.

- In Swahili, there are not periphrastic present tenses

(28) a. ni-∅-na-soma.

1SG-PRES-PROG-read
'I am reading'.

b. ni-∅-me-soma.

1SG-PRES-PERF-read
'I have read'.

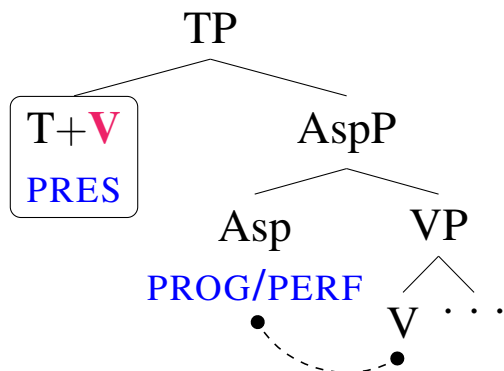
Languages encode featural contrasts differently

(Harley & Ritter, 2002; Cowper, 2005)

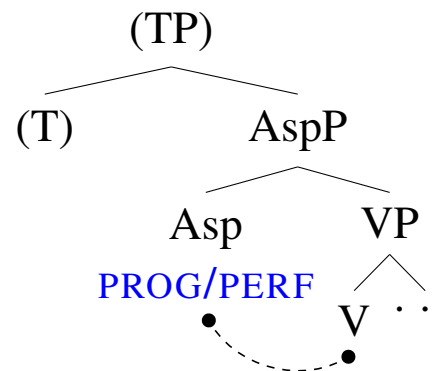
a. English T: PST/PRES

b. Swahili T: (PST) (no feature = present tense interpretation)

(29) Present T in English



(30) Present T in Swahili



Recap

- The base-generation approach
 - does not explain last resort distribution of auxiliaries
 - fails to capture the overflow pattern of periphrasis
- The insertion approach
 - requires positing a "stranded-Infl" constraint and an insertion operation
 - doesn't explain why the repair is insertion of a verb

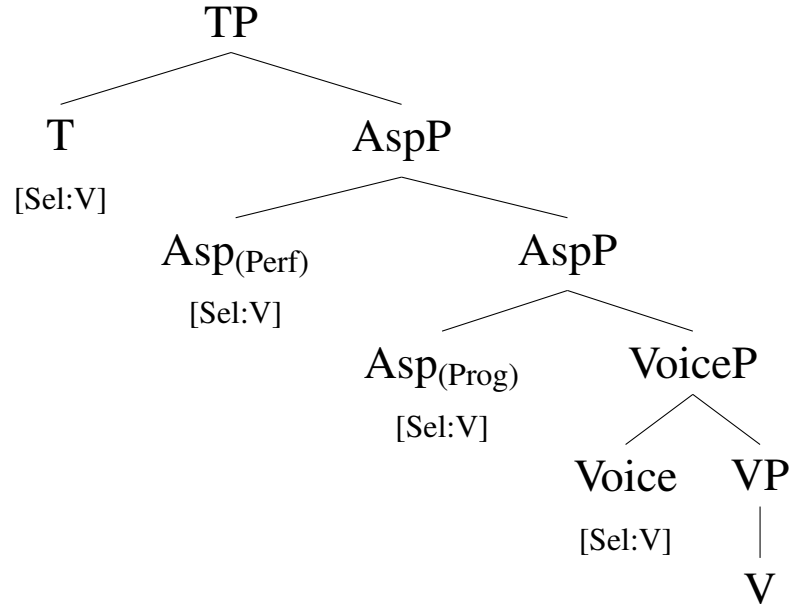
Upcoming

- The overflow pattern can be derived from selection and merge in a cyclic way – **Cyclic Selection**
- We need neither a "stranded-Infl" constraint nor an insertion operation
- Inflectional heads require a verb because they have a c-selectional V feature

4 Cyclic Selection and last resort Merge

Main Claim: Auxiliary verbs are c-selected by functional heads in the clausal spine

(Déchaine 1995; Cowper 2010; Pietraszko 2016, 2017, Arregi & Pietraszko, in prep.)



Synthesis

All heads with [Sel:V] check it against the lexical verb.

Periphrasis with 1 auxiliary

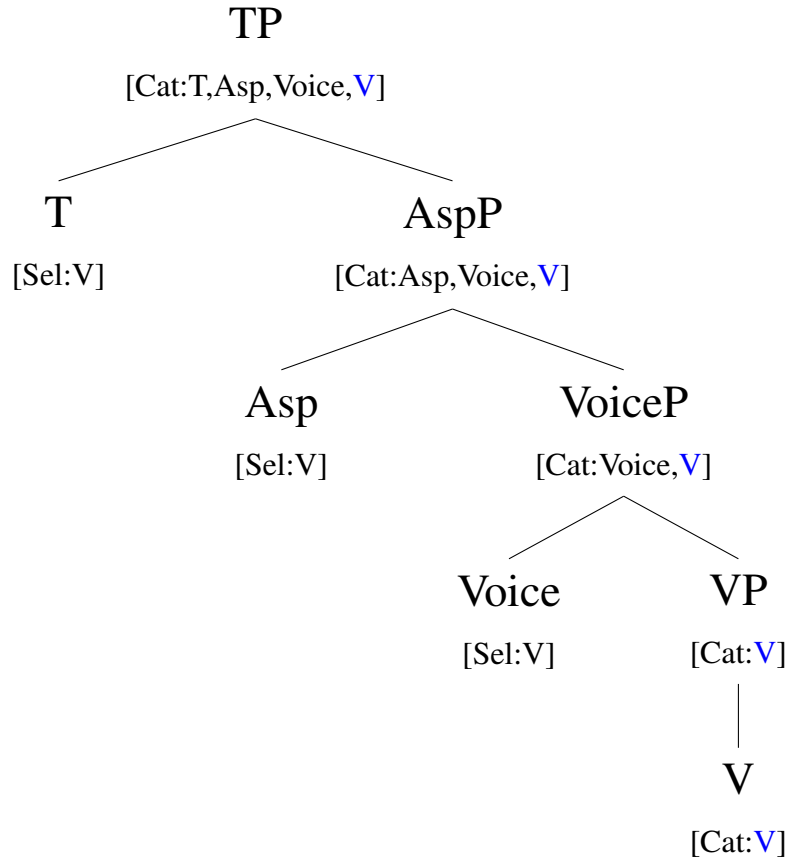
[Sel:V] of one head cannot be satisfied by the lexical verb and triggers merge of a dummy verb

Periphrasis with 2 auxiliaries

[Sel:V] of two heads cannot be satisfied by the lexical verb and trigger merge of a dummy verb

ASSUMPTION: All heads in the verbal extended projection are verbal (Grimshaw 1991, 2000)

IMPLEMENTATION: cumulative projection of category features (Keine 2019, Arregi & Pietraszko in prep.)



→ Selection is satisfied locally (under sisterhood)

ASSUMPTION: The building of functional hierarchies is not triggered by c-selection, but is determined by a predefined hierarchy (Abney 1987; Cinque 1998, 1999; Svenonius 1994; Adger & Svenonius 2011; Ramchand & Svenonius 2014)

IMPLEMENTATION: Functional hierarchies are built by a special kind of Merge

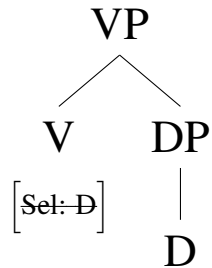
(31) Two types of structure building (Adger, 2010)

a. *Sel-Merge*: c-selection-triggered Merge

b. *HoP-Merge*: Merge determined by a fixed order of functional projections

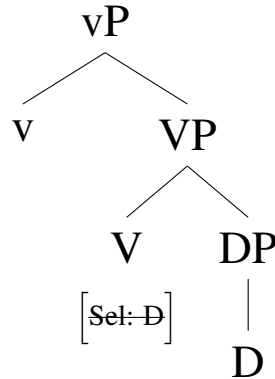
(32) The verbal extended projection: $\langle T, Asp, Voice, v, V \rangle$

(33) Sel-Merge(V,DP)



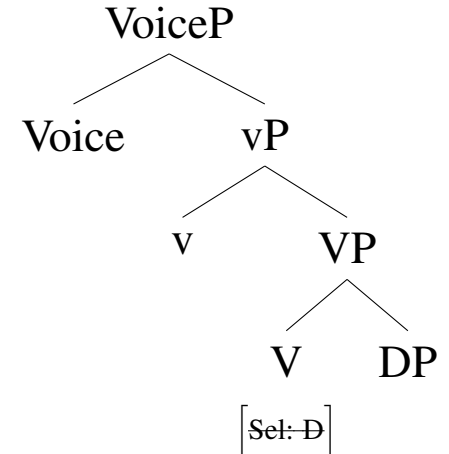
→

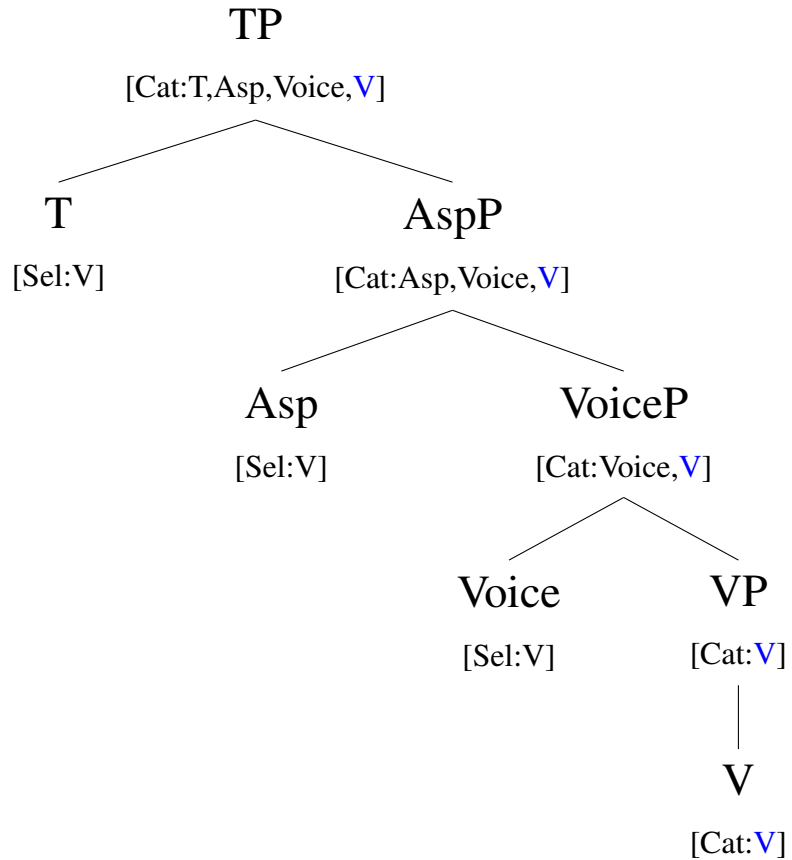
(34) HoP-Merge(v,VP)



→

(35) HoP-Merge(Voice,vP)



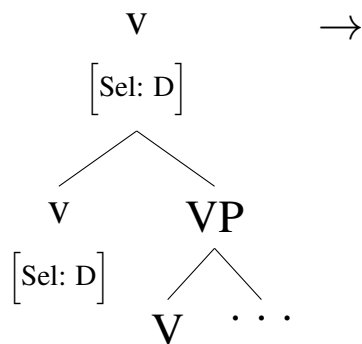


- Functional heads merge with their complements via HoP-Merge
- Their selectional features are satisfied immediately *after* merge

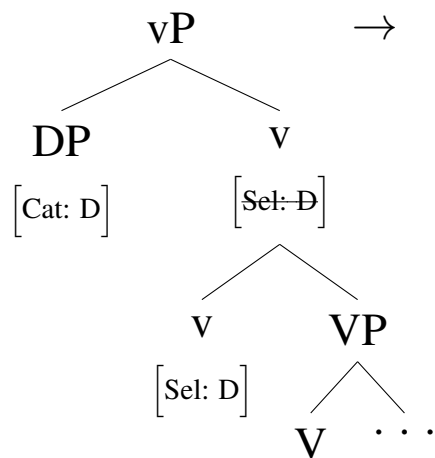
Selectional features not discharged immediately at Merge project to the root node

(*Cyclic Selection*, Pietraszko 2016, 2017; cf. *Cyclic Agree*, Rezac 2003; Béjar & Rezac 2009)

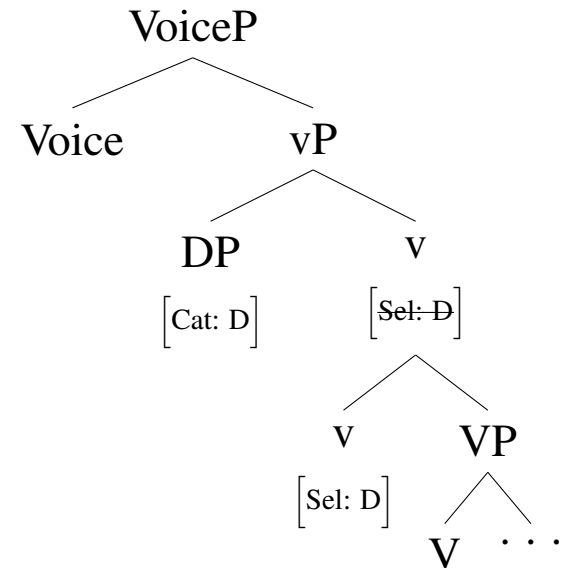
(36) HoP-Merge(v,V)



(37) Sel-Merge(v,D)

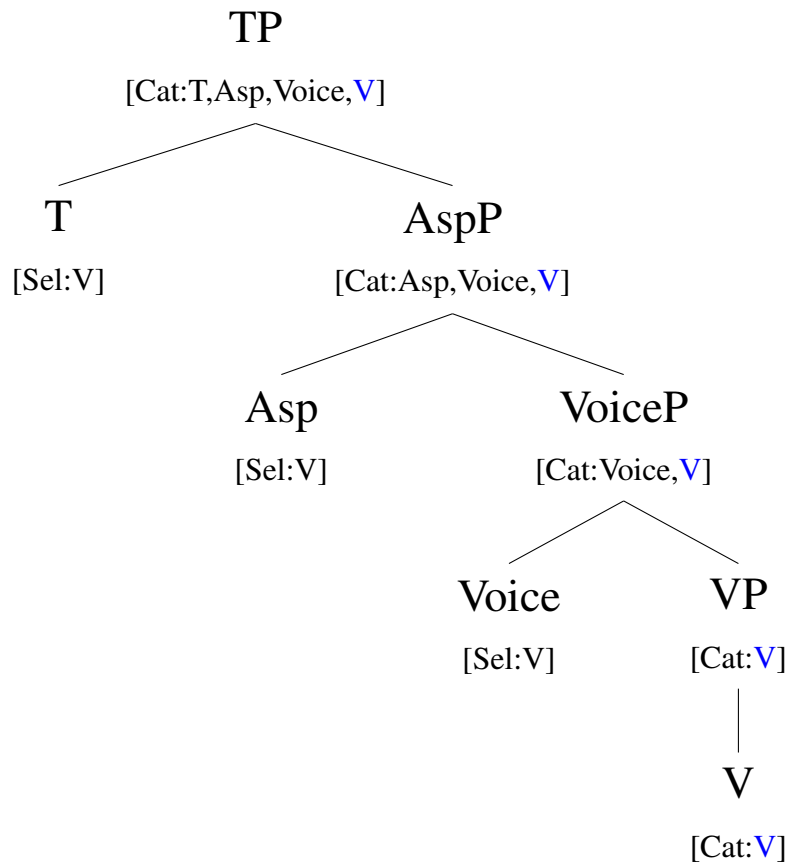


(38) HoP-Merge(v,Voice)



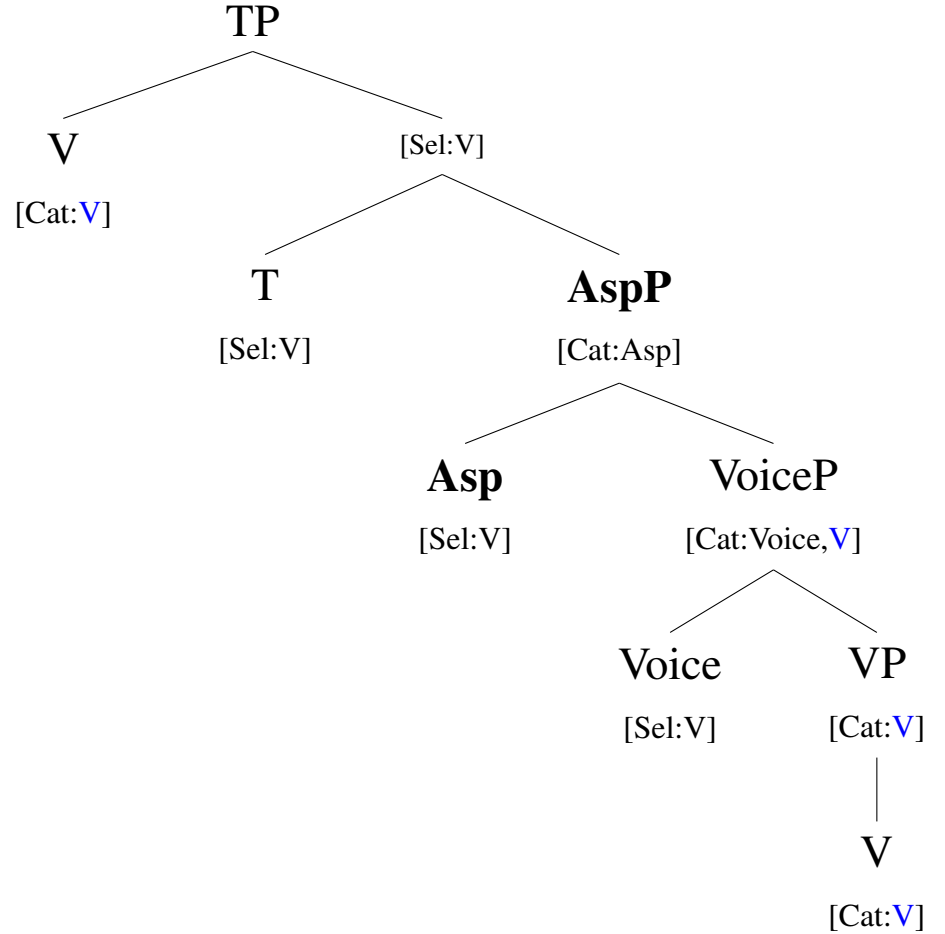
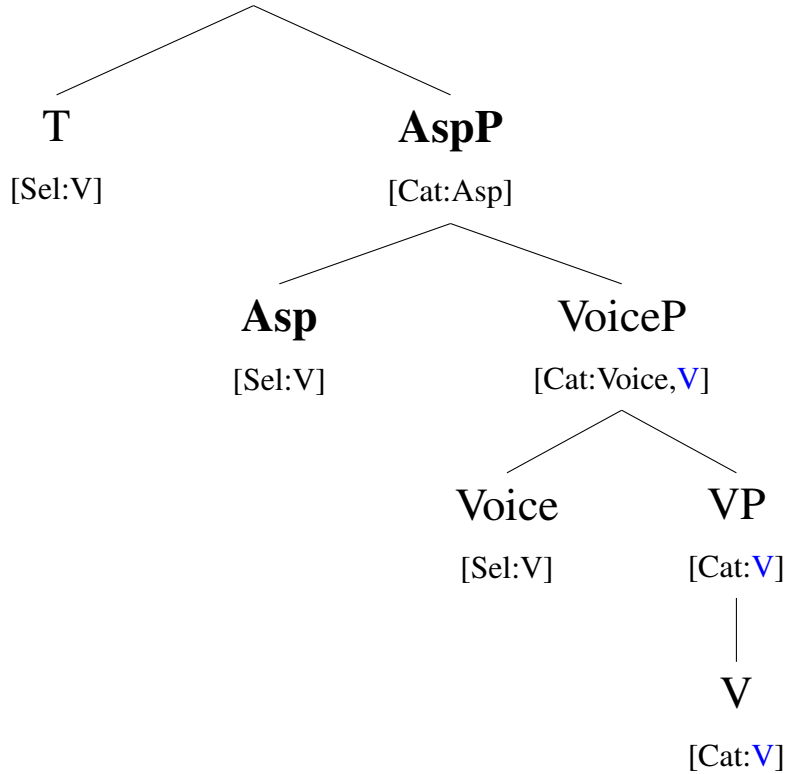
→ c-selectional features of functional heads trigger Merge of a specifier, not a complement.

Synthesis: Sel:V on every F is checked by F's complement



Periphrasis: Sel:V of some F cannot be checked by F's complement.

→

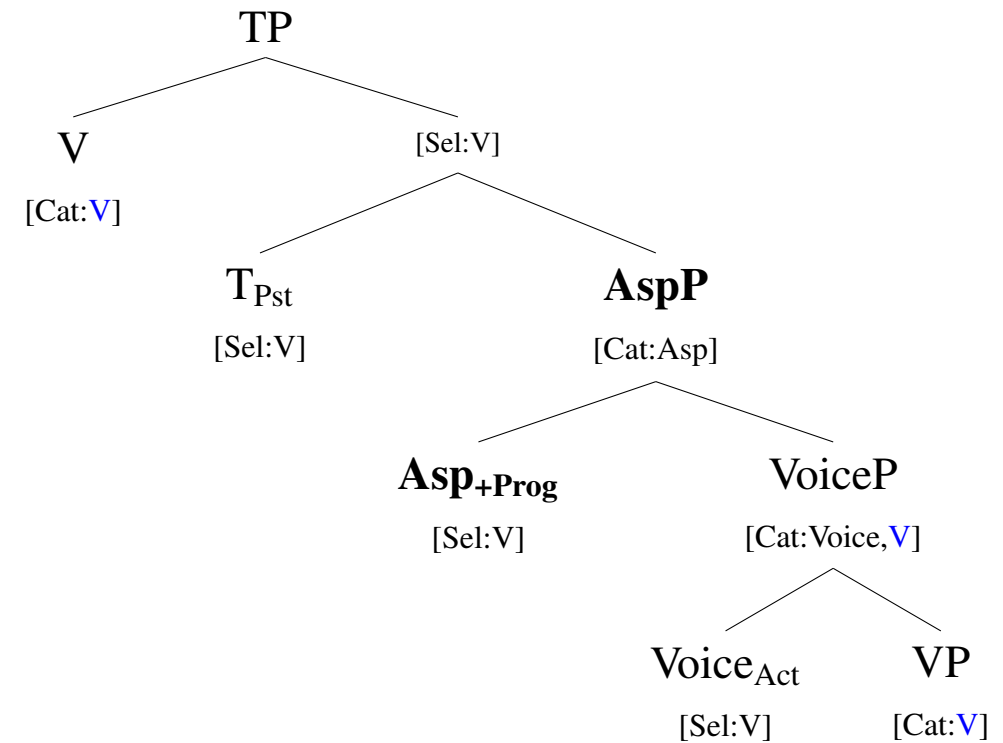
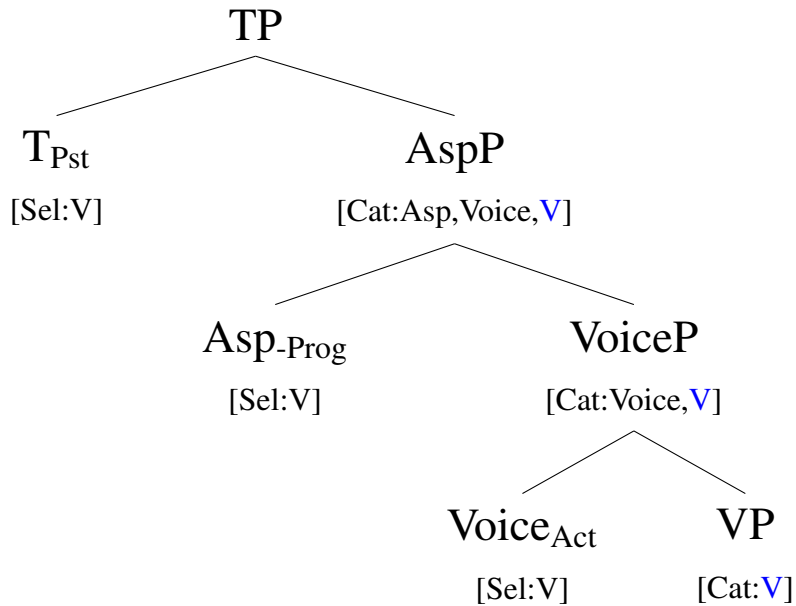


Transparent head – a head that projects the Cat-feature of their complement

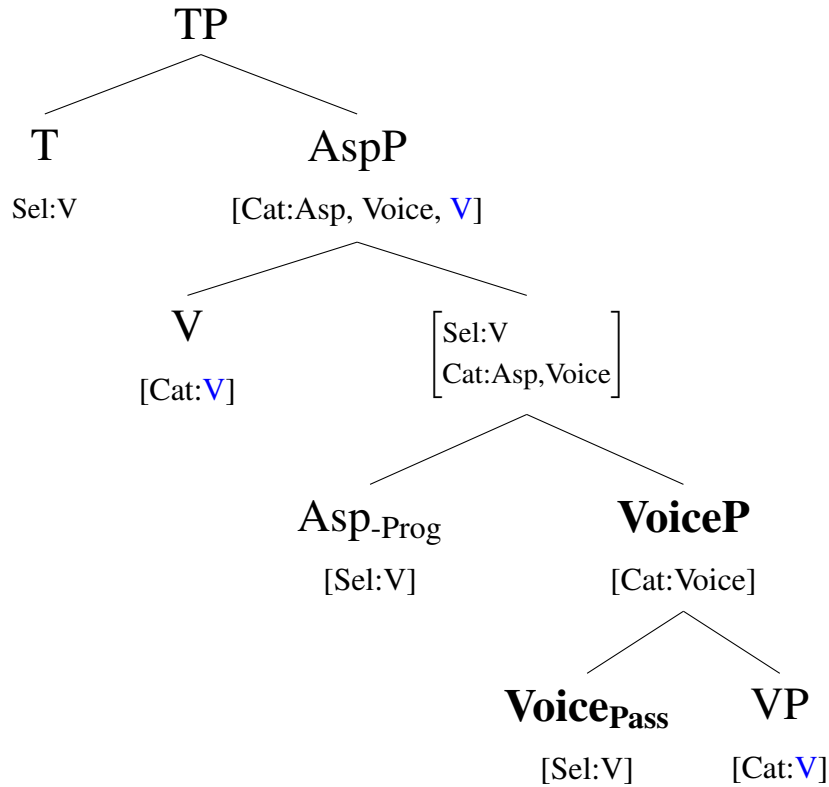
Opaque head – a head that doesn't project the Cat feature of its complement

(39) I ate.

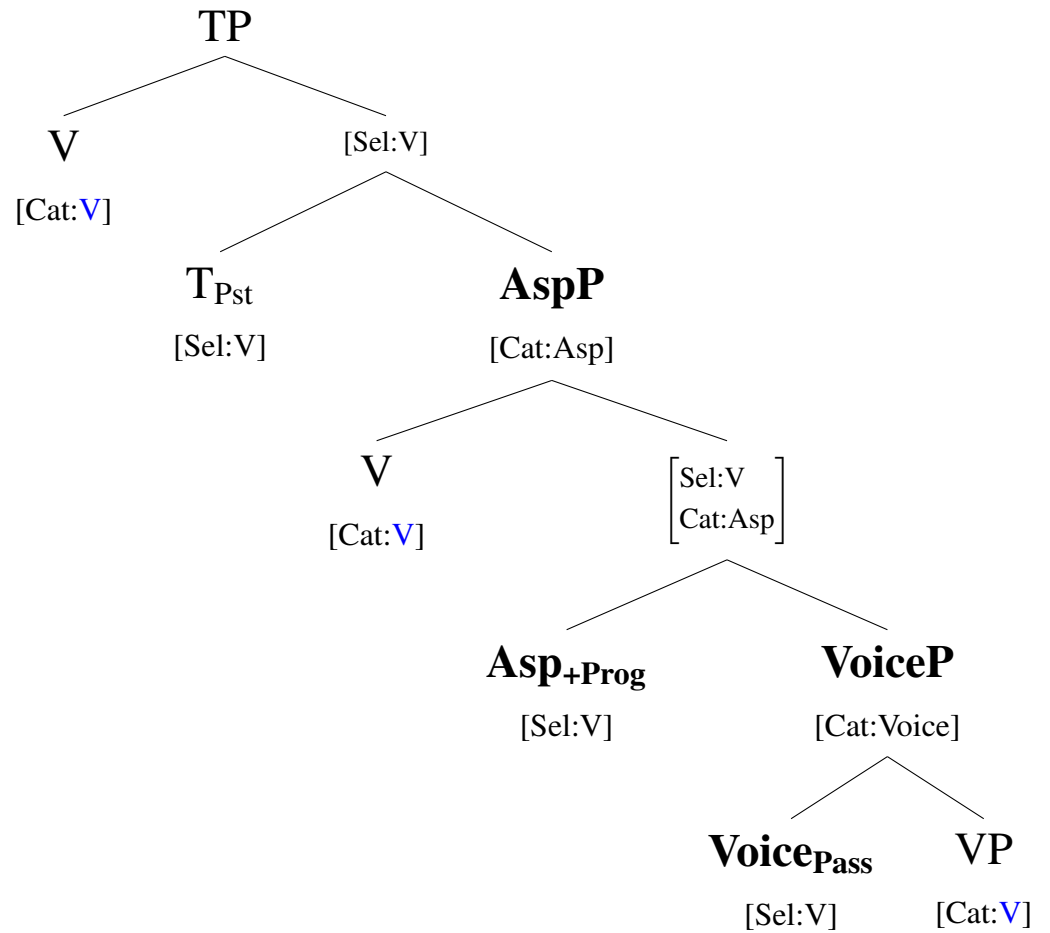
(40) I was eating.



(41) It was eaten.



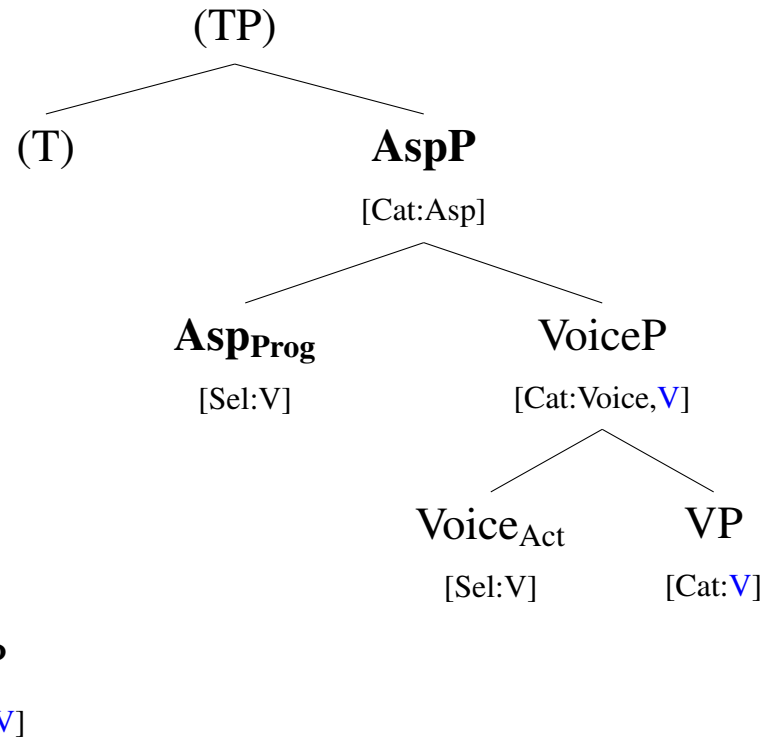
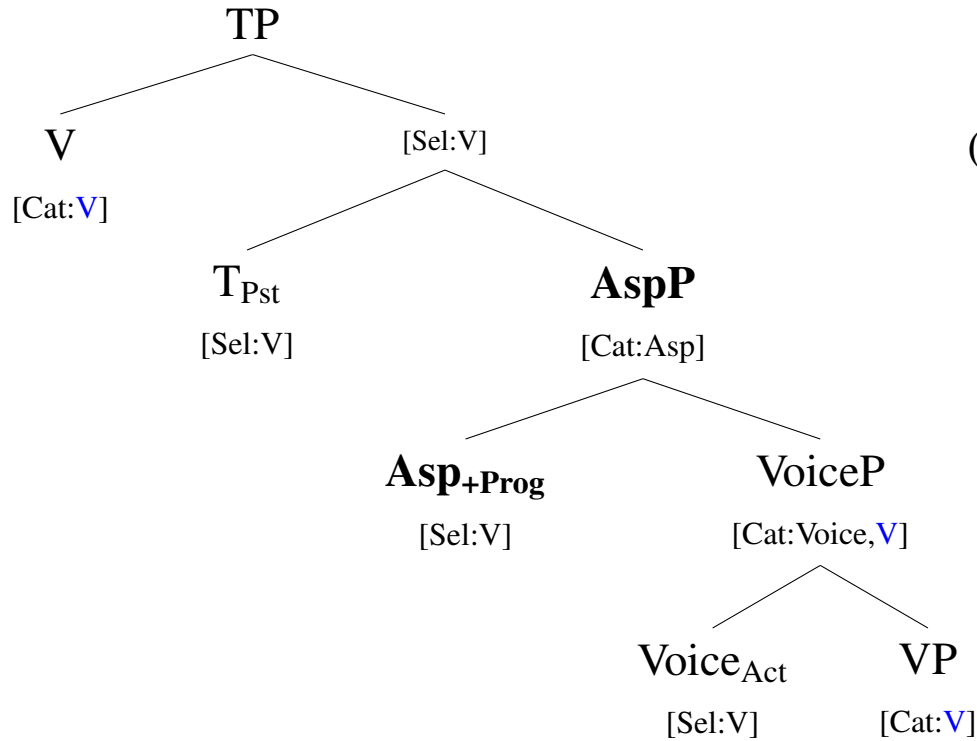
(42) It was being eaten.



The *overflow pattern* still derives from underspecification of present T:

(43) Ni-li-kuwa ni-na-soma
 1sg-PST-AUX 1sg-PROG-read
 I was reading.

(44) Ni-∅-na-soma
 1sg-PRES-PROG-read
 I am reading.



The *last-resort profile* is a consequence of cyclic application of operations.

(45) A Cyclic Agree paradigm

a. Object accessible → agreement with object

g-xatav

2sg-draw

‘I draw you’

b. Object accessible → agreement with subject impossible

***v**-xatav

1sg-draw

Intended: ‘I draw you’

c. Object inaccessible → agreement with subject required

v-xatav

1sg.s-draw

‘I draw him’

(Georgian, data from Halle & Marantz 1993:117)

The *last-resort profile* is a consequence of cyclic application of operations.

(46) A Cyclic Selection paradigm

a. Main V accessible \rightarrow checking by main V (synthesis)

She work-s.

b. Main V accessible \rightarrow checking by Aux V (periphrasis) impossible

*She i-s work.

c. Main V inaccessible \rightarrow checking by Aux (periphrasis) required

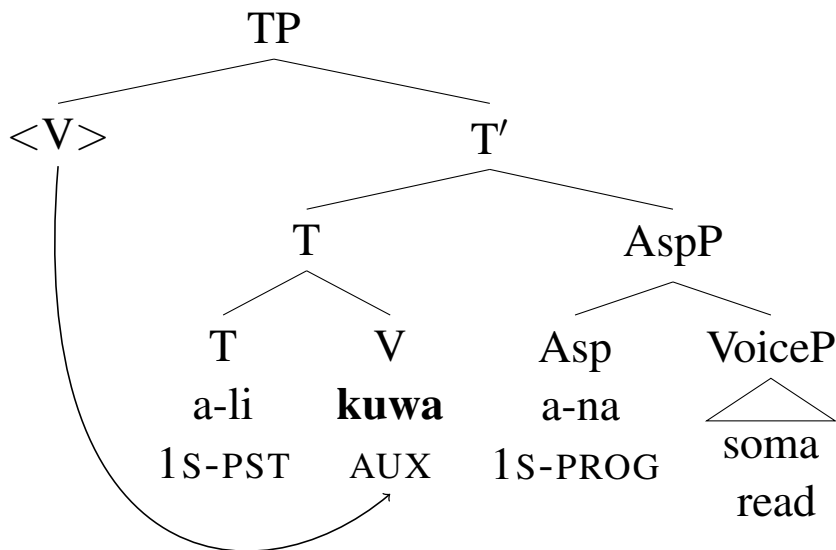
She i-s work-**ing**.

The auxiliary is **a head in a specifier position** – a configuration obtained by certain types of head movement (Kayne, 1991; Fukui & Takano, 1998; Toyoshima, 2001; Matushansky, 2006; Vicente, 2007; Harizanov, 2019)

- V internally merged in Spec,TP: V-to-T head movement
- V externally merged in Spec,TP: Auxiliary "insertion"

→ Both followed by *m-merger* with the selecting/attracting head (Matushansky 2006)

(47) *M-merger* of an auxiliary (Swahili Past Progressive)



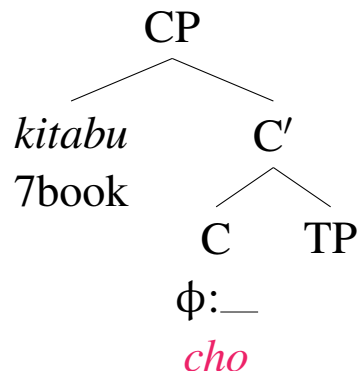
Summary

- Both the overflow pattern and last-resort are compatible with base-generation if auxiliaries are selected cyclicly as specifiers.
 - Overflow is a consequence of featural underspecification (lack of Sel:V in present tense T)
 - Last-resort profile is a consequence of cyclicity of operations
- Advantages
 - no need to posit and define "stranded inflection"
 - no extra insertion operation
 - answer to why the "repair" is the appearance of an extra V: it's selection for V

Upcoming: Further argument that auxiliaries are merged in a Spec position.

5 Swahili relative clauses: an argument for auxiliary merge in a spec position

In Swahili, the relative C always agrees with the relativized NP.



Option 1: The agreement affix is attached to a complementizer

Option 2: The agreement affix is attached to T that head-moves to C

(Kinyalolo 1991; Ngonyani 1999; Demuth & Harford 1999; Henderson 2003; Ngonyani 2006)

- (48) *kitabu* [_{CP} *amba-cho* *a-li-ki-soma*]
 7book COMP-C7 1S-PST-7o-read
 ‘the book that he read’

Relative clause with a COMP

- (49) a. *kitabu* [_{CP} *a-li-cho-* *ki-soma*]
 7book 1S-PST-C7- 7o-soma
 ‘the book that he read’

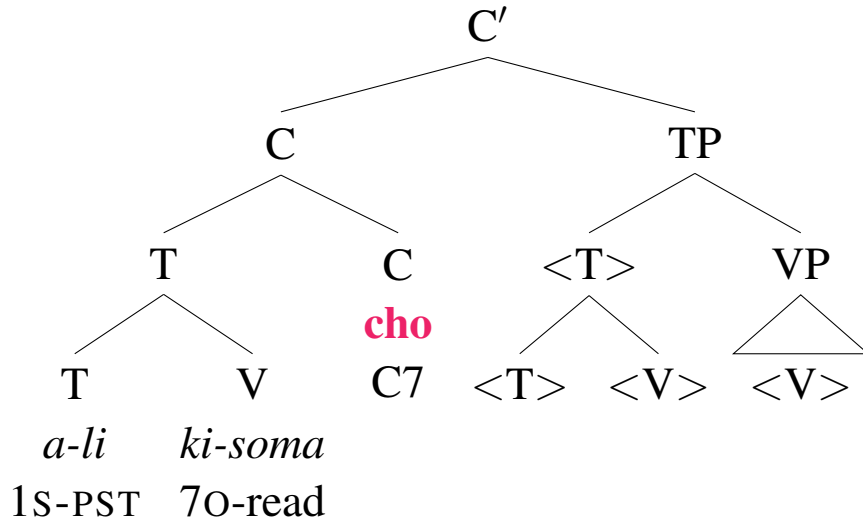
Relative clause with T-to-C movement

- b. **kitabu* [_{CP} *a-li-ki-soma-cho*]
 7book 1S-PST-7O-soma-C7

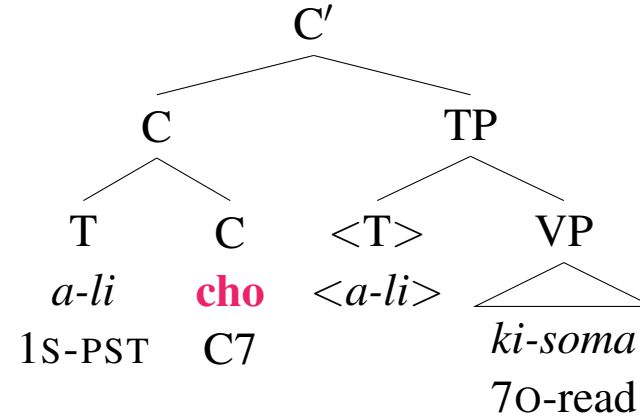
Traditional account: T-to-C movement strands V behind because there is no V-to-T movement

(Buell 2002; Henderson 2003; Ngonyani 1999, 2006; Pietraszko 2018)

V-to-T-to-C head movement:



No V-to-T, only T-to-C:



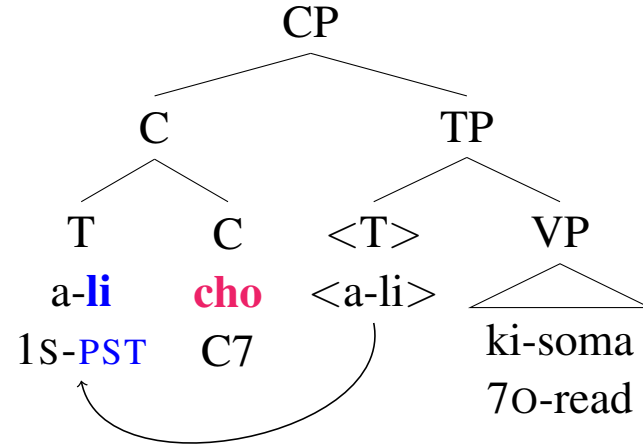
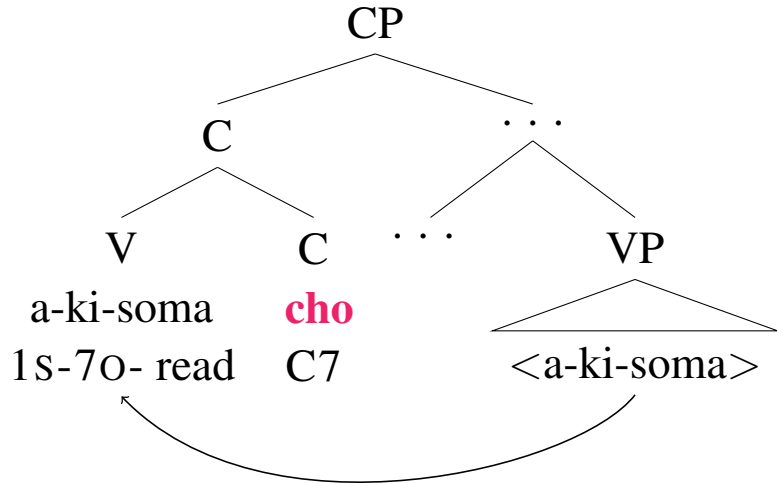
(50) *kitabu [_{CP} a-li-ki-soma-**cho**]
 7book 1S-PST-7O-soma-C7
 ('the book that he read')

(51) kitabu [_{CP} a-li-**cho**- ki-soma]
 7book 1S-PST-C7- 7o-soma
 'the book that he read'

Additional evidence: actual V-to-C movement looks different

(52) *Reduced (tenseless) relative clause*
 kitabu [_{CP} a-ki-soma-**cho** <a-ki-soma>]
 7book 1S-7O-read-C7
 ‘the book that he reads’

(53) *Tensed relative clause*
 kitabu [_{CP} a-**li-cho**- ki-soma]
 7book 1S-**PST**-C7- 7o-soma
 ‘the book that he read’



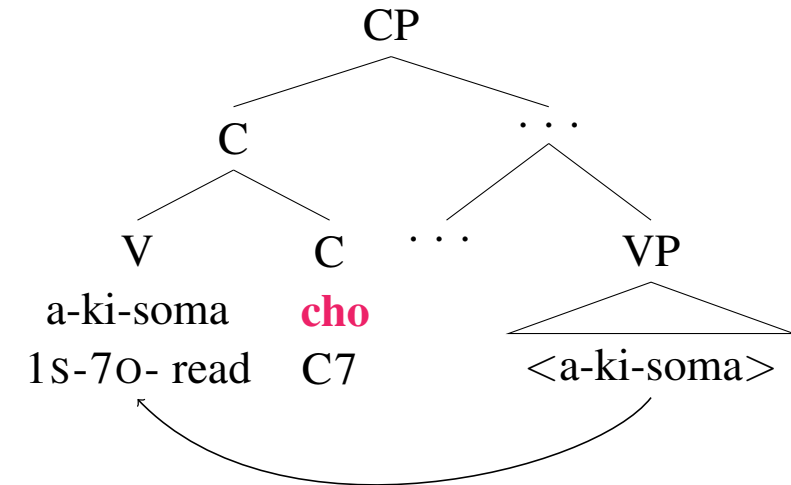
OBSERVATION: When V does move to C, it is linearized to its left.

CONCLUSION: V in tensed relatives does **not** move to C.

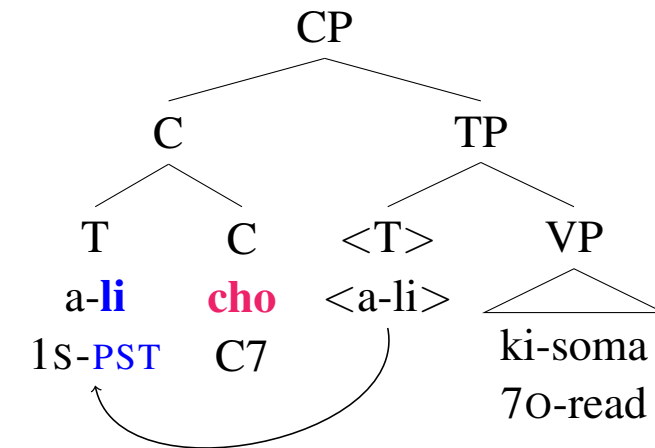
Corroborating evidence from prosody (based on Barrett-Keach 1986; Ngonyani 1999, 2006; Henderson 2003)

- Swahili has penultimate stress
- In reduced relatives, V and C form one stress domain
- In tensed relatives, T and C form one stress domain, to the exclusion of V

(54) *Reduced (tenseless) relative clause*
 (a.ki.so.'ma.cho)_ω



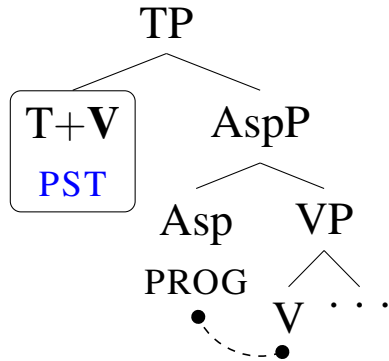
(55) *Tensed relative clause*
 (a.'li.cho)_ω (ki.'so.ma)_ω → a.'li.cho.ki.'so.ma



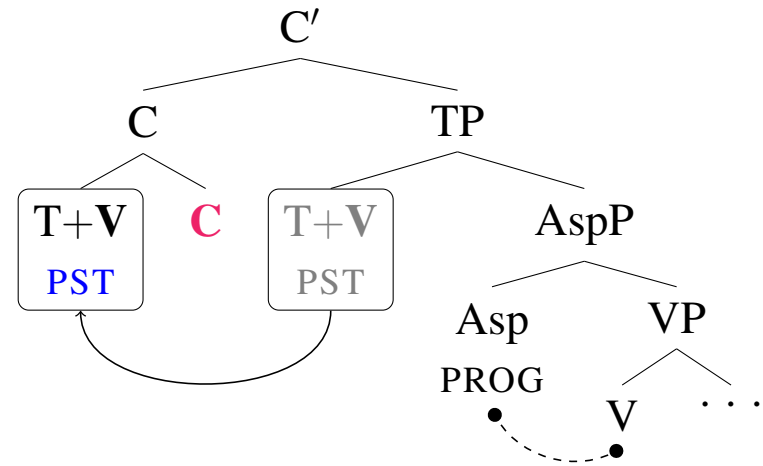
A verb that doesn't move to C: **doesn't invert with it and forms a separate stress domain**

T-to-C movement in compound tenses

The Insertion Approach predicts the auxiliaries supporting tense should invert with C



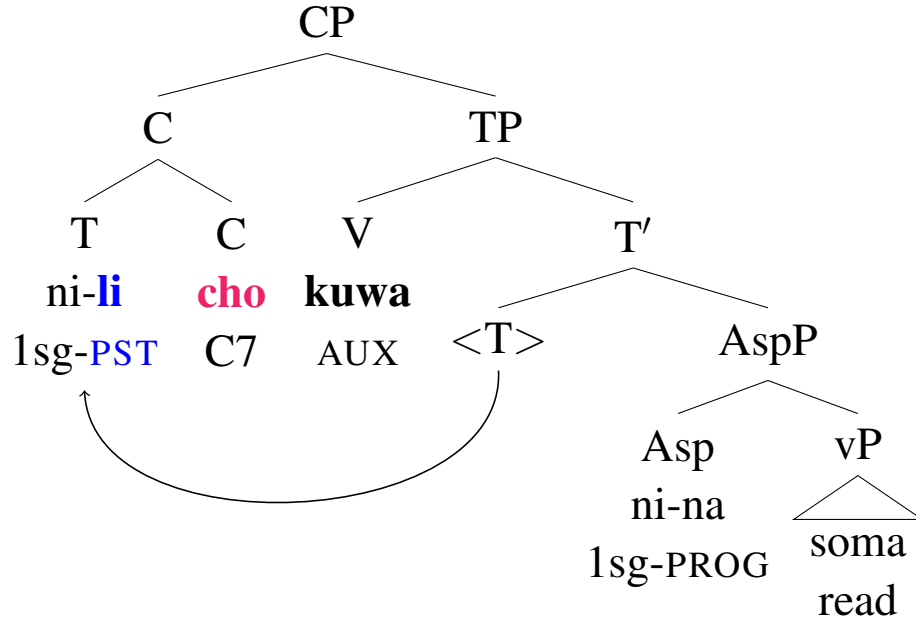
- (56) Ni-**li-kuwa** ni-na-soma.
 1SG-**PST-AUX** 1SG-PROG-read
 ‘I was reading’



- (57) *kitabu [_{CP} ni-**li-kuwa-cho** ni-na-soma]
 7book 1SG-**PST-AUX-C7** 1SG-PROG-read
 ‘the book that I was reading’

Auxiliaries behave like verbs that do not move to T or C.

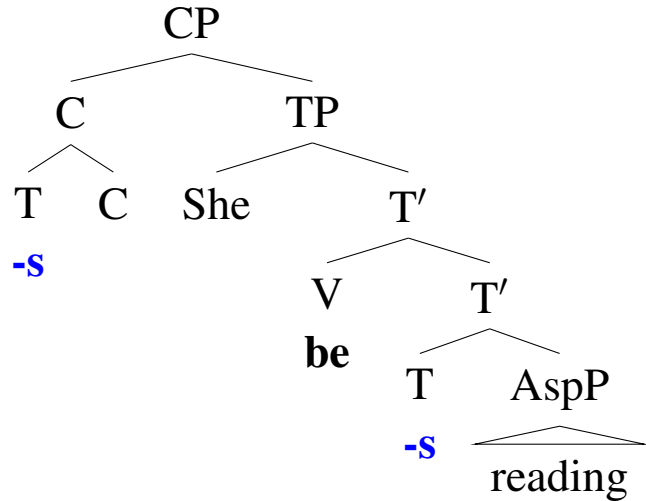
(58) kitabu [CP (ni-**li-cho-**)_ω ('**kuwa**)_ω ni-na-soma]
 7book 1SG-PST-C7- AUX 1SG-PROG-read
 'the book that I was reading'



→ Aux-to-T m-merger is bled by T-to-C movement

No such bleeding occurs in English

*



(59) *Do-**es** she **be** reading?

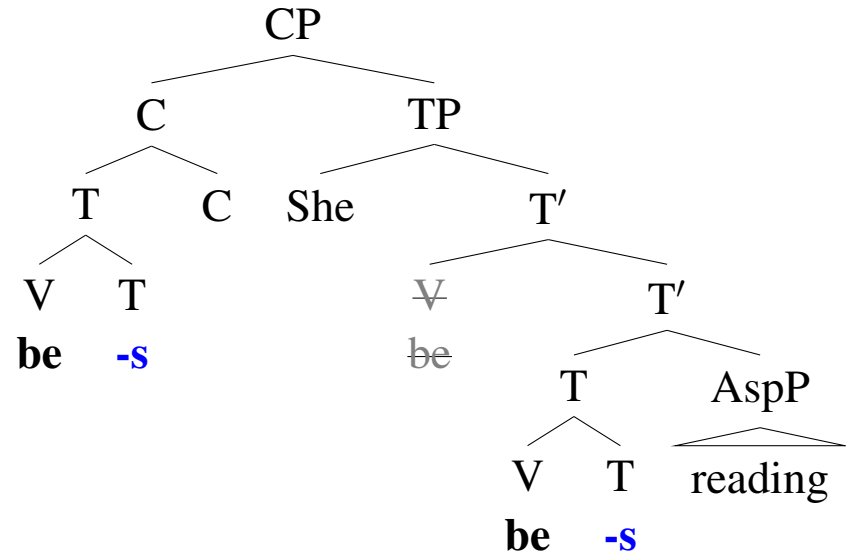
Possible accounts of the variation:

- i. different ordering of operations in the two languages
- ii. m-merger feeds T-to-C movement in both languages but does so postsyntactically

(Harizanov & Gribanova, 2019; Arregi & Pietraszko, 2018, 2021)

Either way, **the auxiliary in Swahili cannot be inserted in T directly.**

Aux-to-T m-merged feeds T-to-C HM



(60) **I-s** she reading?

Summary and conclusion

- Default periphrasis is cyclic selection of a V via regular, selection-triggered Merge
- Unlike the insertion approach, this analysis
 - doesn't need to define "stranded inflection"
 - doesn't need an insertion operation
 - explains why an extra V "repairs" an inflectional "overflow"
 - account for the independence of T and the auxiliary in Swahili
- Unlike the traditional base-generation approach, the cyclic selection analysis derives
 - last-resort profile
 - overflow pattern of periphrasis

References

- Abney, S. P. (1987). *The English noun phrase in its sentential aspect*. PhD thesis, Massachusetts Institute of Technology.
- Adger, D. (2010). A minimalist theory of feature structure. In *Features: Perspectives on a key notion in linguistics*. Oxford University Press.
- Adger, D. & Svenonius, P. (2011). Features in minimalist syntax. *The Oxford handbook of linguistic minimalism*, (pp. 27–51).
- Arregi, K. (2000). Tense in Basque. *Ms., MIT*. Available at <http://uiuc.edu/~karlos>.
- Arregi, K. & Klecha, P. (2015). The morphosemantics of past tense. In *Proceedings of the 45th conference of the North East Linguistics Society*.
- Arregi, K. & Pietraszko, A. (2018). Generalized head movement. In *Proceedings of the Linguistics Society of America Annual Meeting*, volume 3, Article 4 (pp. 1–15).
- Arregi, K. & Pietraszko, A. (2021). The ups and downs of head displacement. *Linguistic Inquiry*, 52(2), 241–289.
- Bach, E. (1967). Have and be in English syntax. *Language*, (pp. 462–485).
- Barrett-Keach, C. N. (1986). Word-internal evidence from Swahili for AUX/INFL. *Linguistic Inquiry*, (pp. 559–564).
- Béjar, S. & Rezac, M. (2009). Cyclic Agree. *Linguistic Inquiry*, 40(1), 35–73.
- Bjorkman, B. A. M. (2011). *BE-ing default: The morphosyntax of auxiliaries*. PhD thesis, MIT.

- Buell, L. (2002). Swahili *amba*-less relatives without head movement. *UCLA working papers in linguistics*, 8(86–106).
- Calabrese, A. (2019). Morphophonological investigations: A theory of pf. from syntax to phonology in Italian and Sanskrit verb forms. Ms. University of Connecticut.
- Cinque, G. (1998). ‘Restructuring’ and the order of aspectual and root modal heads. *University of Venice, Working Papers in Linguistics*, 8, 113–140.
- Cinque, G. (1999). *Adverbs and Functional Heads: A Crosslinguistic Perspective*. New York, NY: Oxford University Press.
- Cinque, G. (2001). “Restructuring” and functional structure. *University of Venice working papers in linguistics*, 11, 45–127.
- Cowper, E. (2005). The geometry of interpretable features: Infl in English and Spanish. *Language*, 81(1), 10–46.
- Cowper, E. (2010). Where auxiliary verbs come from. In *Proceedings of the 2010 annual conference of the Canadian Linguistic Association*.
- Déchaine, R.-M. (1993). *Predicates across categories: Towards a category-neutral syntax*. PhD thesis, University of Massachusetts, Amherst.
- Déchaine, R.-M. (1995). One *be*. *Linguistics in the Netherlands*, 12(1), 73–88.
- Demuth, K. & Harford, C. (1999). Verb raising and subject inversion in Bantu relatives. *Journal of African Languages and Linguistics*, 20, 41–62.

- Embick, D. (2000). Features, Syntax, and Categories in the Latin Perfect. *Linguistic Inquiry*, 31(2), 185–230.
- Emonds, J. E. (1978). The verbal complex V'-V in French. *Linguistic Inquiry*, 21, 49–77.
- Fenger, P. (2019). Size matters: auxiliary formation in the morpho-syntax and morpho-phonology. In *Proceedings of the North Eastern Linguistic Society 49*.
- Fenger, P. (2020). *Words within Words: The Internal Syntax of Verbs*. PhD thesis, University of Connecticut.
- Fukui, N. & Takano, Y. (1998). Symmetry in syntax: Merge and demerge. *Journal of East Asian Linguistics*, 7, 27–86.
- Grimshaw, J. (1991). Extended projections. Brandeis University, Ms.
- Grimshaw, J. (2000). Locality and extended projection. *Amsterdam Studies in the Theory and History of Linguistic Science Series*, 4, 115–134.
- Halle, M. & Marantz, A. (1993). Distributed Morphology and the pieces of inflection. In K. Hale & S. J. Keyser (Eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger* (pp. 111–176). Cambridge, MA: MIT Press.
- Harizanov, B. (2019). Head movement to specifier positions. *Glossa*, (pp. Art. 140).
- Harizanov, B. & Gribanova, V. (2019). Whither head movement? *Natural Language and Linguistic Theory*, 37, 461–522.
- Harley, H. & Ritter, E. (2002). Person and number in pronouns: A feature-geometric analysis. *Lan-*

- guage*, (pp. 482–526).
- Henderson, B. M. (2003). PF Evidence for Phases and Distributed Morphology. In K. Moulton & M. Wolf (Eds.), *Proceedings of the 34th Annual Meeting of the North East Linguistic Society* (pp. 255–265). Amherst: GLSA.
- Hoffman, R. (1966). Past tense replacement and the modal system. In A. Oettinger (Ed.), *Mathematical linguistics and automatic translation*. Cambridge, MA: Harvard University, Harvard Computation Laboratory.
- Huddleston, R. (1974). Further remarks on the analysis of auxiliaries as main verbs. *Foundations of language* 11:215–229., 11, 215–229.
- Kayne, R. S. (1991). Romance clitics, verb movement, and PRO. *Linguistic Inquiry*, 22(4), 647–686.
- Keine, S. (2019). Selective opacity. *Linguistic Inquiry*, 50, 13–61.
- Kinyalolo, K. (1991). *Syntactic Dependencies and the Spec-Head Agreement Hypothesis in KiLega*. PhD thesis, UCLA.
- Matushansky, O. (2006). Head movement in linguistic theory. *Linguistic Inquiry*, 37(1), 69–109.
- McCawley, J. (1988). *The syntactic phenomena of English*. Chicago: University of Chicago Press.
- Ngonyani, D. (1999). X-movement in Kiswahili relative clause verbs. *Linguistic Analysis*, 29(1-2), 137–159.
- Ngonyani, D. (2006). Attract F and verbal morphology in Kiswahili. *The Linguistic Review*, 23(1), 37–68.

- Pietraszko, A. (2016). The syntax of simple and compound tenses in Ndebele. *Proceedings of the Linguistics Society of America Annual Meeting*, 1(18), 1–15.
- Pietraszko, A. (2017). *Inflectional Dependencies: A study of complex verbal expressions in Ndebele*. PhD thesis, The University of Chicago.
- Pietraszko, A. (2018). Auxiliary vs INFL in Bantu. The syntactic and phonological complexity of Ndebele verbs. *Natural Language and Linguistic Theory*, DOI: 10.1007/s11049-017-9373-0, 36(1), 265–308.
- Pollock, J.-Y. (1989). Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry*, (pp. 365–424).
- Ramchand, G. & Svenonius, P. (2014). Deriving the functional hierarchy. *Language Sciences*, 46, 152–174.
- Rezac, M. (2003). The fine structure of Cyclic Agree. *Syntax*, 6, 156–182.
- Roberts, I. (1998). Have/be raising, Move F, and procrastinate. *Linguistic Inquiry*, 29, 113–125.
- Ross, J. R. (1967). *Constraints on variables in syntax*. PhD thesis, Massachusetts Institute of Technology.
- Ross, J. R. (1969). Auxiliaries as main verbs. *Studies in Philosophical Linguistics 1:77–102.*, 1, 77–102.
- Schütze, C. (2003). When is a verb not a verb? *Nordlyd*, 31, 400–415.
- Svenonius, P. (1994). C-selection as feature checking. *Studia Linguistica*, 48(2), 133–155.

- Tenny, C. L. (1987). *Grammaticalizing aspect and affectednes*. PhD thesis, Massachusetts Institute of Technology.
- Toyoshima, T. (2001). Head-to-spec movement. In G. M. Alexandrova & O. Arnaudova (Eds.), *The minimalist parameter*, number 115–136. John Benjamins.
- Vicente, L. (2007). *The syntax of heads and phrases: a study of verb (phrase) fronting*. Doctoral dissertation, University of Leiden, Leiden.

An attempt at a base-generation analysis of the overflow pattern in Swahili

(61) ni-li-**kuwa** ni-na-soma
1SG-**PST-AUX** 1SG-**PROG**-read
'I was reading'.

(62) ni-ta-**kuwa** ni-na-soma
1SG-**FUT-AUX** 1SG-**PROG**-read
'I will be reading'.

(63) ni-∅-na-soma
1SG-**PRES-PROG**-read
'I am reading'.

(64) a. Asp: [Sel:VP_{ing}]

b. T_{Past}: [Sel:VP or AspP]

c. T_{Fut}: [Sel:VP or AspP]

d. T_{Pres}: [Sel:VP or VP_{ing}]