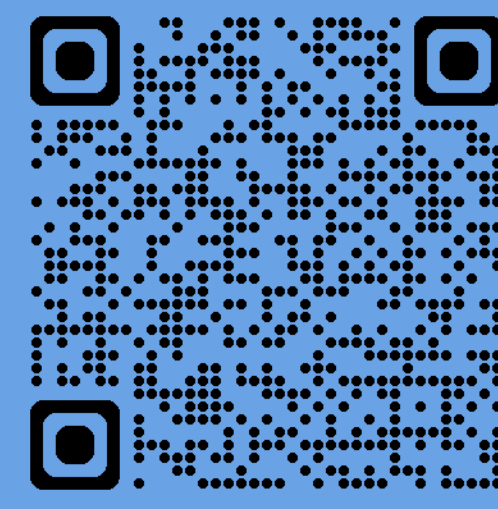


Scrambling in the nominal domain: On constituent order flexibility in Chichewa DP

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1. Background: Order Flexibility in Chichewa DP

- DPs in Chichewa (Bantu N.31) are (i) noun-initial (Mchombo 2004:24), and (ii) the modifiers following the noun may occur in any order (Downing & Mtenje 2017:27):
 - a. *zipéwá iizi zitáatu zázíkúulu* [N>Dem>Num>Adj]
8.hats 8.these 8.three 8.big
 - b. *zipéwá zitáatu iizi zázíkúulu* [N>Num>Dem>Adj]
 - c. *zipéwá zitáatu zázíkúulu iizi* [N>Num>Adj>Dem]
 - d. *zipéwá iizi zázíkúulu zitáatu* [N>Dem>Adj>Num]
 - e. *zipéwá zázíkúulu iizi zitáatu* [N>Adj>Dem>Num]
 - f. *zipéwá zázíkúulu zitáatu iizi* [N>Adj>Num>Dem]
'these three big hats' (data are from personal fieldnotes if no reference is given)
- All orders in (1) allow for contrastive focusing of any element in the sequence, e.g., if we have a question like (2), which is answered with (3) in a way that puts a contrastive focus on one of the modifiers, any of the word orders in (1) can be used regardless of which modifier is focused.
 - kodí u=ná=gúla zipéwá iizo zitáatu zázíkúulu?*
Q 2P.SG=PST=buy 8.hats 8.those 8.three 8.big
'did you buy those three big hats?'
 - íyaayi, ndi=ná=gúla* _____
no 1P.SG=PST=buy 'no, I bought THESE three big hats' [(1a–f) all okay]
- The linear order in Chichewa DP is thus independent from considerations of information structure.

2. Core Proposal

- Chichewa DPs involve (i) N-to-D movement and (ii) DP-internal scrambling of nominal modifiers.
- Scrambling**, generally discussed as a clause-level phenomenon, also exists **in the nominal domain**.
 - Despite the surface flexibility, there is a c-commanding hierarchy (which mirrors the merge order) that maps to a left-to-right linear order (à la Kayne 1994, Cinque 2005).
 - The hierarchy Dem>Num>Adj>N is a universal one (Cinque 2005, Abels & Neeleman 2012).
 - The noun in Chichewa undergoes **N-to-D head movement** (which is responsible for the strict N-initiality of DP; see Carstens 1991, 1997).

- (*zipéwá zitáatu zónyela*
8.hats 8.three 8.white
'three white hats')
- The modifiers in specifier positions agree with the noun via downward probing; the noun thus always shares its phi-features with its modifiers, manifested directly by concord morphology.
- The reverse N>Adj>Num order involves the adjective being scrambled over the numeral.
 - The landing site of scrambling is an independent projection, labeled simply as FP as in (5).
 - The most crucial assumption is that there is **no Spec-head relation** between F° and *zónyela* 'white' in SpecFP, following Fukui (1993), Saito & Fukui (1998), and Saito (2003, 2004): the lack of Spec-head agreement is a defining property of scrambling.

- (*zipéwa zónyela zitáatu*
8.hats 8.three 8.white
'three white hats')

3. Dataset I: Novel Data on N'-ellipsis

- While under the Num>Adj order, the numeral can license ellipsis of the adjective, the adjective cannot license ellipsis of the numeral under the reverse Adj>Num order (other types of modifiers show parallel asymmetries).
 - Both (7a) and (7b) can naturally follow (6). While (7a) implies that Chikondi bought three white hats, (7b) only implies that Chikondi bought any number of white hats, not necessarily three:

 - mávúuto a=ná=gúla zipéwá zónyela zitáatu / zipéwá zitáatu zónyela ...*
1.Mavuto 1SM=PST=buy 8.hats 8.white 8.three 8.hats 8.three 8.white
'Mavuto bought three white hats ...' (the DP-internal order here does not matter)
 - a. *...cikondú=nso a=ná=gúla zitáatu*
1.Chikondi=also 1SM=PST=buy 8.three
lit. 'Chikondi also bought three' (implication: Chikondi bought **three white hats**)
 - b. *...cikondú=nso a=ná=gúla zónyela*
1.Chikondi=also 1SM=PST=buy 8.white
lit. 'Chikondi also bought white' (implication: Chikondi bought **white hats**)

 - (7a) involves N'-ellipsis, as represented in (8); (7b) does not involve ellipsis.

 - $[_{DP} [_{YP} zitátu] [_{XP} zónyela zipéwa]]$

- Lasnik (1999): certain cases of head movement that normally must take place do not occur if the head of concern is part of an elided phrase (e.g., sluicing: *–Mary will see someone –Who? cf. *–Who will?.*). Similarly, N-to-D is canceled in (8).

4. Accounting for Dataset I

- Assuming that ellipsis of a phrase XP requires agreement between a head Y and the specifier of Y, Y c-commanding XP (Lobeck 1990, Saito & Murasugi 1990), the asymmetry between adjectives and numerals is captured as Num>Adj is base generated, while Adj>Num results from scrambling.
 - => N'-ellipsis possible
(✓Spec-head agreement)
- In (10), *zónyela* 'white' is base generated in SpecMod₂P and then undergoes scrambling to SpecFP, c-commanding Mod₁P. Since the movement in question involves scrambling, there is no Spec-head agreement hence N'-ellipsis cannot be licensed:
 - *

=> N'-ellipsis not possible
(NO Spec-head agreement)

5. Dataset II: Asymmetry in Hybrid Concord

- A number of Chichewa nouns morphologically belong to a certain noun class while they semantically show properties typical of a different noun class.
 - For example, *ngwazi* 'hero' is morphologically of noun classes 9/10, whereas the default noun classes for human nouns are classes 1/2.
 - Hybrid nouns can trigger either morphological or semantic concord with their modifiers.

 - a. *ngwazi yáthú yóyáamba* c. *ngwazi yáthú wóyáamba*
9.hero 9.our 9.first 9.hero 9.our 1.first
 - b. *ngwazi wáthú wóyáamba* d. **ngwazi wáthú yóyáamba*
9.hero 1.our 1.first 9.hero 1.our 9.first
'our first hero' (Corbett 1991:239)

 - Interestingly, there can be a mismatch when a hybrid noun takes two modifiers: it is possible for one modifier to show morphological concord and the other to show semantic concord (11c).
 - However, a gap exists: the modifier that is more distant to the noun *cannot* show morphological concord if the other modifier closer to the noun shows semantic concord (11d).

- Linear order does not play a role in the asymmetry (12):
 - a. ?*ngwazi yóyáamba yáathu* c. ?*ngwazi wóyáamba yáathu*
9.hero 9.first 9.our 9.hero 1.first 9.our
 - b. ?*ngwazi wóyáamba wáathu* d. **ngwazi yóyáamba wáathu*
9.hero 1.first 1.our 9.hero 9.first 1.our 'our first hero'
 - (12) in fact reflects the base-generated Adj>Poss order (the possessive in Bantu is base generated low, at SpecnP, in the structure; see Carstens 2020).

6. Accounting for Dataset II

- Corbett 1979, 1991: Agreement hierarchy (targets = probes; controllers = goals):
 - When stacked targets of a given controller stand in different agreement forms, the further target will show semantic agreement. (Corbett 1991:239)
- (13) may be understood derivationally, in terms of the timing of the Agree process:
 - A goal cannot induce morphological concord if it has triggered semantic concord earlier in the derivation. [Scan the above QR code for more detailed discussion]
- (11–12) are directly captured by the scrambling account; take (11b&d) as an example:
 - => Cycle 3 (scrambling) [no effect on concord]
- (13/14) is calculated solely on the base-generated positions of the noun and the modifiers. Scrambling does not affect the pattern as a new relation between SpecFP and F° is *not* established.

7. Concluding Remarks

- The N-to-D head movement *plus* scrambling account captures neatly (i) the flexible constituent order, (ii) asymmetry in N'-ellipsis, and (iii) the hybrid concord pattern in Chichewa DP.
- Although scrambling is widely attested cross-linguistically, the discussions generally concern constituent order at the clausal level. The current study can be taken as evidence that scrambling exists also within DP; nothing seems to prevent scrambling from occurring DP-internally.