

DP Splits, *Wh*-in-Situ, and Lower Copy Pronunciation in Chichewa

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1. Introduction

- This talk examines the status of (i) object partial dislocation (henceforth PD) (1), and (ii) *wh*-in-situ (2) in Chichewa. I will argue that both cases involve the pronunciation of a lower copy.
 - In (1), the entire DP *mbúzi zákúda* ‘black goats’ moves in syntax, but at PF, only part of the highest copy (i.e., *mbúzi*) is phonologically realized, while the other part *zákúda* is pronounced in-situ, immediately after the verb. That is, (1) involves scattered deletion.
 - Though the *wh*-object in (2) stays in-situ, I argue that it in fact moves in syntax, but at PF, it is the low, postverbal copy that is pronounced.

(1) **Partial dislocation of the object**¹

m-búuzi a-tsíkána á=m-fúumu a=a=gul-á zákúuda
10-goats 2-girls 2.ASSOC=9-chief 2SM=PERF=buy-FV 10.black
lit. ‘goats, the chief’s girls have bought black [ones]’ (Mchombo 2006; adapted²)

(2) ***Wh*-in-situ**

m-kángó u=ku=sáúts-á yaani?
3-lion 3SM=PRES=bother-FV who
‘who is the lion bothering?’ (Mchombo 2004)

- Though pronouncing a lower copy is in principle possible under the copy theory of movement (Chomsky 1993, 1995), it must be a highly restrictive option.
 - It has been often assumed that PF requires the pronunciation of only the highest copy, while the phonological features of all lower copies are deleted (see Franks 1998). This is illustrated in (3), where (3a) is the only option of pronunciation:

- (3) a. [the student] was arrested [~~the student~~]
b. *~~[the student]~~ was arrested [the student]
c. *~~[the student]~~ was arrested [~~the student~~]
d. *~~[the student]~~ was arrested [the ~~student~~]

- Lower copy pronunciation is possible only if the default pronouncing-the-highest-copy option is ruled out, for independent PF reasons (Bošković 2001; Nunes 2004; Bošković & Nunes 2007, among others).
- Bošković 2002 observes that in Romanian, a multiple *wh*-fronting language (4), the second *wh*-phrase does not appear to move if it would create a consecutive homophonous sequence **ce ce* with the first fronted *wh*-phrase (5).

¹ I follow Downing and Mtenje’s 2017 system in transcribing Chichewa data. The tones reflect the system of the Ntcheu variety of Chichewa. Note the penult vowel of a ϕ -phrase-final word is automatically lengthened (indicated as vowel doubling), as reflected in all Chichewa examples.

² Chichewa examples in this paper are solely from elicitation notes if no reference is given. Data from the literature are also confirmed by my own fieldnotes.

(4) a. cine ce precede?
 who what precedes

b. *cine precede ce?
 who precedes what

(5) a. *ce ce precede?
 what what precedes

b. ce precede ce?
 what precedes what (Romanian)

- He argues that the second *ce* nevertheless moves in (5b) in narrow syntax; the apparently in-situ *ce* is in fact the pronunciation of a lower copy as shown in (6). It is a low-level PF constraint excluding (5a) (i.e., to avoid a *ce ce* sequence) that makes (5b) possible.

(6) ce ce precede ce

- The lower *ce* in (5b) licenses parasitic gaps, as in (7) (notice the literal English translation is ungrammatical):

(7) ce precede ce fără să influențeze?
 what precedes what without SUBJ.particle influence.3P.SG
lit. ‘*what precedes what without influencing?’

(Bošković 2002)

- Regarding Chichewa PD (1) and *wh*-in-situ (2), I will show that it is indeed a low-level PF constraint that forces (part of) a low copy to be pronounced. The discussion thus offers us a restrictive theory on lower copy pronunciation in general.

2. DP splits in Chichewa

2.1. The basic pattern

- Chichewa (Bantu N31) is an SVO language (8a) with its DPs strictly N-initial (9a).

(8) a. n-júuchi zi=ná=lúm-a a-leenje [✓ SVO]
 10-bees 10SM=PST-bite-FV 2-hunters
 ‘the bees bit the hunters.’

b. *a-leenje n-júuchi zi=ná=lúm-a [✗ OSV]
 2-hunters 10-bees 10SM=PST-bite-FV (Bresnan & Mchombo 1987)

(9) a. a-tsíkána á=m-fúumu a=a=gul-á m-búzi zákúuda [✓ V>N>Mod]
 2-girls 2.ASSOC=9-chief 2SM=PERF=buy-FV 10-goats 10.black
 ‘the chief’s girls have bought black goats’

b. *m-búzi zákúuda a-tsíkána á=m-fúumu a=a=guúl-á [✗ N>Mod>V]
 10-goats 10.black 2-girls 2.ASSOC=9-chief 2SM=PERF=buy-FV
 intended: black goats, the chief’s girls have bought’

c. *zákúuda a-tsíkána á=m-fúumu a=a=gul-á m-búuzi [✗ Mod>V>N]
 10.black 2-girls 2.ASSOC=9-chief 2SM=PERF=buy-FV 10-goats

d. m-búuzi a-tsíkána á=m-fúumu a=a=gul-á zákúuda [✓ N>V>Mod]
 10-goats 2-girls 2.ASSOC=9-chief 2SM=PERF=buy-FV 10.black

- (10) a. *ci-thúunzi cá=óphunziila ndi=ná=péz-á
 7-picture 7.ASSOC=1.student 1P.SG=PST=find-FV
 intended: ‘the/a picture of the student, I found’
- b. *cá=óphunziila ndi=ná=péz-á ci-thúunzi
 7.ASSOC=1.student 1P.SG=PST=find-FV 7-picture
- c. ci-thúunzi ndi=ná=péz-á cá=óphunziila
 7-picture 1P.SG=PST=find-FV 7.ASSOC=1.student

- First, dislocating the entire object DP results in ungrammaticality (8b) & (9a) (Bresnan & Mchombo 1987; Mchombo 2004).
- Second, when the noun is modified (i.e., the DP includes more than one word), partially dislocating this object DP is possible, but this is so only if the original N-initial order is kept.
 - Mchombo 2006: ‘discontinuity ... seems to require preservation of the ‘base’ order.’
 - I would like to add that the type of the modifier (e.g., adjectives, possessives, numerals, etc.) does not affect the PD pattern (9) & (10).

2.2. PD involves movement

- I now show that Chichewa DP splits involve syntactic movement (i.e., they do not involve a base-generated hanging topic in the left periphery), because they are sensitive to island effects (11–13).
- (11) *vúuto cikoondi a=ná=péz-á yankho [li-méné lí=ma=kónz-á
 5.problem 1.Chikondi 1SM=PST=find-FV 5.answer 5-COMP 5SM=HAB=solve-FV
lá=kale lii-ja]
 5.ASSOC=old 5-that
 intended: ‘Chikondi found an answer which solves that old problem’ [complex DP]
- (12) *gálimooto ndi=ma=wéléng-a búukhu [n-thawi i-méné mavúto
 5.car 1P.SG=HAB=read-FV 5.book 9-when 9-that 1.Mavuto
 a=ná=gúnd-a lá=kale]
 1SM=PST=crash-FV 5.ASSOC=old
 intended: ‘I was reading a book when Mavuto crashed the old car’ [adjunct]
- (13) *muu-nthu [ku=ímb-il-a wá-m-kúlúu=yo] ndí=kósávúuta
 1-person INF=call-APPL-FV 1-1-old=that COP=not.hard
 intended: ‘to call that old person is easy’ [sentential subject]

- However, (11–13) do not tell us which part is moving.
 - A what-you-see-is-what-you-get approach would say that PD involves extraction of the initial NP (assuming that NP moves into SpecDP; c.f., Branan & Davis 2022). However, it is often argued that Bantu N-initiality results from N-to-D head movement (Carstens 1991; 2008; 2010; Zeller 2013; Carstens 1997 proposes N-to-D specifically for Chichewa); if this is so, the noun does not even form a phrasal constituent by itself. It is then unclear how it can undergo LBE.

2.3. Scopal properties of DP splits

- As shown in (14a) & (15a), the universal quantifier *ónse* 'all' can take either narrow scope or wide scope with respect to negation:

- (14) a. sí=ndí=na=ón-é a-phunzitsi ónse mu=kaláasi
 NEG=1P.SG=PST=see-FV 2-teachers 2-all 18=5.classroom
lit. 'I didn't see all teachers in the classroom.' [✓ NEG>∀; ✓ ∀>NEG]
- b. a-phunziitsi sí=ndí=na=ón-é ónse mu=kaláasi
 2-teachers NEG=1P.SG=PST=see-FV 2-all 18=5.classroom [✗ NEG>∀; ✓ ∀>NEG]
- (15) a. sí=ndí=na=ón-é a-phunzitsi ónse á=nzéélú mu=kaláasi
 NEG=1P.SG=PST=see-FV 2-teachers 2-all 2.ASSOC=10.intelligence 18=5.classroom
lit. 'I didn't see all intelligent teachers in the classroom.' [✓ NEG>∀; ✓ ∀>NEG]
- b. a-phunziitsi sí=ndí=na=ón-é ónse á=nzéélú mu=kaláasi
 2-teachers NEG=1P.SG=PST=see-FV 2-all 2.ASSOC=10.intelligence 18=5.classroom
 [✗ NEG>∀; ✓ ∀>NEG]
- c. a-phunzitsi ónse sí=ndí=na=ón-é á=nzéélú mu=kaláasi
 2-teachers 2-all NEG=1P.SG=PST=see-FV 2.ASSOC=10.intelligence 18=5.classroom
 [✗ NEG>∀; ✓ ∀>NEG]

- Interestingly, when the object DP is partially dislocated, even if *ónse* 'all' is still pronounced in situ, it can no longer take narrow scope (14b).
- (15b) further confirms this observation; in addition, (15c) shows that the surface position of *ónse* 'all' simply does not play a role in determining its scope, as long as PD happens, i.e., *ónse* 'all' obligatorily scopes over negation as long as it is a part of a split DP.
 - Again, essentially, this is unexpected under a what-you-see-is-what-you-get approach.

2.4. Blocking PD

- We have seen in subsection 2.1 that it is normally not possible to dislocate a Chichewa object DP entirely, while they can undergo PD.
 - However, this is not always the case:

- (16) a. galási lá=lí-kúlú iili kankhaa=ni
 5.glass 5.ASSOC=5-big 5.this push=PL
 'please push this big glass'
- b. *galási kankhaa=ni lá=lí-kúlú iili
 5.glass push=PL 5.ASSOC=5-big 5.this
- (17) a. mavúuto a=ná=kónz-a liiti gálimoto lá=tsópaánó?
 1.Mavuto 1SM=PST=fix-FV when 5.car 5.ASSOC=new
 'when did Mavuto fix the new car?'
- b. gálimoto lá=tsópaánó mavúuto a=ná=kónz-a liiti
 5.car 5.ASSOC=new 1.Mavuto 1SM=PST=fix-FV when

c. *gálimooto mavúuto a=ná=kónz-a liiti lá=tsópaáno
 5.car 1.Mavuto 1SM=PST=fix-fv when 5.ASSOC=new

- Total dislocation (TD) of the object turns out to be possible and natural in (16a) & (17b). Crucially, it is exactly in these cases where PD becomes not possible, (16b) & (17c).
- In both (16) & (17), an intervening element occurs immediately after the verb complex.
 - =Ni in (16) is an enclitic expressing politeness towards the addressee in imperatives (it is glossed as PL since it is also used to mark (2nd person) plural objects in declaratives).
 - As in (17), a *wh*-adjunct in Chichewa can optionally move into the so-called Immediately After the Verb (IAV) position and form a ϕ -phrase with the verb complex.
- To summarize, TD and PD are in complementary distribution.
- TD becomes impossible (i.e., PD becomes possible) exactly when the internal argument of a verb *could have* occurred immediately after the verb complex.
 - The complementary distribution of TD and PD clearly needs an explanation.
 - Also notice that it is cross-linguistically very rare for a language to have PD of the object while ruling TD out. Normally, if a language allows the object to split (e.g., traditional LBE), it also allows dislocation of the entire object (e.g., (18a) implies (18b), but not vice versa).

(18) a. koju Jovan mrzi knjigu? b. koju knjigu Jovan mrzi?
 which Jovan hates book which book Jovan hates (Serbo-Croatian)

3. The island sensitivity of Chichewa *wh*-in-situ

- Chichewa shows an interesting subject/object asymmetry that subject *wh*-words cannot occur in situ (they must be clefted) while object *wh*-words normally do.
- However, Chichewa is different from ‘canonical’ *wh*-in-situ languages like Chinese/Japanese in that its *wh*-objects are sensitive to island effects.

(19) *mu=ná=kúman-a ndí=mú-nthu [a-méné á=ma=phuzíts-á ci-yáani]?
 2P.PL=PST=meet-FV with=1-person 1-COMP 1SM=HAB=teach-FV 7-what
 “*what did you meet a person who teaches ~~what~~?” [complex DP]

(20) * [ku=ímb-il-a ndaáni] ndí=kósávúuta
 INF=call-APPL-FV who COP=not.hard
 “*whom is to call ~~whom~~ easy?” [sentential subject]

(21) *mavúuto a=ná=gúl-a gálimooto [ci-fukwá w=a=mang-a ci-yáani]?
 1.Mavuto 1SM=PST=buy-FV 5-car 7-for.reason 1SM=PERF=build-FV 7-what
 “*what did Mavuto buy a car because he built ~~what~~?” [adjunct]

- Note that, Kikuyu, another Bantu language, is claimed to also show island effects with regard to in-situ *wh*-objects (see Bergvall 1983; note however that other *wh*-in-situ Bantu languages may not behave like this (Vicki Carstens p.c.)).
- The contrast between Chichewa and Chinese/Japanese (where *wh*-in-situ is normally not sensitive to island effects) suggests that *wh*-objects in Chichewa in fact move in narrow syntax.

4. Towards a unified analysis

4.1. The non-finality of transitive verbs and ARG- ϕ

- We can now make the generalization that if a verb is transitive in Chichewa, it must form a prosodic phrase with its complement that immediately follows it.
- Following Clemens's 2014, 2016 study of pseudo noun incorporation in Niuean, I propose the following PF constraint in Chichewa, which states that head-argument pairs are preferably pronounced together.

(22) **Argument condition on phonological phrasing** (ARG- ϕ)

A head and its internal argument must be adjacent sub-constituents of a ϕ -phrase if they share phi-features.

- Transitive verbs in Chichewa phi-agree with the object, as exemplified by the presence of an object marker (OM) in (23).

(23) mi-káango i=ku=**zi**=saak-a zi-gawéenga
 4-lions 4SM=PRES=8OM-hunt-FV 8-terrorists
 'the lions are hunting them, the terrorists'

(adapted from Mchombo 2004)

- Note that OMs have been analyzed as pronominal clitics in Chichewa (Bresnan & Mchombo 1987). I assume here clitic doubling also involves Agree (Baker 2018; Deal 2024, to appear).
- (22) is a PF condition that specifically holds between the transitive verb and the object DP. Though syntax is free from PF considerations, PF operations may have access to syntactic properties.
- We are now immediately able to explain why (24b) & (25b) are ruled out. Even if the object DPs in these cases undergo syntactic movement, according to ARG- ϕ (22), they must be pronounced in-situ and form a ϕ -phrase with the verb stem.
 - Particularly, the *wh*-object in (25b) undergoes movement (this is obligatory since we have seen that *wh*-objects are island sensitive), but it is the lower, in-situ copy that is pronounced.

(24) a. n-júuchi zi=ná=lúm-a **a-leenje** (=8a)
 10-bees 10SM=PST-bite-FV 2-hunters
 'the bees bit the hunters.'

b. ***a-leenje** njúuchi zi=ná=lúm-a (=8b)
 2-hunters 10.bees 10SM=PST-bite-FV

(Bresnan & Mchombo 1987)

(25) a. m-káángó u=ku=sáúts-á **yaani**? (=2)
 3.lion 3SM=PRES=bother-FV who
 'who is the lion bothering?'

(Mchombo 2004)

b. ***yaani** m-káángó u=ku=sáúts-á?
 who 3.lion 3SM=PRES=bother-FV

- Note that intransitive verbs in general do not phi-agree with the internal argument (if there is one, as in unaccusatives; see Mchombo 2004) and can occur ϕ -phrase-finally quite freely (26–28).

(26) a-tsíkána a=ku=viin-a [unergative]
 2-girls 2SM=PRES=dance-FV
 'girls are dancing in the room.'

(27) n-joovu i=náa=gw-a [lexical unaccusative]
 9-elephant 9SM=PST=fall-FV
 'an elephant fell'

(28) ma-úungu a=ku=phik-iidw-a [passive]
 6-pumpkins 6SM=PRES=cook-PASS-FV
 'the pumpkins are being cooked'

(adapted from Mchombo 2004)

- There is independent evidence that ditransitive verbs in Chichewa (as an 'asymmetric' language) only agree with the indirect object (see Bresnan & Moshi 1990; Alsina & Mchombo 1993; Ngonyani 1998; Mchombo 2004; Van der Wal 2022).
- One may then predict that in ditransitives only indirect objects are subject to ARG- ϕ (22). As in (29), this is borne out.

(29) a. ndi=na=páts-á cikondi_{IO} búukhu_{DO}
 1P.SG=PST=give-FV 1.Chikondi 5.book
 'I gave Chikondi a book'

b. búukhu_{DO} ndi=na=pats-a cikoondi_{IO}
 5.book 1P.SG=PST=give-FV 1.Chikondi

c. *?cikoondi_{IO} ndi=na=pats-a búukhu_{DO}
 1.Chikondi 1P.SG=PST=give-FV 5.book

4.2. Deriving partial dislocation

- Recall the PD paradigm (9), repeated here as (30), from subsection 2.1:

(30) a. a-tsíkána á=mfúumu a=a=gul-á m-búzi zákúuda [\checkmark V>N>Mod]
 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV 10-goats 10.black
 'the chief's girls have bought black goats'

b. *m-búzi zákúuda a-tsíkána á=mfúumu a=a=guúl-á [\times N>Mod>V]
 10-goats 10.black 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV
 intended: 'black goats, the chief's girls have bought'

c. *zákúuda a-tsíkána á=mfúumu a=a=gul-á m-búuzi [\times Mod>V>N]
 10.black 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV 10-goats

d. m-búuzi a-tsíkána á=mfúumu a=a=gul-á zákúuda [\checkmark N>V>Mod]
 10-goats 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV 10.black

- ARG- ϕ (22) excludes the TD case (30b), as expected, but it by itself says nothing regarding the contrast between (30c) & (30d). As observed by Mchombo 2006, PD needs to keep the 'original' N-initial order of the object DP (30d).
- To account for this, I propose that the PF condition (22) works derivationally within the multiple spell-out framework (Uriagereka 1999; Chomsky 2000). For current purposes, I further assume that

the ν P phase itself, rather than the complement of ν (as standardly assumed), is sent to spell-out (Bošković 2016, 2017; Cecchetto & Donati 2022).

- One reason for this is that ϕ -phrases seem to correspond to syntactic phases (i.e., ν P/CP), though perhaps in an indirect way (see Kanerva 1990; Cheng & Downing 2016; Downing 2010; Downing & Mtenje 2011, 2017 for discussion particularly on phonological phrasing in Chichewa; see Bošković 2016 for discussion in a broader cross-linguistic perspective).
- That is, (22) becomes effective at the point of ν P is sent to spell-out. Take a simple case (8b), repeated here as (31), for example:

(31) *a-lenje n-júuci zi=ná=luum-a a-lenje
 2-hunters 10-bees 10SM=PST=bite-FV 2-hunters
 intended: '(the) hunters, (the) bees bit' (Bresnan & Mchombo 1987)

- Suppose an element to be extracted from a phase has to move to the edge of that phase first, in the current case being Spec ν P. At the point of the spell-out of ν P, the structure of (31) will be like (32):

(32) [_{ν P} alenje_i luma alenje_i]

(33) a. [_{ν P} alenje_i luma alenje_i]
 b. [_{ν P} alenje_i luma alenje_i]

- Now, PF examines the phonological features of (the copies of) *alenje* 'hunters'. As we have already suggested, ideally, it is the phonological features of the highest copy that survives (Franks 1998; Nunes 2004; Bošković & Nunes 2007).
- However, the option (33a) is excluded by (22). A preverbal lexical DP is not able to form a ϕ -phrase with the verb following it. Due to the agglutinative nature and the prefixal/proclitic preference of Chichewa/Bantu, what can occur preverbally and form a ϕ -phrase with the verb stem should always be a prefix/proclitic.
- Proclitic objects do occur preceding the verb stem (though they are not able to move further after cliticization) (34) (see also (23)):

(34) njúuci zi=ná= [_{macrostem} wá=luum-a]
 10.bees 10SM=PST= 2OM=bite-FV
 'the bees bit them.'

- As a result, (33b) is chosen, but the surface form it derives is just the same as that where the movement has never occurred, so it is hard, if not impossible, to detect it.

- Now we are ready to examine cases with DP splits.

(35) [_{ν P} cithúnzi cá=óphunzila_i] pezá cithúnzi cá=óphunzila_i]
 picture of=student find picture of=student

(36) [_{ν P} cithúnzi cá=óphunzila_i] pezá cithúnzi cá=óphunzila_i]

(37) a. *[_{ν P} cithúnzi cá=óphunzila_i] pezá [_{ν P} cithúnzi cá=óphunzila_i]
 b. [_{ν P} cithúnzi cá=óphunzila_i] pezá [_{ν P} cithúnzi cá=óphunzila_i]
 c. *[_{ν P} cithúnzi cá=óphunzila_i] pezá [_{ν P} cithúnzi cá=óphunzila_i]

- Bošković 2002 argues that when determining whether a higher/lower copy is pronounced when a PF violation requires a lower copy pronunciation, the structure is scanned left-to-right, with the decision of which copy to pronounce made locally, without look-ahead.
- The PF interface will first decide where to pronounce the left piece, namely *cithúnzi* ‘picture’ in (35). Assuming that PF prefers pronunciation of the highest copy, we get (36) (as an intermediate step of derivation).
- Then the next piece *cá=óphunzila* ‘of student’ is scanned. At this point, it is no longer possible to choose the pronouncing-the-highest-copy option, since that will essentially give (37b) and violate ARG- ϕ (22). In this case (37c) becomes the only available option: the lower piece of *cá=óphunzila* is phonologically realized and PD is derived, as expected.
- This way, a structure like (37d) is not considered at any point at PF. We thus explain why (30c) is ruled out, i.e., why PD in Chichewa must keep the ‘original’ order of a DP.

4.3. On the complementary distribution of TD and PD

- We have seen from subsection 2.4 that PD is not always possible in Chichewa: it is ruled out exactly when TD, which normally results in ungrammaticality, becomes possible.
- The complementary distribution of TD and PD is unexpected under a what-you-see-is-what-you-get approach, but it is directly captured by the current scattered deletion account.
 - If pronouncing the highest copy (which gives TD) is allowed for whatever reason, it must be done, and the alternative PD option is ruled out at PF.
 - I now show that good TD cases (e.g., (16a) & (17b)) are exactly those where the proposed PF condition (22), namely ARG- ϕ , does not apply.

(38) [_{VP} galási lá=líkúlú ili_i kankha=ni galási lá=líkúlú ili_i]
 glass of=big this open=PL glass of=big this

(39) a. [_{VP} galási lá=líkúlú ili_i kankha=ni galási lá=líkúlú ili_i]
 b. * [_{VP} galási lá=líkúlú ili_i kankha=ni galási lá=líkúlú ili_i]

(40) [_{VP} gálimoto lá=tsópanó_i kónza liti gálimoto lá=tsópanó_i]
 car of=new fix when car of=new

(41) a. [_{VP} gálimoto lá=tsópaánó_i kónza liti gálimoto lá=tsópanó_i]
 b. * [_{VP} gálimooto lá=tsópanó_i kónza liti gálimoto lá=tsópaánó_i]

- In (38) & (40), although the verb and its complement may have been adjacent when they merge in the first place, they are no longer adjacent at the point of ν P spell-out, when ARG- ϕ (22) comes into play.
- I argue (22) will only become active if a copy of the internal argument is adjacent to the agreeing verb, i.e., (22) will not lead to ungrammaticality if simply no copy of the object can satisfy it. Consequently, (39a) & (41a) are selected.
- Another way to formulate this is to say that ARG- ϕ (22) is a violable constraint. It may be violated if there is some other constraint whose violation would be more costly than violating (22). In (40–41) for example, that a *wh*-adjunct may occur in the so-called IAV position and form a ϕ -phrase with the verb stem may be a PF phenomenon (IAV under this view is not a syntactically dedicated position).

- Notice that ‘high’ clitics do not change the PD pattern.

(42) a. *ci-thúnzi cá=óphunziila ndi=ku=yáng’án-aa=bé/=nsó
 7-picture 7.ASSOC=1.student 1P.SG=PRES=look.for-FV=still/=also
 intended: ‘the/a picture of the student, I am still/also looking for’

b. ci-thúnzi ndi=ku=yáng’án-aa=bé/=nsó cá=óphunziila
 7-picture 1P.SG=PRES=look.for-FV=still/=also 7.ASSOC=1.student

- Assuming that =bé/=nsó cliticize only *after* vP is spelled out, (42a/b) indicates that ARG- ϕ (22) indeed works in a cyclic, derivational way.

4.4. Scattered deletion and scopal relations

- All cases of scattered deletion, or lower copy pronunciation in general, may involve some sort of syntax-phonology or semantic-phonology mismatch, since pronouncing (part of) a lower copy is purely a PF phenomenon and does not affect the formal features and semantic features of the element.
 - That is, we now have a natural account of the scopal property of the universal quantifier *ónse* ‘all’ in PD cases (see (15b&c) in [section 2.3](#), repeated here as (43a&b)).

(43) a. a-phunziitsi sí=ndí=na=ón-é ónse á=nzéélú mu=kaláasi
 2-teachers NEG=1P.SG=PST=see-FV 2-all 2.ASSOC=10.intelligence 18=5.classroom
 [✗ NEG>V; ✓ V>NEG]

b. a-phunzitsi ónse sí=ndí=na=ón-é á=nzéélú mu=kaláasi
 2-teachers 2-all NEG=1P.SG=PST=see-FV 2.ASSOC=10.intelligence 18=5.classroom
 [✗ NEG>V; ✓ V>NEG]

(44) a. aphunziitsi ónse á=nzéélú sí=ndí=na=óné aphunzitsi ónse á=nzéélú mu=kaláasi
 ↑ interpreted at LF

b. aphunzitsi ónse á=nzéélú sí=ndí=na=óné aphunzitsi ónse á=nzéélú mu=kaláasi
 ↑ interpreted at LF

5. Concluding remarks

- Two phenomena in Chichewa, (i) discontinuous DP objects and (ii) in-situ wh-objects that surprisingly show island sensitivity, have been examined carefully in this study.
- The patterns concerned can only be captured by a lower copy pronunciation account.
 - In PD cases, the whole object DP undergoes topicalization, but pronouncing it in the highest copy as a whole will violate ARG- ϕ (22), a low-level PF constraint, so as a last resort, part of the moving element is pronounced low.
 - Though they occur in situ, Chichewa *wh*-objects in fact move in narrow syntax (thus manifesting island effects). The postverbal, in-situ realization of *wh*-objects is forced by ARG- ϕ (22).
- The lower copy pronunciation approach is supported by the scopal properties of the quantifier *ónse* ‘all’, which can take both wide and narrow scope in the object position but only allows the wide scope reading if the apparently in-situ quantifier is part of a DP split.

- In summary, though under the copy theory of movement, what is left behind by a moved element is a copy of the element itself, and is in principle pronounceable, such pronunciation but be highly restrictive, to avoid overgeneration problems. The current study further illustrates this idea; it shows how PF affects word order with syntax still completely free from PF conditions. All cases of lower copy pronunciation have been shown to be constrained by independent PF conditions.
- Cross-linguistically, discontinuous nominals are not uncommon, and they may receive different analyses in different languages or constructions: certainly not all of them involve full extraction *plus* scattered deletion, which is just one possibility allowed by a fine-grained copy theory (see Bošković 2005; Talić 2019; Clem & Dawson 2024, among others, for ‘true’ sub-extraction analysis of discontinuous nominals in other languages). All such cases need to be tested carefully on empirical grounds.
- Nevertheless, the current sort of analysis (i.e., lower copy pronunciation) in recent years has been proposed for different languages/constructions, by different researchers (see Bošković 2001; Fanselow & Ćavar 2002; Wilson & Murphy 2022; Bondarenko & Davis 2023, among others), but not all of them have tried to confine lower copy pronunciation under a restrictive theory. Unconstrained proposals need to be reexamined carefully.

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