Discontinuous DPs, *Wh*-in-Situ, and Lower Copy Pronunciation in Chichewa*

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Abstract. This paper offers a lower copy pronunciation account of two underexplored issues in Chichewa: *wh*-in-situ and discontinuous DPs. First, it is shown that Chichewa *wh*-in-situ is island-sensitive, and thus is best analyzed as a hidden case of *wh*-movement in narrow syntax, with the lower, postverbal copy of the *wh*-element pronounced. Second, discontinuous object DPs involve total dislocation of the entire object in syntax; at PF, the phonological features of its copies are deleted in a distributed manner, resulting in surface discontinuity. The study provides novel empirical evidence that supports the conceptually desirable idea that, for reasons of modularity, lower copy pronunciation is conditioned solely by PF factors, since it is shown that lower copy pronunciation in Chichewa, which is identified in both *wh*-in-situ and DP splits, results from a PF requirement. The requirement in question is further suggested to be associated with the residual conjoint/disjoint alternation in Chichewa syntax, which is not easy to see since the disjoint marker got lost morphologically, as a result of a diachronic change.

keywords: Chichewa, copy theory of movement, discontinuous DP, *wh*-in-situ, the conjoint/disjoint alternation

1 Introduction

1.1 The Copy Theory of Movement and Lower Copy Pronunciation

Since the copy theory of movement was incorporated into the syntactic theory with Chomsky 1993, 1995, it has been generally accepted that what is left behind by a moved element is not a trace, but a copy of the moved element. It is also often assumed that the phonological and semantic features of all but one copy of the moved element are deleted at the interfaces. On the PF side, where the phonological (P-) features are dealt with, the standard assumption is that the deletion is highly restrictive: by default, only the P-features of the highest copy survive. This idea is empirically well-motivated, e.g., (1a) is the only possibility in (1):

(1) a. $[_{DP}$ The student $]_i$ was arrested $[_{DP}$ ~~the student~~ $]_i$.

b. * $[_{DP}$ ~~The student~~ $]_i$ was arrested $[_{DP}$ the student $]_i$.

c. * $[_{DP}$ The student $]_i$ was arrested $[_{DP}$ the student $]_i$.

d. * $[_{DP}$ The ~~student~~ $]_i$ was arrested $[_{DP}$ ~~the~~ student $]_i$.

e. * $[_{DP}$ ~~The~~ student $]_i$ was arrested $[_{DP}$ the ~~student~~ $]_i$.

Importantly, it has been argued in this line of research that, if the default, pronouncing-the-highest-copy option is ruled out for independent reasons, realizing P-features of a lower copy (e.g., cases parallel to (1b–1e)) may in principle be possible (Franks 1998; Bošković 2001; Nunes 2004, among others). Since conceptually, deciding on P-features of which copies to delete is a process that happens at PF, conditions on lower copy pronunciation, if it is possible, should be stated in PF terms; LF or narrow syntax should not play a role (see Bošković & Nunes 2007 for a thorough literature review). Otherwise, non-trivial modularity problems may arise.

While unexpected under the traditional trace theory, cases of lower copy pronunciation are indeed attested. One clear example from Romanian is discussed in Bošković 2002:

(2) a. Cine ce precede?
who what precedes

b. * Cine precede ce?
who precedes what
'Who precedes what?'

(3) a. * Ce ce precede?
what what precedes

b. Ce precede ce?
what precedes what
'What precedes what?'

As illustrated in (2), Romanian is a multiple *wh*-fronting language: all *wh*-elements obligatorily move to the left periphery of a clause. However, if the movement would create a consecutive homophonous sequence **ce ce* as in (3), multiple fronting is ruled out (3a); instead, the lower *wh*-phrase may occur in situ as shown in (3b). Bošković (2002) proposes that the second *ce* nevertheless moves in (3b) in narrow syntax; the apparently in-situ *ce* is in fact a P-realization of a lower copy. It is a low-level PF constraint that excludes (3a) (i.e., a ban on the sequence of homophonous elements) which makes (3b) possible:

(4) Ce ~~ce~~$_i$ precede ce$_i$? [PF Condition: *ce ce]
what what precedes what

That is, it is solely PF that is responsible for the pattern in (3). Furthermore, there is direct evidence that the lower *ce* in (3b) indeed moves in narrow syntax: it licenses parasitic gaps. This is illustrated in (5). Notice that the literal English translation is ungrammatical:

(5) Ce precede ce fără să influenţeze?
what precedes what without SUBJ.particle influence.3P.SG
lit. '*What precedes what without influencing?' (Bošković 2002:374)

A question that naturally arises here is if the pronouncing-the-highest-copy option is excluded for PF reasons and there is more than one alternative to consider because the element of concern involves more than one phonological piece, which option would be chosen by the grammar. Consider again (1) for ease of exposition. Imagine a grammar X where there is a single difference between English and X such that there exists some independent PF constraint that rules out (1a) in X. Which option(s) among (1b–1e), then, would one expect to be grammatical in this hypothetical grammar? I take this question to be a purely empirical one; it cannot be answered without real cases being examined, as there seems to be no a priori reason to claim that any one of these alternatives should be preferred to the others. It will become clear later that the evaluation among different P-deletion options crucially depends on what the exact PF condition is. Indeed, all possibilities parallel to (1b–1e) have been proposed in different case studies in the literature. The Romanian case (4) can be viewed as parallel to (1b), i.e., to spell out an entire lower copy at PF (rather trivially, since the element concerned involves only one independently pronounceable phonological unit—there is no competition with other options). For cases parallel to (1c), i.e., multiple P-realization of the same syntactic element, see Nunes 2004; Boeckx et al. 2007; Kandybowicz 2007, among others. Cases like (1d) and (1e) involve so-called 'distributed deletion' or 'scattered deletion' (I will use the latter term throughout): part of the moved element is pronounced in the highest copy, while the other part is pronounced lower (see, for example, Bošković 2001; Fanselow & Ćavar 2002; Bobaljik & Wurmbrand 2012; Yip et al. 2021; Bondarenko & Davis 2023; Murphy & Wilson 2025, among others). The two differ in the direction of deletion; I represent them abstractly as in the following:

(6) a. $< \cancel{X}\ Y >_i \ldots < X\ \cancel{Y} >_i$ b. $< X\ \cancel{Y} >_i \ldots < \cancel{X}\ Y >_i$

Suppose for both operations in (6), the copy on the left is the structurally higher one. Since in (6a) it is the left part of the highest copy, namely X, that is P-deleted and in (6b) the right part, namely Y, I will call the two cases leftward and rightward deletion, respectively. Bošković (2001) offers a scattered deletion account of the position of clitic clusters in Bulgarian that is similar to the (1e) case, i.e., leftward deletion, and some potential candidates for rightward deletion (cf. (1d)) can be found in works like Fanselow & Ćavar 2002 and Bošković 2015. Cross-linguistically, however, it is worth pointing out that scattered deletion appears to be not commonly identified, and proposed cases are often controversial. One should always bear in mind that a satisfactory theory of scattered deletion must be fully restrictive: again, it is only possible when the default pronouncing-the-highest-copy option is excluded for independent PF reasons, and if there is more than one logically possible alternative option of P-deletion (i.e., all the options parallel to (1b–1e)), one needs to explain why and how PF chooses one of these options, but not the others.

1.2 Main Issues in Chichewa

This paper addresses the lower copy pronunciation issue by examining the status of two intriguing phenomena in Chichewa, and discusses when and how (part of) a lower copy can be realized at PF. The first phenomenon is *wh*-in-situ. As exemplified in (7), in *wh*-questions, a *wh*-object must stay in the postverbal position (Chichewa is SVO, like most other Bantu languages); it cannot be fronted (7b):[1]

(7) a. M-kángó u=ku=sáúts-á ndaání ?
3-lion 3SM=PROG=bother-FV 1.who
'Who is the lion bothering?' (Mchombo 2004:45; adapted)[2]

b. * Ndaání m-kángó u=ku=sáuuts-a?
1.who 3-lion 3SM=PROG=bother-FV

It will be shown that Chichewa is not a 'canonical' *wh*-in-situ language like Chinese or Japanese, in that its in-situ *wh*-objects, though with some complexity to be discussed, are unexpectedly sensitive to island effects. I will argue that the *wh*-object in (7a) moves in narrow syntax; the postverbal in-situ *wh*-object is in fact a P-realization of a lower copy.

Furthermore, (7b) does not raise any problems in narrow syntax; it is ruled out by a language-particular phonological condition which states that a transitive verb without object marking cannot be followed by an unpronounced copy at PF (details will be spelled out later in the paper).

The second phenomenon to be discussed is partial dislocation of the object. (8) illustrates the basic pattern. As shown in (8b), Chichewa allows the object of a transitive clause to be partially dislocated from the base postverbal position. However, in cases where the noun takes a modifier, it is only possible to dislocate the noun; stranding the noun and fronting the modifier brings about ungrammaticality (8c). It is also important to notice that total dislocation of the object is disallowed, as shown in (8d):

(8) a. A-tsíkána á=mfúumu a=a=gul-á mbúzi zákúuda .
2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV 10.goats 10.black
'The chief's girls have bought black goats.'

b. Mbúuzi a-tsíkána á=mfúumu 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 2006:147)

c. * Zákúuda a-tsíkána á=mfúumu a=a=gul-á mbúuzi .
10.black 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV 10.goats
(Mchombo 2006:147)

d. * Mbúzi zákúuda a-tsíkána á=mfúumu a=a=guúl-á.
10.goats 10.black 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV
intended: 'Black goats, the chief's girls have bought.'

I will argue that (8b) does not involve subextraction of the noun (or the smallest projection of it) out of the object DP (contra Branan & Davis 2022); instead, it is best analyzed as being derived via scattered deletion: the whole DP moves in narrow syntax, but the postnominal adjective *zákúda* is pronounced in situ (note that using different types of modifiers, e.g., adjectives, possessives, numerals, relative clauses, etc., does not change the pattern)—this is possible exactly when the arguably preferred pronouncing-the-highest-copy option (8d) is disallowed. Again, briefly speaking for now, the PF condition which we will examine in detail requires that the postverbal copy of the object DP in (8) cannot be silent; (8d) is not derivable because the lower copy of the object DP is P-deleted entirely, violating the proposed PF condition. In addition, the condition examines the structure left to right, in a

cyclic fashion during the derivation, which will directly account for the fact that only (8b) but not (8c) can be derived (i.e., the fact that P-deletion of the dislocated object DP can only be rightward (6b); recall that Chichewa DPs are N-initial).

The paper is organized as follows. Section 2 presents the complex behavior of the discontinuous DP, showing that while it clearly involves movement, it is not the case that only the dislocated part of the DP is extracted in syntax. Section 3 examines *wh*-in-situ; it is demonstrated that, unlike in many other Bantu languages, in-situ *wh*-objects in Chichewa surprisingly show sensitivity to islands. It is also shown that Chichewa in general disallows multiple *wh*-questions, a property that is found only in *wh*-ex-situ languages. After introducing the empirical scope of the paper, a unified account is offered in sections 4–5. Section 4 proposes a PF condition that captures the intuition that transitive verbs in Chichewa are normally non-final in their domains, and argues at length that the PF condition in question further comes from the defective nature of the disjoint construction in Chichewa, which is identified as a hidden conjoint/disjoint language in syntax without the alternation being directly detectable in surface morphology. Section 5 argues that the PF condition applies cyclically during the derivation and derives all the intriguing patterns, including their distribution, presented in sections 2–3. It is shown that (i) Chichewa *wh*-in-situ is in fact concealed *wh*-fronting, with the lower copy of the *wh*-object pronounced postverbally, and that (ii) partial object dislocation in Chichewa results from topicalization of the entire object plus scattered deletion (i.e., lower copy pronunciation of some parts of the fronted element). A number of related issues are addressed, including the scopal properties of partial dislocation, and the ban on total object dislocation. What should be kept in mind throughout the discussion is the idea that lower copy pronunciation can only be conditioned by PF factors. Section 6 concludes.

2 The Discontinuity Puzzles

2.1 The Basic Paradigm

This section discusses discontinuous DPs in Chichewa. As already mentioned, the basic order of Chichewa is SVO (9a); OSV with topicalization of the object is not possible

(9b):[3]

(9) a. Njúuci zi=ná=lúm-a a-leenje .
10.bees 10SM=PST=bite-FV 2-hunters
'The bees bit the hunters.'

b. * A-leenje njúuci zi=ná=luum-a.
2-hunters 10.bees 10SM=PST=bite-FV
intended: 'The hunters, the bees bit.' (Bresnan & Mchombo 1987:744–745)

While (9b) shows that total dislocation of the object is ruled out, when the object DP involves more than one element, it is possible to dislocate the object partially. This is shown in (8). (10b) provides another acceptable example of partial dislocation of the object:

(10) a. Ndi=ná=péz-á ci-thúnzi cá=óphunziila .
1P.SG=PST=find-FV 7-picture 7.ASSOC=1.student
'I found the/a picture of the student.'

b. Ci-thúunzi ndi=ná=péz-á cá=óphunziila .
7-picture 1P.SG=PST=find-FV 7.ASSOC=1.student
lit. 'The/a picture, I found the student's.'

c. * Cá=óphunziila ndi=ná=péz-á ci-thúunzi .
7.ASSOC=1.student 1P.SG=PST=find-FV 7-picture

d. * Ci-thúnzi cá=óphunziila ndi=ná=pééz-á.
7-picture 7.ASSOC=1.student 1P.SG=PST=find-FV
intended: 'The/a picture of the student, I found.'

Here, again, total dislocation is ruled out (10d). Dislocating the modifier, rather than the noun, also causes ungrammaticality (10c): Mchombo (2006) observes that Chichewa discontinuous DPs must linearly keep the original N-initial order (10b); the unacceptable (10c) has the reversed modifier>N order.[4] Recall that the type of the modifier (a possessor in the current case) in general does not affect the dislocation pattern.[5]

2.2 Partial Dislocation Involves Movement

One may wonder whether the partial dislocation cases like (8b) and (10b) involve a hanging/aboutness topic base generated at the left periphery, as inferred by the English translation for (8b): '(as for) goats, the chief's girls have bought black ones.' I will show that DP splits do involve syntactic movement. Evidence comes from island effects. (11) indicates that a noun cannot be dislocated out of a complex DP; (12) shows that the dislocation cannot

happen out of an adjunct; and (13) shows that an object DP generated within a sentential subject cannot be partially dislocated. By contrast, (14) demonstrates that partial dislocation can be long-distance as long as islands are not involved, as expected under a movement analysis.

(11) * Vúuto cikóndí 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
lii-ja].
5-that
intended: 'Chikondi found an answer that solves that problem.' [complex DP]

(12) * Gálímooto ndi=ma=wéléng-a búukhu [n-tháwí i-méné mavútó
5.car 1P.SG=HAB=read-FV 5.book 9-when 9-that 1.Mavuto
a=ná=gúnd-a lá=kaale]. [adjunct]
1SM=PST=crash-FV 5.ASSOC=old
intended: 'I was reading a book when Mavuto crashed the old car.'

(13) * Muu-nthu [ku=ímb-il-a wá-m-kúluu=yo] ndí=kósavúuta.
1-person INF=call-APPL-FV 1-1-old=that COP=not.hard
intended: 'To call that old person is easy.' [sentential subject]

(14) Mbúuzi mavúuto a=ku=gáníz-a kutí cíkóondi wa=gul-á
10.goats 1.Mavuto 1SM=PROG=think-FV that 1.Chikondi 1SM.PERF=buy-FV
zákúuda .
10.black
lit. 'Goats, Mavuto thinks that Chikondi bought black [ones]'.

The above facts argue that partial dislocation does involve movement, but importantly, they do not tell us what is moving. Now, the direct what-you-see-is-what-you-get solution is that the discontinuity involves subextraction of the DP-initial N(P), as argued for by Branan & Davis (2022). However, it is generally assumed that N-initiality in Bantu is a result of N-to-D head movement (see Carstens 1991, 2008, 2017 for arguments; Carstens (1997) and Chén (2026) propose N-to-D specifically for Chichewa): the noun in D° does not even form a phrasal constituent by itself. It is thus unclear how a head can be extracted from the DP to the clause-initial position (see subsection 2.5 for more discussion).

2.3 Scopal Properties of Discontinuous DPs

A particularly interesting and previously unobserved fact about Chichewa DP splits is that a quantifier involved in partial dislocation may be interpreted in a position that is different

from its pronounced position. Consider (15), where the interpretation of (15a) and (15b) is quite different. (15a) can be used either in contexts where I saw no teachers in the classroom, or in contexts where I saw some, but not all, of the teachers; however, (15b) can only mean that all the teachers are such that I did not see them, i.e., I did not see any teachers in the classroom. This indicates that the universal *ónse* 'all' as part of the object must scope over negation when partial dislocation happens, even though it is pronounced postverbally (15b):[6]

(15) a. Sí=ndí=na=ón-é a-phunzitsi óonse 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>ALL; ALL>NEG]

b. A-phunziitsi sí=ndí=na=ón-é óonse mu=kaláasi.
2-teachers NEG=1P.SG=PST=see-FV 2-all 18=5.classroom
[*NEG>ALL; ALL>NEG]

The descriptive generalization is thus that a universal quantifier can only take wide scope over sentential negation if it is part of an object DP that undergoes partial dislocation, the quantifier itself not necessarily being dislocated; that is, the surface position of the quantifier does not play a role in determining where it is interpreted (in both (15a) and (15b) the quantifier is postverbal).

2.4 Blocking Partial Dislocation

We have seen that it is normally not possible to dislocate a Chichewa object DP entirely (8d&10d), while partial dislocation is in general allowed (with linear order restrictions). However, this is not the whole story: there are in fact cases where partial dislocation is not possible, and interestingly, it is exactly in those cases where fronting the entire object DP unexpectedly becomes unproblematic. First, (16b) as a case of total dislocation is actually fully acceptable:

(16) a. Pa=ngoozi kankha=ni galásí iili.
16=9.emergency push=PL 5.glass 5.this
'In an emergency, push this glass.'

b. Pa=ngoozi galásí iili kankhaa=ni.
16=9.emergency 5.glass 5.this push=PL

(Downing & Mtenje 2017:30; adapted)

c. * Pa=ngoozi galáasi kankha=ni iili .
16=9.emergency 5.glass push=PL 5.this

(16) involves an imperative where the enclitic *=ni* expresses politeness towards the addressee (it is glossed as =PL because it is also used to mark second person plural objects in declaratives—note plural-as-politeness is typologically well-attested; see Wang 2023 for a recent study). What is important to us is that this is precisely when partial dislocation causes ungrammaticality (16c).

Second, a similar case where total dislocation becomes grammatical involves *wh*-adjuncts. As discussed by Downing (2011) and Downing & Mtenje (2017), a non-subject *wh*-word may occur in the so-called immediately-after-the-verb (IAV) position (Hyman 1979), forming a phonological phrase with the preceding verb.[7] In (17a), for instance, the *wh*-element *liti* 'when' occurs immediately following the verb:

(17) a. Mavúuto a=ná=kónz-a liiti gálímoto lá=tsópaánó ?
1.Mavuto 1SM=PST=fix-FV when 5.car 5.ASSOC=new
'When did Mavuto fix the new car?'

b. Gálímoto lá=tsópaánó mavúuto a=ná=kónz-a liiti?
5.car 5.ASSOC=new 1.Mavuto 1SM=PST=fix-FV when

c. * Gálímooto mavúuto a=ná=kónz-a liiti lá=tsópaánó ?
5.car 1.Mavuto 1SM=PST=fix-FV when 5.ASSOC=new

As represented in (17b), total dislocation is acceptable when the IAV position is filled, whereas partially dislocating the object DP leads to ungrammaticality (17c). It can be concluded that partial and total dislocation in Chichewa are in complementary distribution.

2.5 Against a What-You-See-Is-What-You-Get Approach

The preceding subsections have demonstrated a number of intricate properties of partial object dislocation in Chichewa, which will be crucial for the scattered deletion account to be spelled out in sections 4–5. First, regarding cases where the object DP consists of a noun and a nominal modifier, while total dislocation of the object is in most situations not allowed, it is possible to partially dislocate the object, by fronting the noun and leaving the modifier in the postverbal position (8b&10b). Second, partial dislocation is island-sensitive, suggesting

that it results from syntactic movement. Third, importantly, when a universal quantifier is part of an object DP involved in partial dislocation, the quantifier obligatorily scopes over sentential negation (a property that in-situ quantifiers should not have), even if it itself is not fronted and occurs in the base postverbal position. Finally, it has been observed that there are restricted cases where dislocation of the entire object DP is ruled in, and it is precisely in those contexts that partial dislocation brings about ungrammaticality.

These properties certainly call for an explanation, as they are unexpected under the account where partial dislocation simply involves subextraction of the initial noun (or the smallest projection of it) out of the object DP, as assumed by Branan & Davis (2022), who to my knowledge have provided the only formal analysis of discontinuous DPs in Chichewa. They argue that the relevant structure of (18a) is (19a). Here, the NP *mbúzi* 'goats' first moves to SpecDP; it then gets subextracted to the left periphery of the clause. By contrast, as represented in (19b), subextraction of the adjective from the DP is impossible (18b), as movement out of a phase (assuming that DP is a phase) without passing through the phasal edge (i.e., SpecDP, which is occupied by the NP) is not allowed, due to the Phase Impenetrability Condition.[8]

(18) a. Mbúuzi a-tsíkána á=mfúumu 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].'

b. * Zákúuda a-tsíkána á=mfúumu a=a=gul-á mbúuzi .
10.black 2-girls 2.ASSOC=9.chief 2SM=PERF=buy-FV 10.goats

(19) a. [$_{CP}$ Mbúuzi [atsíkána ámfúumu aagulá [$_{DP}$ ~~mbúzi~~ [$_{D'}$ zákúuda [$_{NP}$ ~~mbúzi~~]]]]
goats girls of.chief have.bought goats black goats
subextraction
NP-to-SpecDP

b. * [$_{CP}$ Zákúuda [atsíkána ámfúumu aagulá [$_{DP}$ mbúuzi [$_{D'}$ ~~zákúda~~ [$_{NP}$ ~~mbúuzi~~]]]]]
black girls of.chief have.bought goats black goats
*subextraction
NP-to-SpecDP

This account is faced with several problems raised by the novel data presented in this paper. First, it has already been noted in subsection 2.2 that the previous literature has established that N-initiality in Chichewa involves N-to-D movement, which does not seem to be

compatible with (19). Second, the scopal data in subsection 2.3 is completely unexpected, as a postverbal quantifier should also be structurally low, making its obligatory wide-scope reading a mystery (see (15b)). Third, importantly, notice that it seems cross-linguistically rare for partial and total object dislocation to show complementary distribution in a language (as is the case in Chichewa). Normally, if a language allows the object to split (e.g., traditional left-branch extraction), it also allows dislocation of the entire object (e.g., (20b) implies (20a), but not vice versa):

(20) a. [Její] [knihu] čte Petr.
her.ACC book.ACC reads Peter
lit. 'Her book, Peter is reading.'

b. [Její] čte Petr [knihu].
her.ACC reads Peter book.ACC
lit. 'Her, Peter is reading book.' (Czech; Corver 1990:9)

Before ending this section, it is worth mentioning that Slavic left-branch extraction has been widely discussed in the literature, the standard analysis being that it involves subextraction of the left-branch element out of the containing nominal; see Bošković 2005, 2016a; Despić 2015; Talić 2017, among others (contra Bondarenko & Davis 2023).[9] The different behavior that Chichewa partial dislocation has (e.g., its scopal properties, its complementary distribution with total dislocation) further implies that the two are derived in different ways.

3 Island Sensitivity of Chichewa *Wh*-in-Situ

Chichewa shows an interesting subject/object asymmetry: *wh*-subjects cannot occur in situ (21a)—they must be clefted (21b),[10] while *wh*-objects do surface in situ, as shown in (7a), repeated here as (22):[11]

(21) a. * [Ndaní] a=yang'an-é nyáání?
1.who 1SM=look-SUBJUN 1.baboon
intended: 'Who should look at the baboon?'

b. [(N=)ndaní] (a-méné) á=yáng'an-é nyáání?
COP=1.who 1-COMP 1SM=look-SUBJUN 1.baboon
'It is who that should look at the baboon?'

(22) M-kángó u=ku=sáúts-á ndaání ?
3-lion 3SM=PROG=bother-FV 1.who
'Who is the lion bothering?' (Mchombo 2004:45; adapted)

Additionally, obligatory *wh*-ex-situ is also attested in Chichewa for the adjunct *bwánji* 'how'. As in (23), 'how' must occur in the IAV position (cf. (24)):

(23) a. Mavúuto a=ná=kónz-a bwáanji gálímooto.
1.Mavuto 1SM=PST=fix-FV how 5.car
'How did Mavuto fix the car?' (Downing 2011:38)

b. ?? Mavúuto a=ná=kónz-a gálímoto bwáanji .
1.Mavuto 1SM=PST=fix-FV 5.car how

(24) a. * Mavúuto a=ná=kónz-a ndí=hámaala gálímooto.
1.Mavuto 1SM=PST=fix-FV with=hammer 5.car
intended: 'Mavuto fixed the car with a hammer.'

b. Mavúuto a=ná=kónz-a gálímoto ndí=hámaala .
1.Mavuto 1SM=PST=fix-FV 5.car with=hammer

I assume that the IAV position involves a focus projection right below *v*P, following van der Wal 2006 (see also Ndayiragije 1999; Aboh 2007, among others). As briefly demonstrated in (25), *bwánji* 'how' is base generated within VP and obligatorily raises to SpecFocP, where it receives a focus interpretation (V-to-*v* movement is assumed and will be discussed in more detail below; irrelevant copies are ignored):

(25) $[_{TP}$ … $[_{vP}$ V $[_{FocP}$ how $[_{VP}$ car ~~how~~]]]]

Despite (23), one may still take it for granted that Chichewa *wh*-objects are just like *wh*-objects in 'canonical' *wh*-in-situ languages such as Chinese or Japanese. However, the following examples (26–28) demonstrate that *wh*-objects in Chichewa unexpectedly show island effects ((29) confirms that embedded *wh*-elements do not cause a problem as long as no island intervenes):

(26) * 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 ____?' [complex DP]

(27) * Mavúuto a=ná=gúl-a gálímooto [ci-fukwá w=á=mang-a
1.Mavuto 1SM=PST=buy-FV 5-car 7-for.reason 1SM=PERF=build-FV

ci-yáani]?
7-what
'*What did Mavuto buy a car because he built ____?' [adjunct]

(28) * [Ku=ímb-il-a ndaání] ndí=kósavúuta? [sentential subject]
INF=call-APPL-FV 1.who COP=not.hard
'*Whom is to call ____ easy?'

(29) Mavúuto a=ku=gáníz-a kutí cíkóondi w=a=gul-á ci-yáani ?
1.Mavuto 1SM=PROG=think-FV that 1.Chikondi 1SM=PERF=buy-FV 7-what
lit. 'What does Mavuto think that Chikondi bought?'

As exemplified above, an object cannot be questioned if it occurs within a complex DP (26), an adjunct (27), or a sentential subject (28). By contrast, as well-known, the counterparts of these examples are grammatical in 'canonical' *wh*-in-situ languages like Chinese or Japanese.

Additionally, Downing (2011) reports that multiple *wh*-questions in general are not possible in Chichewa. Note that all other languages disallowing multiple *wh*-questions that I am aware of are *wh*-ex-situ languages, e.g., Passamaquoddy (Bruening 2007), Innu-aimûn (Branigan & Mackenzie 2001; Oxford 2013), Hong Kong Sign Language (Gan 2022), German Sign Language,[12] Italian (Calabrese 1984), Somali, Berber, Irish (see Stoyanova 2008), Martuthunira, and Panyjima (Cheng 1991:108–110).[13] While the list is not long, it should not be accidental that these languages all disallow *wh*-elements to occur in situ, since cross-linguistically, languages that obligatorily front *wh*-elements, though not rare, are a minority (Dryer 2013). In fact, Stoyanova (2008) argues that the ban on multiple *wh*-questions (in languages where it holds) is a result of *wh*-phrases being licensed in a unique focus position, which bans *wh*-in-situ. At any rate, since the ban on multiple *wh*-questions is not found in any other *wh*-in-situ languages, the existence of the ban in Chichewa confirms that it is not a true *wh*-in-situ language, which it is indeed not under the analysis proposed below, which will capture in a principled manner the seemingly typologically idiosyncratic property of Chichewa that while *wh*-objects stay in situ, *wh*-subjects and *wh*-adjuncts cannot.

In sum, the presence of island sensitivity of in-situ *wh*-objects and the general ban on multiple *wh*-questions in Chichewa strongly suggest that these *wh*-objects move in narrow

syntax.[14]

4 The Hidden Conjoint/Disjoint Alternation

Consider again (7) and (9), repeated here as (30) and (31), respectively. Data from the last section clearly show that (30a) must involve syntactic movement, because Chichewa *wh*-objects in general show sensitivity to islands. The question, then, is why and how the *wh*-object *ndaní* in (30a) is still pronounced in situ:

(30) a. M-kángó u=ku=sáúts-á ndaání ?
3-lion 3SM=PROG=bother-FV 1.who
'Who is the lion bothering?'

b. * Ndaání m-kángó u=ku=sáuuts-a?
1.who 3-lion 3SM=PROG=bother-FV

(31) a. Njúuci zi=ná=lúm-a a-leenje .
10.bees 10SM=PST=bite-FV 2-hunters
'The bees bit the hunters.'

b. * A-leenje njúuci zi=ná=luum-a.
2-hunters 10.bees 10SM=PST=bite-FV

Under the copy theory of movement, the most direct way of deriving (30a) is that the in-situ *wh*-object is simply a P-realization of the postverbal copy of that element, with the fronted copy of it being deleted, as illustrated below:

(32) ~~ndaní~~$_i$ mkángó ukusáútsá ndaání$_i$?
who lion is.bothering who

Below I will lay out the details of this analysis, and propose to extend it to account for the ungrammaticality of (31b), and eventually for the partial dislocation patterns described in section 2. This section argues for the presence of the conjoint/disjoint alternation in Chichewa, which is overtly attested in many other Bantu languages but seems to have been lost in the surface morphology in Chichewa. I will suggest that this historical loss is only a superficial one; that is, while a dedicated disjoint marker is lost in Chichewa, the underlying mechanism responsible for the alternation is still active in the syntax, and in PF there is a null morpheme, which induces a PF problem when it is followed by a trace (i.e., a deleted copy). It will then become clear in section 5 how the proposed PF condition derives the patterns discussed in sections 2–3.

*4.1 *Transitive Verb > Silent Copy*

Intuitively, the examples we have seen so far point to the following descriptive generalization:

(33) If a verb without object marking is transitive in Chichewa, it cannot be immediately followed by a silent copy.

(30b) and (31b) are ungrammatical precisely because they do not conform with (33), which is understood as a language-particular PF condition. In fact, (33) correctly rules out all ungrammatical cases that involve total dislocation of the object, whether it is a *wh*-element or a lexical DP.[15] Lower copy pronunciation as in (32) happens as a last resort: to satisfy (33), a postverbal copy of the object is pronounced even though the object moves in narrow syntax. Recall that total dislocation does not always lead to unacceptability, as shown in (16b) and (17b), repeated below:

(34) Pa=ngoozi galásí iili [kankhaa=ni].
16=9.emergency 5.glass 5.this push=PL
'In an emergency, push this glass.'

(35) Gálímoto lá=tsópaánó mavúuto [a=ná=kónz-a liiti]?
5.car 5.ASSOC=new 1.Mavuto 1SM=PST=fix-FV when
'When did Mavuto fix the new car?'

Briefly speaking for now, I will argue that in both (34) and (35), (the pronounced copy of) the verb is not immediately followed by a silent copy of the object (the verb is followed by an enclitic in (34) and by an IAV element in SpecFocP in (35); recall (25)), regardless of where the object is pronounced, so total dislocation (which reflects the default pronouncing-the-highest-copy option) is unproblematic, (33) being automatically satisfied (see subsection 5.4 for a more detailed discussion of these examples).

Furthermore, (33) specifies that the verb of concern must be (i) transitive and (ii) without object marking (which will be captured below). As (36) and (37) show, respectively, intransitive verbs and verbs with object marking can occur domain-finally:

(36) Njovu [i=náa=gw-a].
9.elephant 9SM=PST=fall-FV
'The/an elephant fell.' (Mchombo 2004:93; adapted)

(37) Njúuci [zi=ná=wá=luum-a].
10.bees 10SM=PST=2OM=bite-FV
'The bees bit them.'

Recall from section 1 that the reason for the pronunciation of a lower copy should be purely phonological, namely that the otherwise preferred pronouncing-the-highest-copy option can only be blocked due to independent PF reasons. Now, as a reviewer correctly points out, the condition (33) still addresses syntactic notions like 'transitive verbs'. Below I show that (33) may further be deduced, in a way that the PF effect itself does not address transitivity directly (I will continue to use (33) for ease of exposition).

The next subsection shows that a parallelism can be made between the general non-finality of transitive verbs in Chichewa (33) and the conjoint/disjoint alternation overtly found in other Bantu languages, which will actually support the idea that the alternation also exists in Chichewa, though in a more abstract way. Subsection 4.3 argues that the non-finality requirement of the transitive verb is actually a PF requirement of a phonologically null disjoint morpheme (labeled as L) in Chichewa, which only occurs with transitive verbs, the PF condition itself not being sensitive to notions like transitivity. Subsections 4.4–4.5 then explain *why* L is present only with transitive verbs. As we will see in the discussion, the requirement that the verb involved in (33) must not be object-marked can also be derived in a natural way. Given that, as I will argue, L in Chichewa is defective both morphologically and syntactically.

4.2 The Parallelism

This subsection shows that a comparative perspective sheds light on the essence of (33) in Chichewa. As is well-known, verbs in many Bantu languages may have different forms depending on whether a complement linearly follows the verb. The following examples (38,39&40) are from Kirundi, Zulu, and Xhosa, respectively. In these languages, the verb takes the conjoint form if it has a complement directly after it (38a,39a&40a); otherwise it surfaces in the disjoint form (38b,39b&40b) (see van der Wal 2017 for an overview of the alternation; see also the other works in van der Wal & Hyman 2017 for several case studies). Note that across Bantu, the conjoint form is always zero-marked while the disjoint form

(sometimes simply called the long form) is marked by an extra morpheme, either a suffix or a prefix (the verb-final *-ile* in Xhosa (40) may be analyzed as the combination of a disjoint marker *-il-* and a final vowel *-e*):

(38) a. Imuúngu [zi=ry-a i-gǐti].
10.woodworms 10SM=eat-FV 7-wood
'(The) woodworms eat wood (and nothing but wood).'

b. Imuúngu [zi=ra=ry-á] uruugi.
10.woodworms 10SM=PRES.DJ=eat-FV 11.door
'(The) woodworms eat through the door.' (Kirundi; Meeussen 1959:216)

(39) a. A-ba-fana [ba=∅=cul-a i-ngoma].
2-2-boys 2.SM=CJ=sing-FV 9-9.song
'The boys are singing a song.'

b. A-ba-fana [ba=ya=cul-a].
2-2-boys 2.SM=DJ=sing-FV
'The boys are singing.' (Zulu; Buell 2006:10)

(40) a. A-ba-ntwana [ba=fund-é/*-ile i-si-Xhosa].
2-2-children 2SM=learn-CJ/*DJ 7-7-Xhosa
'The children studied Xhosa.'

b. A-ba-ntwana [ba=fund-ile/*-é].
2-2-children 2SM=learn-DJ/*CJ
'The children studied.' (Xhosa; Carstens & Mletshe 2015:199)

At first glance, the conjoint/disjoint alternation does not seem to be found in Chichewa. As shown in (41a&41b), while a complement may or may not cooccur with the optionally transitive verb *phunzitsá* 'to teach', the verbal morphology looks the same:

(41) a. Mavútó [a=ku=phúnzíits-á].
Mavuto 1SM=PROG=teach-FV
'Mavuto is teaching.'

b. Mavútó [a=ku=phúnzíts-á cí-ceéwá].
Mavuto 1SM=PROG=teach-FV 7-Chewa
'Mavuto is teaching Chichewa.'

Because the alternation is found in Bantu languages that are not geographically adjacent (see van der Wal 2017), and multiple scholars have argued that it already existed in Proto-Bantu (Meeussen 1967; Nurse 2008, among others), it is reasonable to posit that

Chichewa used to be a surface conjoint/disjoint language, at an earlier stage, but it has lost the alternation morphologically. Since the disjoint form is invariably the formally marked one, i.e., languages showing the alternation have an extra morpheme for disjoint contexts, the loss of the alternation in Chichewa may be understood as the loss of a dedicated morphologically realized disjoint exponent.

It is thus important to notice that the distribution of Chichewa transitive verbs is highly parallel to the distribution of conjoint verbs in languages that clearly have the conjoint/disjoint alternation. As shown in the previous sections, Chichewa transitive verbs are in general non-final (33), and the conjoint form is exclusively used in non-final conditions as well. On the other hand, when a verb is expected to take the disjoint form (which Chichewa appears to lack), such as in cases involving total dislocation (either of a lexical object DP, on which see subsection 2.1, or of a *wh*-object, as discussed in section 3), ungrammaticality arises. In other words, from a cross-Bantu perspective, in Chichewa, no particular problems arise in cases where a conjoint form is expected; it is in the cases where one would expect the occurrence of a disjoint form that a number of peculiarities are observed. It is thus natural to tie this kind of ungrammaticality to the conjoint/disjoint alternation.

The suggestion is that while the disjoint exponent is lost in Chichewa, the underlying syntax behind it is still active (see next subsection for details). As a result, the phonologically null/weak marker, which was used for conjoint contexts only, is now used in all situations.[16] Now, it is independently observed in English that a contracted auxiliary, which is also phonologically weak, cannot be followed by a trace, i.e., a deleted copy (Bresnan 1971; Kaisse 1983):

(42) a. I know $\boxed{\text{where}}_i$ John is $\boxed{\sout{\text{where}}}_i$ tonight

b. * I know $\boxed{\text{where}}_i$ John's $\boxed{\sout{\text{where}}}_i$ tonight

It is thus reasonable to propose that the non-finality of Chichewa transitive verbs (33) involves a similar phenomenon: they involve a phonologically null morpheme (which is obviously phonologically weak), which crucially cannot be followed by an unpronounced

copy at PF (see also Colley & Bassi 2022 for relevant observations). The next subsection pursues the idea further; I first present Halpert's (2015) syntactic account of the conjoint/disjoint alternation and then extend it to Chichewa. It is argued that Chichewa behaves similarly to other Bantu languages with the conjoint/disjoint alternation in syntax, but it is what happens at the PF interface that makes Chichewa different.

4.3 The Defectiveness of the Disjoint Morpheme

Buell (2006) makes the descriptive generalization that (i) a disjoint verb form is final in its domain, and (ii) a conjoint verb form is non-final in its domain. Syntactically, Halpert (2015) argues that it is a functional head L right above *v*P that is responsible for the conjoint/disjoint alternation (see Carstens & Mletshe 2015 for a similar syntactic analysis.) As shown in (43), which represents the relevant derivation of the Zulu examples in (39), the Agreeing L head probes into the entire *v*P domain searching for elements with ϕ-features. When the probing is successful, L gets the conjoint morphology (i.e., zero), as in (43a); when it fails, L is spelled out as the disjoint form (43b) (see Preminger 2014 for arguments that the failure of probing per se does not lead to ungrammaticality):

(43) a. $[_{LP}$ ∅= $[_{vP}$ cula $[_{DP}$ ingoma]]] [probing is successful]

b. $[_{LP}$ ya= $[_{vP}$ cula]] [probing fails]

In other words, the following rules of vocabulary insertion are responsible for (the realization of) the conjoint/disjoint alternation reflected in Zulu (44). L is spelled out as *ya=* if it copies no ϕ-features (i.e., the probing fails), and is realized as ∅= otherwise:

(44) Zulu L exponents:

a. $[\phi]_L \Longleftrightarrow$ ∅=

b. $[\ ]_L \Longleftrightarrow$ *ya=*

Halpert (2015) further observes that the conjoint/disjoint alternation is sensitive to movement, i.e., an element that is moved out of the *v*P cannot be matched by L. As (45) shows, an unaccusative verb takes the disjoint form if the internal argument moves out of

*v*P (45a) (Halpert (2015) assumes that the movement in question happens before L probes), otherwise only the unmarked conjoint morphology is possible (45b):

(45) a. I-ncwadi [i=fik-il-e].
9-9.letter 9SM=arrive-DJ-FV
'A letter arrived.'

b. [Ku=fik-é i-ncwadi].
17SM=arrive-FV 9-9.letter
lit. '(There) arrived a letter.' (Zulu; Carstens & Mletshe 2015:187–188)

This analysis, which I will largely follow, derives the fact that a conjoint/unmarked verb is always non-final in its domain. I propose that, though never marked overtly, the head L responsible for the alternation is also active in the syntax of Chichewa. Take (9/31) for example, repeated as (46) below:

(46) a. Njúuci zi=ná=lúm-a a-leenje.
10.bees 10SM=PST=bite-FV 2-hunters
'The bees bit the hunters.'

b. * A-leenje njúuci zi=ná=luum-a.
2-hunters 10.bees 10SM=PST=bite-FV

Now, since the disjoint exponent is lost in Chichewa, only a single default insertion rule of L is needed (47). That is, the featural content of L is not directly reflected in the morphology, and one may conclude that Chichewa L is morphologically defective, i.e., null.

(47) Chichewa L exponents:
$[\ ]_{L} \Longleftrightarrow \varnothing$

The relevant structures of (46a) and (46b) are represented in (48a) and (48b), respectively. Now, unlike Zulu, whether the probing of L in Chichewa succeeds or not does not actually have a morphological impact, as Chichewa has only (47) as the default/elsewhere rule, which will apply regardless of the featural status of L. I remain agnostic here as to whether the probing of L succeeds in (48b), as in any case ∅ will be inserted here.[17] Now, (48b) differs from (48a) in phonology. I suggested above that the null morpheme in Chichewa induces the same effect as the English contracted auxiliary (42) in that it cannot be followed by an unpronounced copy left by the object DP. (48b) is thus ungrammatical as the copy left by the object DP is not pronounced; (48a) by contrast causes no problems. Hence, (46b) cannot be

derived. The non-finality of the morpheme thus gives rise to the PF condition (33), which actually follows from independent considerations. Subsection 4.5 and section 5 will offer a more detailed step-by-step derivation of (46); cases involving partial dislocation will also be discussed. For now it suffices to note that partial dislocation never yields cases that violate (33), as the postverbal copy of the object DP is not entirely silent, so the transitive verb is not domain-final.

(48) a. $[_{LP}\ \underline{\varnothing=}\ [_{vP}\ \text{luma}\ \boxed{\text{alenje}}\ ]]$

b. * $[_{LP}\ \underline{\varnothing=}\ [_{vP}\ \text{luma}\ \boxed{\sout{\text{alenje}}_i}\ ]]$

It is worthwhile to emphasize that, under the assumption that the failure of probing does not lead to ungrammaticality (Preminger 2014), (48b) is not problematic in narrow syntax even if the probing of L fails (see fn.17). It is ruled out solely for PF reasons (33): the postverbal copy must be P-realized at PF. The next subsection discusses why (33) is only active for transitive verbs that are not object-marked.

4.4 The Status of Object Markers

So far we focused on transitive constructions. This section discusses how intransitive verbs fit into the picture. Consider (49–51), which show that intransitives may occur freely in Chichewa with SV order (recall that the proposed PF condition (33) says nothing about intransitives). Note that intransitive verbs are not special in the Bantu languages with overt conjoint/disjoint alternation, as they show disjoint/marked morphology if the verb is domain-final (cf. Halpert 2015).[18]

(49) A-tsíkána a=ku=víin-a (mu=ci-piinda). [unergative]
2-girls 2SM=PROG=dance-FV 18.in=7-room
'Girls are dancing (in the room).' (Mchombo 2004:93)

(50) Njovu i=náa=gw-a. [unaccusative]
9.elephant 9SM=PST=fall-FV
'The/an elephant fell.'

(51) Ma-úngú a=ku=phík-iidw-a. [passive]
6-pumpkins 6SM=PROG=cook-PASS-FV
'Pumpkins are being cooked.' (Mchombo 2004:81; adapted)

While one can simply exclude intransitives in the statement of (33) (as in its current form), which under the current analysis would imply that L is missing in intransitives, the grammaticality of (49–51) makes Chichewa and languages with overt conjoint/disjoint alternation less parallel. That is, if L is present in (49–51), it is not immediately clear why these cases are grammatical, as L is invariably realized as zero (47), which should give rise to the PF effect in (33), as is argued above. More specifically, under the standard assumption that unaccusatives and passives involve an internal argument moving out of the *v*P domain, (50) and (51) both involve a postverbal copy of the object, which according to (33) must be pronounced.

While one can simply leave it as a descriptive fact that the licensing head L selects *v**P but not *v*P in Chichewa (meaning L is absent in (49–51)), without explaining why it is so (see Chomsky 2001 for more discussion of the difference between *v** and *v* in general), I will show that this generalization is derivable in a principled way. The proposal is that L is not only morphologically defective, as suggested above, it is also syntactically defective: L is obligatory bundled with the highest probing head in the verbal domain, and crucially, as discussed immediately below, only *v**, but not *v* in general, Agrees in Chichewa.

To show this, it is necessary to consider the nature of object markers in Chichewa, which we have left aside in the previous sections (recall that (33) also excludes object marking). Bresnan & Mchombo (1987) argue that object markers in Chichewa are incorporated pronouns, rather than pure agreement markers.[19] Consider first (52), which shows that the dislocation patterns discussed in section 2 change radically with object marking:

(52) a. Njúuci zi=ná=wá=luum-a a-leenje .
10.bees 10SM=PST=2OM=bite-FV 2.hunters
lit. 'The bees bit them, the hunters .'

b. A-leenje njúuci zi=ná=wá=luum-a.
2.hunters 10.bees 10SM=PST=2OM=bite-FV

(Bresnan & Mchombo 1987:745)

As in (52b), when there is an object marker, total dislocation becomes possible (in contrast to the cases discussed in section 2). In fact, there is evidence that even in (52a), where the linear VO order is not altered, the postverbal DP is not in an argument position. First, the lexical DP *alenje* 'hunters' in (52a) cannot form a single phonological phrase with the verb (as evidenced by penult lengthening, which only occurs phonological phrase-finally), whereas a lexical object without an object marker does (cf. Kanerva 1990; Downing & Mtenje 2011a). A pause is actually needed after a verb with object marking. As further illustrated by Mchombo (2004), in the Nkhotakota variety of Chichewa, the subjunctive suffix *-é* surfaces as H-toned when it is followed by an in-situ object (53a). However, no H is present on *-é* if the element following the verb is an adjunct (53b). Crucially, with object marking, the postverbal DP patterns with an adjunct, not a canonical object (53c):

(53) a. Mi-kángó i=ku=fún-á kutí anyaní a=gwéts-é (mi-téengo) .
4-lions 4SM=PROG=want-FV that 2-baboons 2SM=fell-SUBJUN 4-trees
'The lions want the baboons to cut down the trees.'

b. Mi-kángó i=ku=fún-á kutí anyaní a=seék-e
4-lions 4SM=PROG=want-FV that 2-baboons 2SM-laugh-SUBJUN
(pa=cuulu) .
16.on=7.anthill
'The lions want the baboons to laugh on the anthill.'

c. Mi-kángó i=ku=fún-á kutí anyaní a=i=gweéts-e
4-lions 4SM=PROG=want-FV that 2-baboons 2SM=4OM=fell-SUBJUN
(mi-téengo) .
4-trees
lit. 'The lions want the baboons to cut them down, the trees.'
(Mchombo 2004:22; adapted)

Furthermore, as in (54), a *wh*-object cannot be associated with an object marker:

(54) ?* (Kodí) mu=ku=cí=fúún-á (ci-yáani) ?
Q 2P.PL=PROG=7OM=want-FV 7-what
'What do you want (*it)?' (Bresnan & Mchombo 1987:760)

It can be concluded from the above data that the object marker in Chichewa is a cliticized pronoun that counts as the 'real' object. The full DP associated with the marker is an adjoined, right-dislocated topic in the VO order (thus it cannot be questioned), similar to the status of nominal phrases in polysynthetic languages as proposed by Baker (1996).[20]

There is also direct evidence from discontinuous DPs that full DPs associated with object marking, as adjuncts, are base generated outside the verbal domain, i.e., they do not result from movement out of *v*P. This is illustrated by the fact that discontinuous DPs with object markers are not sensitive to islands:

(55) ? Vúuto cikóndí a=ná=péz-á [yankho li-méné
5.problem 1.Chikondi 1SM=PST=find-FV 5.answer 5-COMP
lí=ma=lí=kóónz-á lii-ja].
5SM=HAB=5OM=solve-FV 5-that
lit. 'The problem, Chikondi found an answer which solves it, that [one].'

(55) is minimally different from the ungrammatical case (11) in that the embedded verb is now object-marked, and the sentence is significantly improved, which indicates that *vúto* 'problem' at the left periphery does not involve movement from the complex DP; rather, it is best viewed as a base-generated hanging topic. This being said, the postverbal *lija* 'that' should also be analyzed as a base-generated adjunct; I assume it is right-adjoined to *v*P.[21]

*4.5 The 'Bundling' of L and v**

Putting aside DPs that are base-generated adjuncts, the surface distribution of real objects in Chichewa is now highly predictable: (i) weak pronominal objects are pronounced at the left edge of *v*P, as a result of cliticization, and (ii) full object DPs in most cases directly follow the verb, at least partially (see section 5 for more on partial dislocation), due to the PF constraint (33), which may be further deduced from the presence of a defective head L. I assume that clitic objects, though themselves not being agreement markers, express an Agree relation between the object and the verb, following Baker (2018).[22] Crucially, if this is so, it is reasonable to suggest that there is also an Agree relation between transitive verbs and their internal arguments that are full DPs (in which case an object marker does not occur). Suppose that the Agreeing head *v** probes for ϕ-features into its c-commanding domain; the process itself should not be able to discriminate the internal structure of the goal (whether it is a weak pronoun or a full DP), as long as the goal has necessary ϕ-features visible to the probe (see Carstens 2010, 2011, 2017, where it is argued that the ϕ-features of a Bantu nominal, including gender/noun class, are all carried by D, due to N-to-D movement, which

makes the ϕ-features visible to all clause-level probes). As illustrated in (56) (putting aside irrelevant technical details for now), a transitive *v** invariably Agrees with the object, regardless of the 'size' of the object. However, when the goal is a full DP, it does not cliticize to the verb (56a) (see immediately below), whereas a clitic goal moves to the left of the verb after the Agree relation is established, resulting in object marking (56b):

(56) a. [$_{v^*P}$ *v** [… full DP object]] [pure Agree]
Agree

b. [$_{v^*P}$ OM=*v** [… ~~clitic object~~]] [Agree, followed by cliticization]
cliticization
Agree

Now, that clitic pronouns and full DPs are pronounced in different positions as in (56) can be viewed as a surface phenomenon: as suggested by Baker (2018), this may simply be because *v** in Bantu only tolerates heads (or non-branching elements) as its specifier, possibly due to PF factors.[23] In summary, object shift into Spec*v*P requires Agree, but Agree does not guarantee the occurrence of object shift, the latter also being subject to PF factors.

While the above suggests that transitive verbs always Agree in Chichewa, I show that intransitive verbs never Agree. As illustrated below, while the internal argument of an intransitive verb may occur postverbally, e.g., in cases of inversion (57a), it cannot be expressed by an object marker (57b):

(57) a. Pa=mu-dzi pa=dá=gw-á njaala.
16.in=3-village 16SM=PST=fall-FV 9.hunger
'In the village fell hunger.'

b. * Pa=mu-dzi pa=dá=íí=gw-a (njaala).
16.in=3-village 16SM=PST=9OM=fall-FV 9.hunger
'In the village fell it (, the hunger).' (Mchombo 2004:26)

(57b) is ruled out *not* because of a definiteness effect, which, as shown by Bresnan & Kanerva (1989), is not manifested in Chichewa locative inversion (58). (In fact, Bresnan & Mchombo (1987) report that object marking in Chichewa does not entail definiteness.)

(58) Ku=mu-dzi ku=na=bwél-á a-lendóo=wo.
17.to=3-village 17SM=PST=come-FV 2-visitors=2.those
'To the village came those visitors.' (Bresnan & Kanerva 1989:2)

I take the above facts to mean that the intransitive *v* is not an Agreeing head in Chichewa, as object makers are never associated with it. Furthermore, Bresnan & Mchombo (1987) note a case where a *wh*-subject occurs in the IAV position:

(59) Ci=na=ónék-a ci-yáani ?
7SM=PST=happen-FV 7-what
'What happened?' (Bresnan & Mchombo 1987:775)

The verb *oneka* 'happen' is unaccusative (inversion constructions are available only for unaccusative verbs in Chichewa). Here, the *wh*-subject is prosodically phrased together with the verb (as stated in fn.1, a phonological phrase in Chichewa can be identified by penult lengthening). Following Downing & Mtenje 2011b, where it is observed that prosodic phrasing happens at the phase level in Chichewa, it can be safely concluded that the *wh*-subject is located in the *v*P domain in (59) (recall also that *v*P-adjuncts and the verb are generally not in the same phonological phrase). Importantly, in (59), the postverbal *wh*-element Agrees with T, as indicated by the subject marker *ci=*, thus a case of 'Agreeing Inversion' (van der Wal 2012, 2022). (By contrast, in many other Bantu languages that show VS order similar to (59), T exhibits default agreement; cf. Carstens & Mletshe 2015; van der Wal 2022.) The reason why T can Agree with a postverbal element within the verbal domain in (59), I suggest, is that an intransitive *v* is not a ϕ-probe in Chichewa and thus does not intervene between T and the postverbal DP. Assuming that a goal is deactivated when an Agree relation is first established between it and a probe, i.e., it becomes invisible to other probes that come into play later in the derivation (Chomsky 2000), the presence of a probe in the verbal domain would prevent the postverbal subject from being Agreed with T.[24]

If *v** always Agrees but an intransitive *v* never does, one notices immediately that whether the highest head in the verbal domain (*v** or an intransitive *v*) can Agree is related to the presence/absence of L responsible for the conjoint/disjoint alternation, which we have seen in Chichewa selects only *v** but not *v* in general. This is hardly a coincidence. I thus suggest that L and *v** are 'bundled' in Chichewa (using Pylkkänen's 2008 term): related to the diachronic loss of the conjoint/disjoint alternation in surface morphology, L has also lost its independence in the syntax. It is synchronically a single head, labeled as L-*v** for ease of

convenience, that is responsible for everything: it takes care of transitivity; it probes into the verbal domain for ϕ-features; it triggers the shift of clitic objects to its left; it is the locus of the defective zero morphology, which needs the following element in the relevant domain to be pronounced. It should be noted that such bundling should not be taken as a dynamic process in synchronic syntax; L-v^* starts out as a single head that is multi-functional in Chichewa. I use the term 'bundled' in the sense that the different functions of the head are implemented by two independent heads (L and v) in other Bantu languages. Note also that it is cross-linguistically not rare for certain different functions to be carried out by separate heads in one language, but to be realized by a single head in other languages. For example, Harley (2017) argues that, in the verbal domain, functions like verbalizing, case-licensing, and agent-introducing may be borne by separate heads (e.g., v and Voice) in one language but are bundled in a single head in another language; Bobaljik & Thráinsson (1998) show that agreement and tense marking in the inflectional domain may correspond to either one or more heads (depending on parametric choices of the language). See also Martinović 2023 for a case where traditional T and traditional C may be bundled as a single head under certain circumstances. L-v* in Chichewa is interesting in that it provides a case where separate heads may develop into a single head through historical change (without affecting the core functions of the original heads), hence a case of diachronic structural simplification.

I further assume that the verb (at least) raises to L-v^*; thus the element immediately following it is typically the internal argument. Consider again (60), and compare it with the Zulu example (61):

(60) Njúuci zi=ná=wá=luum-a.
10.bees 10SM=PST=2OM=bite-FV
'The bees bit them.'

(61) (Iqanda) (uSipho) u=ya=li=pheka.
AUG.5.egg AUG.1.Sipho 1SM=DJ=5OM=cook
'(As for the egg, Sipho) is cooking it.' (Zulu; Halpert 2015:124)

In both examples, the object-marked transitive verb is domain-final. In Zulu (61), a language with overt conjoint/disjoint alternation, L and v^* are separate heads. The object first Agrees with v^* and is realized as the object marker *li*=, as a result of object shift/cliticization (like in

Chichewa, the Zulu object marker is a non-doubling clitic pronoun, i.e., the 'real' object) and thus is invisible to the higher Agreeing head L (recall that the probing of L is sensitive to movement in Zulu). The probing by L then fails, so a disjoint marker occurs. In Chichewa (60), by contrast, L-v^* is a bundled head, so only one probing process happens. L-v^* matches with the pronominal object and realizes it as the object marker *wá=*. I further suggest that when an object marker occurs, i.e., when a clitic moves to L-v^*, the object marker per se is the morphological realization of L-v^*, in fact a more specified one than the default null morpheme (47); that is, the realization of an object marker will block the insertion of the proposed null morpheme, due to the standard elsewhere principle. Since the null morpheme is not present on L-v^* in (60), the verb does not need the object copy following it to be pronounced.

4.6 Interim Summary

This section has argued that although not phonologically directly detectable, Chichewa is a concealed conjoint/disjoint language. A morphologically defective null exponent is inserted if the licensing head L is present and is not realized as an object marker. In narrow syntax, L which is responsible for the conjoint/disjoint alternation is bundled with v^*. The bundled head L-v^* searches the vP domain for elements with ϕ-features. At PF, the null marker, being trivially phonologically weak, cannot be followed by an unpronounced copy. This gives rise to the PF condition (33), which, as we shall see in the next section, derives all the idiosyncrasies reported in sections 2&3. The analysis implies that syntactic defectiveness and surface morphological defectiveness are associated in an intriguing way in Chichewa. The discussion in this section also explains why (33) is active only for transitive verbs that are not object-marked: first, there is independent evidence that intransitive verbs do not Agree in Chichewa; second, since L and v^* are bundled, the default null element and the object marker are the morphological realization of the same L-v^* head. Hence, the zero morpheme and the object marker are actually in complementary distribution in Chichewa: whenever we see an object marker, the default zero should be absent (as there is only one head); therefore the defectiveness effect associated with it, i.e., (33), which requires a transitive verb be non-final in its domain, should also not occur. Note, finally, that the presence of the null

exponent, inserted via (47), is what is responsible for the effect given in (33).

5 Lower Copy Pronunciation: A Unified Account

We are now ready to account for all the observations made in sections 2&3, concerning (i) partial dislocation and (ii) *wh*-in-situ, both being island-sensitive. I argue that both phenomena involve lower copy pronunciation—again, this is possible only in cases where the default pronouncing-the-highest-copy option is ruled out independently.

This section discusses how the two phenomena in Chichewa are conditioned by the PF condition (33), which states that a transitive verb without object marking cannot be followed by an unpronounced copy of its internal argument. Importantly, (33) directly follows from the phonological weakness of a surface zero, and is thus a pure PF requirement. This is conceptually desirable, as it has been noted in section 1 that deciding on which copy to pronounce is a PF process and hence should be free from syntactic concerns. Note also that PF constraints of this sort are generally language-particular; hence they may not be part of UG, though conditions in different languages may often share similarities (cf. (42)).

5.1 Ruling Out Total Dislocation

Consider again the fact that total dislocation of the object DP is generally disallowed (62b). Without (33), the ungrammaticality of (62b) would be a mystery, because there is no clear syntactic reason why the object cannot undergo topicalization here (information structure-motivated fronting is independently attested in Chichewa; see for example (16b) and (17a), to be further discussed in subsection 5.4). Under the lower copy pronunciation analysis, (62b) is ruled out by (33), because even if the object DP undergoes topicalization, it leaves a copy postverbally, which according to (33) must be pronounced.

(62) a. Njúuci zi=ná=lúm-a a-leenje.
10.bees 10SM=PST=bite-FV 2-hunters
'The bees bit the hunters.'

b. * A-leenje njúuci zi=ná=luum-a.
2-hunters 10.bees 10SM=PST=bite-FV

Since (33) follows from the defectiveness of the zero morpheme on the bundled L-v^* head, it is natural to suggest that the condition applies derivationally. Assuming a multiple spell-out

framework (Uriagereka 1999; Chomsky 2000) and following a number of recent studies arguing that what is sent to spell-out is phases, not phasal complements (the latter having no theoretical status; Bošković 2016b, 2017; Cecchetto & Donati 2022, among others), (33) is effective at the point when the first phase containing L-*v**, i.e., L-*v**P itself, is transferred and accessed by the interfaces. Suppose, rather standardly, that an element to be extracted from a phase must move to the edge of that phase first, in the current case SpecL-*v**P.[25] At the point of the spell-out of L-*v**P, the structure of (62b) will be (63a):

(63) a. $[_{\text{L-}v^*\text{P}}$ alenje$_i$ ∅=luma$_j$ $[_{\text{VP}}$ alenje$_i$ luma$_j$]]
hunters L=bite hunters bite

I abstract away from the timing of the transfer of L-*v**P, as nothing hinges on this for the current purposes. Projections above L-*v**P will be ignored in the discussion. I also assume that the verb raises to L-*v**, where ∅ attaches to it. Since the PF condition (33) has its roots in this ∅, and the copy of the verb in V is never pronounced, I will also ignore the lower copy of the verb in the presentation henceforth. Now, the job of the PF interface is to phonologically realize (or not realize) what has already been built in syntax; under the copy theory of movement, this means that, in the current case, PF must decide which copy of *alenje* 'hunters' is to be deleted. The default pronouncing-the-highest-copy option, namely (63b), is examined first:

(63) b. * $[_{\text{L-}v^*\text{P}}$ alenje$_i$ ∅=luma ~~alenje~~$_i$]
hunters L=bite hunters

c. $[_{\text{L-}v^*\text{P}}$ ~~alenje~~$_i$ ∅=luma alenje$_i$]
hunters L=bite hunters

Clearly, (63b) would violate (33), which is effective exactly at this point, when the (phonologically) defective nature of the null disjoint marker becomes relevant, as P-deleting the lower copy would create an unpronounced element following L-*v**, where this ∅ is located. Hence, (63c) becomes the only remaining option. (63c) is not problematic with regard to (33). However, the surface PF form it derives would be the same as the one where the movement has not occurred (as it is the copy in the in-situ position that is pronounced), so it is empirically difficult to tell whether the grammatical VO case (62a) involves topicalization followed by lower copy pronunciation or not.[26] At any rate, we have now

reached the desirable conclusion that (62b) (where the object is overtly fronted) cannot be derived: even if the object DP may move to SpecL-*v**P, the P-features of this copy cannot be kept given (33); as represented at the feature level in (64), if in the first L-*v**P cycle (64a) the P-features of the higher copy are deleted (F stands for all other features, i.e., formal and semantic features, whose deletion is irrelevant for the current purpose and will be ignored), in the next cycle (64b), movement from SpecL-*v**P to SpecCP carries no P-features of the element:[27]

(64) a. $[_{CP}$ … $[_{L\text{-}v^*P}$ DP_i … DP_i $]$ [cycle 1]
{~~P~~, F} {P, F}

b. $[_{CP}$ DP_i … $[_{L\text{-}v^*P}$ DP_i … DP_i $]$ [cycle 2]
{F} {F} {P, F}

The same logic extends to *wh*-in-situ (30). This case is only slightly different, since we have seen clear evidence in section 3 that *wh*-movement in narrow syntax does occur. Therefore, (30b) must involve (i) fronting of the *wh*-object and (ii) P-realization of the lower, postverbal *wh*-copy, as illustrated in (32), given the PF condition (33). Island-sensitivity of *wh*-in-situ in Chichewa is thus expected under the present analysis, which argues that Chichewa is actually a concealed *wh*-fronting language. Recall also (i) that *wh*-subjects cannot occur in situ (21a) and (ii) that the *wh*-adjunct *bwánji* 'how' must move (23). Apparently, only *wh*-objects may stay in situ in Chichewa. This curious pattern is directly captured by the current analysis, under which movement is in fact obligatory for both *wh*-arguments and *wh*-adjuncts. That *wh*-objects occur in situ is purely a PF phenomenon, the condition (33) having no direct effect on *wh*-subjects or *wh*-adjuncts; the base-generated position of the latter does not immediately follow the verb linearly within L-*v**P, so the default pronouncing-the-highest-copy option will apply (cf. subsection 5.4).

Before ending this subsection, it is worthwhile to point out that the current approach makes an interesting prediction regarding ditransitives. Chichewa is a so-called 'asymmetrical' language (see Bresnan & Moshi 1990; Alsina & Mchombo 1993; Ngonyani 1998; Mchombo 2004; van der Wal 2022) in that in ditransitive constructions, the verb may

Agree with the indirect object but not with the direct object, as only the former can be object-marked (recall from subsection 4.5 that object marking requires Agree). As in (65), while (65a) shows that the IO has an Agree relation with L-*v**, (65b&65c) demonstrate that such a relation may not be established between L-*v** and the DO:

(65) a. Ndi=ná=mú=páts-á búukhu.
1P.SG=PST=1OM=give-FV 5.book
'I gave her the book.'

b. * Ndi=ná=lí=páts-á cikóondi.
1P.SG=PST=5OM=give-FV 1.Chikondi
intended: 'I gave it to Chikondi.'

c. * Ndi=ná=lí=mú=páts-á.
1P.SG=PST=5OM=1OM=give-FV
intended: 'I gave it to her.'

If, as argued, it is the disjoint L-*v** head that is responsible for the PF condition (33), which applies cyclically when the L-*v**P phase is transferred, it is predicted that in the base V>IO>DO order, only IO but not DO is affected by (33), i.e., that is, total dislocation of the DO should be possible, as the latter does not immediately follow the verb at the point of the spell-out of L-*v**P. The following data show that the prediction is borne out:

(66) a. Ndi=ná=páts-á cikóndí búukhu.
1P.SG=PST=give-FV 1.Chikondi 5.book.
'I gave Chikondi a book.'

b. Búukhu ndi=ná=páts-á cikóondi ~~búukhu~~.
5.book 1P.SG=PST=give-FV 1.Chikondi 5.book

c. *? Cikóondi ndi=ná=páts-á ~~cikóndi~~ búukhu.
1.Chikondi 1P.SG=PST=give-FV 1.Chikondi 5.book

While (66c) is ruled out by (33), (66b) is grammatical. This is unsurprising; as in (67), P-deleting the lower copy of *búkhu* causes no problem regarding (33):[28]

(67) [$_{vP}$ búkhu$_i$ ∅=patsá cikondi ~~búkhu~~$_i$]
book L=give Chikondi book

5.2 Deriving Partial Dislocation and Its Directionality

This subsection shows step by step how Chichewa partial dislocation results from topicalization of the entire object DP plus scattered deletion. Recall from the previous

discussion that Chichewa dislocation shows the following paradigm:

(68) a. Ndi=ná=péz-á ci-thúnzi cá=óphunziila .
1P.SG=PST=find-FV 7-picture 7.ASSOC=1.student
'I found the/a picture of the student.'

b. Ci-thúunzi ndi=ná=péz-á cá=óphunziila .
7-picture 1P.SG=PST=find-FV 7.ASSOC=1.student
lit. 'The/a picture, I found the student's.'

c. * Cá=óphunziila ndi=ná=péz-á ci-thúunzi .
7.ASSOC=1.student 1P.SG=PST=find-FV 7-picture

d. * Ci-thúnzi cá=óphunziila ndi=ná=pééz-á.
7-picture 7.ASSOC=1.student 1P.SG=PST=find-FV
intended: 'The/a picture of the student, I found.'

As already discussed, due to (33), it is not possible to dislocate the entire object, so (68d) is ungrammatical. The questions are, then, how (68b) is derived and how (68c) is ruled out.

Suppose that in both (68b) and (68c), the whole object DP undergoes topicalization in narrow syntax. At the point of the spell-out of L-v*P, the relevant structure is as follows:

(69) a. $[_{\text{L-}v\text{*P}}\ [_{\text{DP}}$ cithúnzi cá=óphunzila $]_i$ ∅=pezá $[_{\text{DP}}$ cithúnzi cá=óphunzila $]_i$ $]$
picture of=student L=find picture of=student

Bošković (2002) argues that when determining whether a higher/lower copy is P-realized when a violation requires a lower copy pronunciation, the structure is scanned left to right, with the decision of which copy to spell out made locally, without look-ahead. That is, the PF interface will first decide where to P-realize the left piece, namely *cithúnzi* 'picture', in (69a). Assuming, again, that the default option is to realize the P-features in the highest copy, we get (69b), with the lower copy of *cithúnzi* 'picture' P-deleted:

(69) b. $[_{\text{L-}v\text{*P}}\ [_{\text{DP}}$ cithúnzi cá=óphunzila $]_i$ ∅=pezá $[_{\text{DP}}$ ~~cithúnzi~~ cá=óphunzila $]_i$ $]$
picture of=student L=find picture of=student
[step II]

c. * $[_{\text{L-}v\text{*P}}\ [_{\text{DP}}$ cithúnzi ~~cá=óphunzila~~ $]_i$ ∅=pezá $[_{\text{DP}}$ ~~cithúnzi~~ ~~cá=óphunzila~~ $]_i$ $]$
picture of=student L=find picture of=student
[step IIa]

d. [$_{L\text{-}v^*P}$ [$_{DP}$ cithúnzi ~~cá=óphunzila~~]$_i$ ∅=pezá [$_{DP}$ ~~cithúnzi~~ cá=óphunzila]$_i$]
picture of=student L=find picture of=student
[step IIb]

(69b) is unproblematic because it does not violate any PF conditions (again, look-ahead is not allowed); the verb is not domain-final at this point. After (69b), however, the next piece *cá=óphunzila* 'of student' is scanned. At this point, the pronouncing-the-highest-copy option is no longer available, because that will yield (69c), which would violate (33). (69d) is then the only available option: it is the P-features of the lower piece of *cá=óphunzila* that are kept after the verb. When the higher copy in SpecL-*v**P further moves out in the next cycle, as illustrated more abstractly in (70b) (P1 and P2 stand for the P-features of the noun and the postnominal modifier respectively), the movement will only carry (P-)features that are kept in the previous cycle (again, the potential deletion of formal or semantic features is ignored here). Copy deletion applies again in the next phase, i.e., at the CP level, and by default, only P1 in the higher copy is kept; hence, eventually, in (68b) only *cithúnzi* at the left periphery is pronounced. Partial dislocation is thus correctly derived.

(70) a. [$_{CP}$ … [$_{L\text{-}v^*P}$ DP$_i$ … DP$_i$] [cycle 1]
{<P1, ~~P2~~>, F} {<~~P1~~, P2>, F}

b. [$_{CP}$ DP$_i$ … [$_{L\text{-}v^*P}$ DP$_i$ … DP$_i$] [cycle 2]
{P1, F} {~~P1~~, F} {P2, F}

Moving back to the derivation in (69), the current approach explains directly why all partial object dislocation cases we have seen keep the original internal order of DP (as observed by Mchombo 2006): deleting the left piece in the higher copy is simply never a possibility at PF, since the preferred option, i.e., pronouncing that piece, causes no PF violation and is then obligatorily selected (69b); thus, (71) is not a possible step of the derivation. This essentially means that scattered deletion can only occur rightward in dislocation of the object DP in Chichewa.

(71) * [$_{L\text{-}v^*P}$ [$_{DP}$ ~~cithúnzi~~ cá=óphunzila]$_i$ ∅=pezá [$_{DP}$ cithúnzi ~~cá=óphunzila~~]$_i$]
picture of=student L=find picture of=student

However, the current discussion does not imply that scattered deletion as a PF operation is

universally rightward. The direction of scattered deletion is purely an empirical issue, subject to specific PF constraints. That it is rightward in the current case is solely determined by how the PF constraint (33) works in the grammar.

A proposed case of leftward deletion can be found in Bulgarian (Bošković 2001). It is briefly reviewed here and compared with the Chichewa case. (72–74) show the basic cliticization pattern in Bulgarian and Macedonian. While (72–74) are the same in both languages, the grammaticality status of (73&74) differ:

(72) a. Vera =mi =go dade včera. [Bulgarian]
Vera 1P.SG.DAT 3P.SG.ACC give.PST yesterday
'Vera gave it to me yesterday.'

b. Vera mi= go= dade včera. [Macedonian]
Vera 1P.SG.DAT 3P.SG.ACC give.PST yesterday

(73) a. * =Mi =go dade Vera včera. [Bulgarian]
1P.SG.DAT 3P.SG.ACC give.PST Vera yesterday

b. Mi= go= dade Vera včera. [Macedonian]
1P.SG.DAT 3P.SG.ACC give.PST Vera yesterday

(74) a. Dade =mi =go Vera včera. [Bulgarian]
give.PST 1P.SG.DAT 3P.SG.ACC Vera yesterday

b. * Dade mi= go= Vera včera. [Macedonian]
give.PST 1P.SG.DAT 3P.SG.ACC Vera yesterday

Bošković (2001) proposes that these verbal clitics are generated postverbally and then left-adjoin to the verb in syntax (i.e., they move 'around' the verb). Importantly, they are morphophonologically different in the two languages: they are enclitics in Bulgarian but are proclitics in Macedonian. The Bulgarian case (73a) is ruled out because it is PF ill-formed: the clitics fail to encliticize. As in (75a), the lower copy of the clitic clusters then must be pronounced in this case, resulting in (74a). As for Macedonian (73b), since there is nothing wrong with P-realizing the higher copy of the proclitic clusters, they must be pronounced, and (74b), which involves lower copy pronunciation, is automatically out, (75b) being the only option:

(75) a. ~~=mi~~ ~~=go~~$_i$ Dade =mi =go$_i$ Vera včera. [Bulgarian]
1P.SG.DAT 3P.SG.ACC give.PST 1P.SG.DAT 3P.SG.ACC Vera yesterday

b. Mi= go=$_i$ dade ~~mi=~~ ~~go=~~$_i$ Vera včera. [Macedonian]
1P.SG.DAT 3P.SG.ACC give.PST 1P.SG.DAT 3P.SG.ACC Vera yesterday

Of particular interest here are cases involving the interrogative complementizer *li*. As transparently shown in (76b), in Macedonian, the verb carrying all the proclitics undergoes head movement to adjoin to *li*. However, the same surface form is ungrammatical in Bulgarian (76a), since the 'same' clitics are enclitics and do not have a phonological host in this case:

(76) a. * [=Si] [=mu] [=gi] [dal] li parite? [Bulgarian]
be.2P.SG 3P.SG.DAT 3P.PL.ACC given Q the.money

b. [Si=] [mu=] [gi=] [dal] li parite? [Macedonian]
be.2P.SG 3P.SG.DAT 3P.PL.ACC given Q the.money
'Have you given him the money?'

What saves the Bulgarian case, then, is to pronounce the enclitics in a lower copy (77a) (this option is disallowed in Macedonian (77b)). The structural analysis (78) is given by Bošković (2001) to illustrate the difference between Bulgarian and Macedonian. The Bulgarian complex *=si=mu=gi dal* is pronounced discontinuously, as a consequence of *leftward* scattered deletion:

(77) a. [Dal] li [=si] [=mu] [=gi] parite? [Bulgarian]
given Q be.2P.SG 3P.SG.DAT 3P.PL.ACC the.money

b. * [Dal] li [si=] [mu=] [gi=] parite? [Macedonian]
given Q be.2P.SG 3P.SG.DAT 3P.PL.ACC the.money

(78) a. [~~=si=mu=gi~~ Dal]$_i$ li [=si=mu=gi ~~dal~~]$_i$ parite? [Bulgarian]

b. [Si=mu=gi=dal]$_i$ li [~~si=mu=gi= dal~~]$_i$ parite? [Macedonian]

It is not surprising that the direction of the deletion here is opposite to partial dislocation in Chichewa. The PF reasons (which, in essence, are language-particular) that lead to scattered deletion in the two languages are different. In Bulgarian, the constraint is that some elements in the highest copy must not be pronounced, while in Chichewa, it is a requirement that some elements must be P-realized in the lowest copy. What is uniform is how PF scans the sequence: it always goes left to right (see Bošković 2002 for another case requiring this). And there is no variation in this respect.

5.3 Scattered Deletion and Scope

Conceptually, all cases of scattered deletion, or lower copy pronunciation in general, involve some sort of syntax-phonology or semantic-phonology mismatch, since pronouncing (part of) a lower copy is purely a PF phenomenon, and hence should not affect the formal features and semantic features of the element. Subsection 2.3 showed that a universal quantifier involved in partial dislocation shows interesting scopal properties—it must scope over sentential negation (79b); note that unambiguously in-situ quantifiers may take narrow scope (79a):

(79) a. Sí=ndí=na=ón-é [a-phunzitsi] [óonse] 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>ALL]; ALL>NEG]

b. [A-phunziitsi] sí=ndí=na=ón-é [óonse] mu=kaláasi.
2-teachers NEG=1P.SG=PST=see-FV 2-all 18=5.classroom
[*NEG>ALL; [ALL>NEG]]

The scope pattern provides a decisive argument for the scattered deletion approach to partial object dislocation. The idiosyncrasy of (79b) is directly accounted for if the quantifier *ónse* 'all' moves in narrow syntax. The structure of (79b) is illustrated below:

(80) [Aphunziitsi] [~~ónse~~]$_i$ síndínaóné [~~aphunzitsi~~] [ónse]$_i$ mukaláasi.
↖ interpreted at LF ↖ pronounced at PF

I assume that only the highest copy of *ónse* is responsible for its scopal property. The NEG>ALL reading is available for (79a), where fronting of the object does not happen and *ónse* is in situ in narrow syntax (I leave it open if ALL>NEG is an option here, which, if possible, may be a result of QR; recall from fn.6 that this reading is not in fact logically necessary to capture the interpretation of (79a)). Note also that while the scope data are nicely explained by the lower copy pronunciation approach, as pointed out in subsection 2.5, they are totally unexpected under a what-you-see-is-what-you-get account, where only the head noun moves.

5.4 On the Complementary Distribution of Total and Partial Dislocation

The scattered deletion account neatly captures the observation that total object dislocation is in general not acceptable in Chichewa, while partial dislocation is allowed, because it is exactly the unavailability of the former that allows the possibility of the latter. Recall from subsection 2.4 that there are cases that show a reversed pattern: in (81) and (82), fronting the entire object is possible (81b&82b), whereas splitting is ruled out (81c&82c). The complementary distribution of total and partial dislocation is expected under, and strongly supports, the current lower copy pronunciation approach. The question is simply what makes (81b) and (82b) possible:

(81) a. Pa=ngoozi kankha=ni galásí iili .
16=9.emergency push=PL 5.glass 5.this
'In an emergency, push this glass.'

b. Pa=ngoozi galásí iili kankhaa=ni.
16=9.emergency 5.glass 5.this push=PL

c. * Pa=ngoozi galáasi kankha=ni iili .
16=9.emergency 5.glass push=PL 5.this

(82) a. Mavúuto a=ná=kónz-a liiti/bwáanji gálímoto lá=tsópaánó ?
1.Mavuto 1SM=PST=fix-FV when/how 5.car 5.ASSOC=new
'When/how did Mavuto fix the car?'

b. Gálímoto lá=tsópaánó mavúuto a=ná=kónz-a liiti/bwáanji?
5.car 5.ASSOC=new 1.Mavuto 1SM=PST=fix-FV when/how

c. * Gálímooto mavúuto a=ná=kónz-a liiti/bwáanji lá=tsópaánó ?
5.car 1.Mavuto 1SM=PST=fix-FV when/how 5.ASSOC=new

The answer is simply that (33) is not violated here, due to the presence of an intervening element: the enclitic *=ni* in (81) and the *wh*-adjunct in the IAV position in (82). They intervene between the verb and the internal argument when L-*v**P is transferred, as a result of which the verb in L-*v** is not followed by a silent copy. Consider first (81), whose relevant structure is given in (83). I assume that *=ni* is merged within L-*v**P, following Carstens's (2022) treatment of the cognate addressee enclitic *=eni* in Kiunguja Swahili. At the point of (83a), the lower copy of the internal argument is not adjacent to the verb in L-*v**, even though the argument directly merges with the verb within VP when it enters the structure (recall that the lower, unpronounced copy of the verb in VP plays no role at PF). Within a phase-based multiple spell-out framework, (33) only scans the structure when L-*v**P is

transferred (recall that the derivational nature of (33) is directly associated with the defective nature of L in Chichewa), at which point the politeness/plural enclitic *=ni* is already present and immediately follows the verb. The default option (83c) which P-deletes the lower copy entirely causes no problem with regard to (33), and is thus grammatical, which also makes (83d) not possible:

(83) a. [$_{\text{L-}v^*\text{P}}$ [$_{\text{DP}}$ galási ili]$_i$ ∅=kankha=ni [$_{\text{DP}}$ galási ili]$_i$]
glass this L=open=PL glass this

b. [$_{\text{L-}v^*\text{P}}$ [$_{\text{DP}}$ galási ili]$_i$ ∅=kankha=ni [$_{\text{DP}}$ ~~galási~~ ili]$_i$] [step I]
glass this L=open=PL glass this

c. [$_{\text{L-}v^*\text{P}}$ [$_{\text{DP}}$ galási ili]$_i$ ∅=kankha=ni [$_{\text{DP}}$ ~~galási~~ ~~ili~~]$_i$] [step IIa]
glass this L=open=PL glass this

d. * [$_{\text{L-}v^*\text{P}}$ [$_{\text{DP}}$ galási ~~ili~~]$_i$ ∅=kankha=ni [$_{\text{DP}}$ ~~galási~~ ili]$_i$] [step IIb]
glass this L=open=PL glass this

The same logic extends to (82), where the intervening element is a *wh*-adjunct in the IAV position, which is associated with an obligatory focus reading. As discussed in section 3, IAV involves a low focus projection right below L-*v**P (see van der Wal 2006). The *wh*-adjunct in VP moves to SpecFocP, and directly follows the pronounced copy of the verb after linearization. In this case (84), no copy of the object is directly right-adjacent to the verb in L-*v**, and (33) is satisfied by the IAV element. Consequently, if the object DP undergoes topicalization, no PF problems would be caused if its copy within L-*v**P is fully P-deleted (82b). Since the default total dislocation option is available, scattered deletion cannot happen (82c).[29]

(84) [$_{\text{L-}v^*\text{P}}$ ∅=<fix>$_j$ [$_{\text{FocP}}$ when/how$_i$ [$_{\text{VP}}$ <~~fix~~>$_j$ ~~new car~~ ~~when/how~~$_i$]]

Note, finally, that not everything that may lie between the verb and the following copy of the internal argument may bleed lower copy pronunciation. Some enclitics, including *=nso* 'also', *=di* 'indeed', *=tu* 'for sure', and *=be* 'again', behave quite differently from *=ni* discussed above, in that even though they may encliticize to the verb, they do not change the basic dislocation pattern. Take *=be* 'again' for example. In (85), we observe that partial but not total dislocation is allowed for the object DP, as if *=be* 'again' is not there:

(85) a. * Pulézídenti wá=kaale ndi=ná=ón-aa=be.
1.president 1.ASSOC=old 1P.SG=PST=see-FV=again
'I saw the former president again.'

b. Pulézídeenti, ndi=ná=ón-a=be wá=kaale.
1.president 1P.SG=PST=see-FV=again 1.ASSOC=old

I argue that the behavior of those clitics is compatible with the lower copy pronunciation analysis and in fact strongly supports the derivational view of the PF condition (33). Mchombo (2004) reports that these enclitics are neither host-sensitive nor position-sensitive. In (86), the enclitic *=nso* can be attached in different positions to nouns or functional words, not just verbs (the clitics listed above all show this property):

(86) M-kángó ndi=nyama yá=m-theengo, komá{=nsó} fíísi nayé{=nso}
3-lion COP=9.animal 9.ASSOC=3-forest but=also 1.hyena it=also
ndi=nyama yá=m-thengoo{=nso}.
COP=9.animal 9.ASSOC=3-forest=also
'The lion is a wild animal, but {also} the hyena, it is {also} a wild animal {also}.'
(Mchombo 2004:66; adapted)

I suggest that those clitics are discourse markers merged high into the structure, i.e., they are merged after L-*v**P is transferred. More specifically, their positional flexibility suggests that they are at least somewhat syntactically analogous to their English counterparts like 'again', 'also', 'indeed', etc., their clitichood being a purely phonological property (see below; note that Chichewa prosodic words are minimally disyllabic); that is, they are syntactically adverbs that can be adjoined to various positions (e.g., the left- and right-peripheries of CP and *v*P). Notice that the distribution of these clitics and that of their English counterparts are not exactly the same: unlike the latter, the former can occur between a verb and its internal argument but crucially cannot occur clause-initially (87b). I suggest that it is exactly their phonological enclitichood that is responsible for this difference. Note first that adverbials that are independent phonological words in Chichewa cannot linearly intervene between a transitive verb and its internal argument, just as in English (see (87a); see Downing & Mtenje 2017:28–29), which suggests that the cases where this is possible, which involve clitic interveners, do not arise through a syntactic mechanism; second, even though the host of the enclitic can be a verb, the verb must be the first element in the intonational phrase (in (85b), a pause is needed after 'president', which means that there is an intonational phrase break to the left of the verb). In other words, we have a similar situation here as in second-position clitic languages like Serbo-Croatian, where the clitic is second in its

intonational phrase (see Bošković 2001).

(87) a. {Dzuulo} ndi=ná=ón-a {*dzuulo} pulézídenti wá=kaale {dzuulo}.
yesterday 1P.SG=PST=see-FV yesterday 1.president 1.ASSOC=old yesterday
'{Yesterday} I saw {*?yesterday} the former president {yesterday}'

b. {*=Be} ndi=ná=ón-aa{=be} pulézídenti wá=kaale{=be}.
=again 1P.SG=PST=see-FV=again 1.president 1.ASSOC=old=again
'I saw the former president again.'

Following the treatment of second-position clitics in Halpern 1992, 1995, I propose that *dzulo* (87a) and *=be* (87b) are syntactically parallel: both can be adjoined left-peripherally to the clause. However, *=be* as an enclitic item cannot find a host clause-initially, in which case it must undergo displacement in PF, looking for the closest element to its right that can host it, in (87b) this being the verb complex (the relevant operation is Prosodic Inversion as in Halpern 1992, 1995 or Local Dislocation as in Embick & Noyer 2001). The relevant PF derivation of (87b) with *=be* immediately following the verb is represented below:[30]

(88) a. INPUT (from syntax):
(=be) > ndináona > pulézidenti > wákale [*enclitic stranding]
=again I.saw president former

b. *dislocation*
(=be) > ndináona > pulézidenti > wákale

c. OUTPUT:
ndináónaa(=be) > pulézídenti > wákaale

This explains why the surface distribution of the enclitics in Chichewa is different from that of their English counterparts and that of the other adverbs in Chichewa. Crucially, the displacement process happens at a higher clausal level, after the transfer of the L-*v**P phase, when (33) applies; this explains why the clitics do not alter the dislocation pattern (85). The behavior of the discourse clitics thus further supports the derivational, phase-based view of the PF condition (33).

5.5 Summarizing the Analysis

This section has demonstrated how the lower copy pronunciation analysis can capture the observations and generalizations made in sections 2–3 regarding partial object dislocation

and *wh*-in-situ in Chichewa. It has been argued that the language-particular PF condition (33) requires the copy of the internal argument of a transitive verb adjacent to the verb to be pronounced. It was further suggested that the constraint is a derivational one, scanning the structures at the point of spell-out.

First, *wh*-objects, having been shown in section 3 to be subject to island effects, undergo syntactic movement; that they are pronounced in situ is purely a PF phenomenon, conditioned by (33). Second, (33) excludes cases where the object undergoing topicalization is pronounced entirely in the left periphery; it is in these cases where the default pronouncing-the-highest-copy option is unavailable. Scattered deletion then becomes possible, deriving the partial dislocation patterns and all the puzzles associated with it described in section 2. It has been shown that there are restricted, PF-conditioned cases where the non-finality requirement of the verb is satisfied by other means, and hence total object dislocation is automatically allowed, which in turn blocks partial dislocation, as expected under the lower copy pronunciation analysis. Scopal properties of partial dislocation have also received a principled account under the proposed analysis (they in fact strongly support the proposed analysis).

6 Conclusions

Two phenomena in Chichewa, (i) discontinuous DP objects, and (ii) in-situ *wh*-objects that surprisingly show island sensitivity, have been examined in this paper. I showed that the patterns concerned can only be captured, in fact in a unified manner, by a lower copy pronunciation account. First, though they occur in situ, Chichewa *wh*-objects actually move in narrow syntax, thus manifesting island effects. The postverbal, in-situ phonological realization of *wh*-objects is forced by (33), a PF condition that scans the structure derivationally at the phase level. The analysis also explains why *wh*-subjects cannot be pronounced in an argument position. Second, the same constraint derives the patterns of partial object dislocation in Chichewa. I argued that in cases of discontinuous DPs, the whole object undergoes topicalization, but pronouncing it in the highest copy as a whole would violate (33), so as a last resort, part of the moving element is pronounced low. The

lower copy pronunciation approach to partial dislocation is strongly supported by the scopal properties of the quantifier *ónse* 'all', which may take narrow scope over sentential negation in the postverbal position if no dislocation happens, but only allows a wide scope reading if the apparently in-situ quantifier is part of a DP split. Furthermore, the nature of the PF condition (33) has been discussed from a comparative perspective. I suggested that it results from the conjoint/disjoint alternation widely attested in Bantu. Though Chichewa has lost the alternation in segmental morphology and generally realizes the conjoint/disjoint slot as a zero (in cases where there is no object marking), I argued that it is still syntactically active in the language. It is the prosodic defectiveness of the relevant null morpheme that gives rise to (33).

Although 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, to avoid overgeneration problems, such pronunciation must be highly restrictive. The current research further illustrates this idea; it crucially shows empirically how PF affects constituent order, with syntax still completely free from PF considerations. All cases of lower copy pronunciation provided in this paper have been shown to be solely constrained by independent PF conditions.

Cross-linguistically, discontinuous nominals are not uncommon (Chichewa is uncommon only in that it generally excludes total object dislocation when partial dislocation is possible), and they may receive different analyses in different languages or constructions. Certainly, not all of them involve full extraction plus scattered deletion along the lines of Chichewa, which is just one possibility permitted by a fine-grained copy theory (see for example Bošković 2005; Talić 2019; Clem & Dawson 2024, among many others, for transparent subextraction analysis of discontinuous nominals in other languages). All such cases need to be tested carefully on empirical grounds.

Nevertheless, lower copy pronunciation analyses have in recent years been proposed for different languages/constructions, by different researchers (see section 1 for references), but not all studies have tried to confine lower copy pronunciation under a restrictive theory; they hence may need to be reexamined.

Abbreviations

1/2/3P = first/second/third person; ACC = accusative; APPL = applicative; ASSOC = associative; CJ = conjoint; COMP = complementizer; DJ = disjoint; FV = final vowel; HAB = habitual; INF = infinitive; NEG = negation; OM = object marker; PASS = passive; PERF = perfective; PL = plural; PST = past; PROG = progressive; SG = singular; SM = subject marker; SUBJ = subject; SUBJUN = subjunctive.

Numbers indicate Bantu noun class and agreement/concord with noun class.

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Notes

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1 I follow Downing & Mtenje's (2017) system in transcribing Chichewa data (cited examples are adapted accordingly). Unless mentioned otherwise, the acutes marking high tones reflect the tone system of the Ntcheu variety. The penultimate vowel of a phonological phrase-final element is

automatically lengthened, indicated as vowel doubling in the examples.

2 Chichewa data cited from the literature are confirmed by my elicitation notes with two Chichewa speakers between 2022 and 2025, using typical interview techniques; one speaker is from Lilongwe and the other is from Blantyre. Chichewa examples in the rest of this paper are solely from elicitation notes if no reference is given.

3 Note that a Chichewa object may be indexed by verbal morphology via object marking. I will first concentrate on cases without (what Bantuists call) object markers. Issues involving object marking are discussed in detail in subsection 4.4.

4 I will concentrate on cases where the object noun takes a single modifier. Partial dislocation is possible when the object DP includes more than one nominal modifier, in which case total dislocation in general also leads to ungrammaticality. However, perhaps due to processing reasons, the judgments of my consultants regarding these cases are unfortunately much less clear and often conflicting, which makes a full, coherent paradigm difficult to obtain.

5 Clitic demonstratives are an exception; they are phonologically weak (they are monosyllabic whereas independent prosodic words in Chichewa are minimally disyllabic; see Downing & Mtenje 2017) and cannot be left alone postverbally (that is, a DP object with [N+clitic demonstrative] structure can neither be totally nor partially dislocated). I will not deal with such cases in the current study.

6 It is not readily evident whether (15a) shows true scopal ambiguity, i.e., logically, *ónse* 'all' can either scope over negation or not. In terms of truth conditions, NEG>ALL holds as long as there are some teachers that I did not see, and it is just one possibility that I by chance did not see any of them. That is, while the NEG>ALL reading must be available in (15a), the status of ALL>NEG is not clear. At any rate, what is important here is that though in both cases *ónse* 'all' occurs postverbally on the surface, its interpretation changes radically.

7 The position in question is discussed in more detail in section 3 and in subsection 5.4.

8 Branan & Davis's (2022) analysis is simplified here. They argue that the relevant phase respects the PIC only if it is not Agreed with (the Agree relation they argue is absent in (18)). A more detailed examination of Branan & Davis 2022 is outside the scope of this paper. The point is that it is unclear how the puzzles raised in this section can be captured by a what-you-see-is-what-you-get approach.

9 Some other analyses employ the remnant-movement approach (Abels 2003; Bašić 2009), where the stranded element first moves out of the nominal, after which the nominal gets fronted. Comparing different approaches to Slavic left-branch extraction is outside the scope of the current paper; it should become evident from the following discussion that the remnant-movement approach is not suitable for Chichewa discontinuous DPs.

10 Clefting is also obligatorily marked by tones on the verb (notice that a high tone occurs on the initial syllable of the verb in (21b)). Since both the copula and the complementizer *-méné* used for subject clefting are optional, when they are omitted, (21a) and (21b) are segmentally indistinguishable, in which case clefting is identified solely by tone marking.

11 In-situ *wh*-subjects as in (21a) are in fact allowed for echo questions, which I ignore here. In addition, the other ungrammatical examples in this section (26–28) also become grammatical if the *wh*-element receives an echo reading.

12 Note that it is not a general property for sign languages to ban multiple *wh*-questions; for example, American Sign Language allows multiple *wh*-questions (see Gan 2022).

13 The observation that multiple *wh*-questions are in general banned in these Australian languages is attributed to Ken Hale by Cheng (1991).

14 *Wh*-questions in Chichewa are optionally marked by the sentence-initial interrogative particle *kodí*, which I ignore in the main text. Interestingly, as illustrated in (i) (which is only minimally different from (26)), when *kodí* is present, island-sensitivity is actually obviated for *wh*-objects. In addition, *wh*-subjects can also stay in situ in *kodí*-marked questions (ii) (the following examples do not need to be echo questions):

(i) Kodí mu=ná=kúman-a ndí= [mú-nthu a-méné á=ma=phuzíts-á ci-yáani]?
Q 2P.PL=PST=meet-FV with= 1-person 1-COMP 1SM=HAB=teach-FV 7-what
lit. 'What did you meet a person who teaches ____?'

(ii) Kodí ndaní a=ku=phwány-á ma-úungu?
Q 1.who 1SM=PROG=smash-FV 6-pumpkins
'Who is smashing pumpkins?' (Mchombo 2004:47)

The absence of an island effect in (i) and of clefting in (ii) can be readily captured under Cheng's (1991) clausal typing hypothesis; Cheng (1991) proposes that a clause may be typed as a *wh*-question through either *wh*-movement or the occurrence of a Q-particle in C. Both options are apparently available in Chichewa. When *kodí* is not present in a *wh*-question, the clause must be typed via *wh*-movement, and hence island effects arise (26–28). The main text focuses on questions without

kodí.

15 Ngonyani & Githinji (2006) observe that a number of Bantu languages allow [subject verb ~~object~~], which they argue involves verb-stranding VP-ellipsis. The current analysis predicts that this should not be possible in Chichewa because of (33), which is indeed the case:

(i) * Njúuci zi=ná=luum-a.
10.bees 10SM=PST=bite-FV
intended: 'The bees bit (the hunters).'

In other words, the current analysis explains why Chichewa disallows the ellipsis in question, in contrast to several other Bantu languages.

16 Alternatively, one may state that the disjoint marker has become null in Chichewa, as a result of a general process of phonetic reduction (Newmeyer 2000), in which case it is phonologically indistinguishable from the conjoint marker. For ease of exposition, I will call the null morpheme in Chichewa a disjoint marker when it occurs in disjoint contexts.

17 Since there is no overt disjoint morpheme in Chichewa, there is no direct evidence in Chichewa regarding whether the probing actually fails in (48b). The probing would fail if Chichewa behaves the same way as Zulu regarding where a lower copy is visible to L, following Halpert 2015, but nothing hinges on this for current purposes.

18 Intransitive verbs are not always domain-final, as they may be followed by an IAV element or a notional subject in inversion constructions, in which case the verb shows conjoint/zero morphology; see, e.g., (45b).

19 There is rich Bantu-internal variation concerning the status of object markers: they behave like pure agreement in some languages; in others they are pronominal. See Riedel 2009, Baker 2018, van der Wal 2022, among others, for criteria that tease the two apart.

20 Baker (1996) introduces the polysynthesis parameter, the informal version of which is stated as follows:

(i) Every argument of a head element must be related to a morpheme in the word containing that head.

In a canonical polysynthetic language, the complement of a verb is always realized by verbal morphology, either as an incorporated pronoun (similar to Chichewa object markers) or a lexical noun (which leads to noun-incorporation, an option disallowed in Chichewa). Full nominals may be coindexed with that incorporated morpheme, syntactically being adjuncts. Chichewa is similar to a

polysynthetic language in that when a verb is object-marked, full DPs associated with the object marker are adjuncts. It however differs from true polysynthetic languages in that object marking is not obligatory. In this sense, one can consider Chichewa a 'semi-polysynthetic' language.

21 Downing (2018) reports that there is a human/non-human asymmetry in object marking in some modern colloquial Chichewa varieties: with a human object, the object marker is always present, whether the object is dislocated or not, whereas the object marker is not necessary for a non-human object even when the object is dislocated entirely. This pattern is in contradiction with the dislocation pattern described in Bresnan & Mchombo 1987 and in the current paper, the latter two being mutually compatible (where the object marker is a clitic pronoun). Object markers for human in the system described by Downing (2018) are pure agreement markers, which she argues are historically derived from a pronominal clitic system. I assume that there may be dialectal variation regarding the status of object markers (and how they affect the dislocation pattern) in Chichewa, though the data from my consultants seem to reflect the arguably more conservative pronominal clitic system.

22 See also van der Wal 2022 for a unified analysis where clitic object markers and pure agreement markers in Bantu are both captured by Agree.

23 Baker's idea is that Spec*v*P is in general not at the edge of the clause, and thus may create potential prosodic problems if the element in Spec*v*P is phonologically too complex. See also van Urk 2018 and Gould 2021 for discussion of how different language-particular considerations may restrict the pronunciation of lower copies.

24 The Activity Condition is subject to variation, as it is cross-linguistically not rare that a goal may Agree with multiple probes (see Deal 2025 and references therein). At any rate, it is a descriptive fact that T and *v* in the same clause are not able to Agree with the same DP in Bantu in general.

25 See Bošković 2024 for how the spell-out of phases and successive cyclic movement via phasal edges are combined.

26 One may simply suggest that, in competition with a simpler derivation that gives the same P-result, everything else being equal, this kind of PF-vacuous movement, which does not affect constituent order, cannot occur, for economy reasons (see also Hoji 1985 for an antecedent proposal restricting string-vacuous movement). It is also possible that the strong topic feature of the topic head, which drives overt topicalization, must have some phonological realization in the moved position, and that this would rule out the movement derivation of (62a) (as well as topicalization of phonological null elements like *pro*). I will not go deeper into this issue here, as what is important for

us is only the fact that (62a) is derivable (whereas (62b) is not).

27 This was actually proposed in Saito 2003.

28 The same effect can be found in relative clauses. While both IO and DO can be relativized in Chichewa, the former requires object marking (ii):

(i) [Mi-kándá i-méné a-nyaní á=kú=páts-á njoovu _____] ndi=yófíila.
4-beads 4-COMP 2-baboons 2SM=PROG=give-FV 10.elephants COP=4.red
'The beads that the baboons are giving the elephants are red.'

(ii) [Njovu zi-méné a-nyaní á=kú=*?(zí=)páts-á _____ mi-káánda]
10.elephants 10-COMP 2-baboons 2SM=PROG=10OM=give-FV 4-beads
zi=má=dy-á nzíimbe.
10SM=HAB=eat-FV 10.sugarcane
'The elephants that the baboons are giving the beads to eat sugarcane.' (Mchombo 2004:41)

(ii) without object marking is ungrammatical, because it violates (33). I assume that the object marker in the relative clause is a resumptive pronoun which rescues the structure from causing a PF crash.

It is worth noting that Chichewa also allows clefting a *wh*-object (iii), where the content of the question is a relative clause in which the relativized object (i.e., the *wh*-word) moves:

(iii) (?) (N=)ndaní (a-méné) m-kángó ú=kú=sáuuts-a _____?
COP=1.who 1-COMP 3-lion 3SM=PROG=bother-FV
'It is who that the lion is bothering?'

While the relativized verb in (iii) seems to be followed by a silent copy of the moved object, violating (33), the sentence is unexpectedly grammatical. The contrast between (iii) and (ii) thus suggests that the PF condition (33) is effective in the relativization of ditransitives but not in that of monotransitives. While I have no deeper solution to this issue and will simply leave it open in this paper, it needs to be noted that even in cases of the relativization of monotransitive objects, the use of a resumptive pronoun (i.e., an object marker) is extremely common in Chichewa. (iv) is such an example. Additionally, object relativization is commonly marked by a postverbal clitic *-o* agreeing with the relativized object (v):

(iv) mu-nthu a-méné ndí=ná=mú=yéndeél-á
1-person 1-COMP 1P.SG=PST=1OM=visit-FV
'the person that I visited' (Bresnan & Mchombo 1987)

(v) [Mbuzí mú=kú=fún-aa=zó _____] zi=li pa=cuulu.
10-goats 2P.PL=PROG=want-FV=10.REL 10SM-be 16.on=7.anthill
'The goats that you want are on the anthill.' (Mchombo 2004:45; adapted)

Leaving aside a detailed analysis of these phenomena, it is worth noting that both the object marker (iv) and the enclitic (v) can make a monotransitive relative clause circumvent (33) ((33) does not apply

to object-marked verbs; for the enclitic case see subsection 5.4). In fact, for my consultants, these two strategies for relative clauses are preferred to not using them (one of my consultants suggests that object relativization with neither object marking nor *-o* is 'unnatural'); I take this to mean that the condition (33), though somewhat weakened, is not totally absent in monotransitive relative clauses. Notice also that relativized verbs must be marked by tones (see fn.10); it may thus be natural to suggest that they have different prosodic properties.

29 Note that the status of IAV in Bantu is debated. Based on Zulu data, Buell (2009) and Cheng & Downing (2012) argue against the IAV-as-FocP approach, suggesting that the focused IAV element is structurally in situ. The major reason is that, in Zulu, the IAV phrase has to be the only element left in the verbal domain:

(i) [U=*(yi=)theng-e nini]$_{\text{prosodic boundary}}$ ingubo entsha? [Zulu]
2P.SG=9OM=buy-PERF when 9.dress 9.new
'When did you buy a new dress?' (Buell 2009:166; adapted)

In Zulu (i), the object DP separated from the verb by the IAV *wh*-adjunct must be object-marked on the verb. Since like Chichewa, object markers in Zulu are clitic pronouns, and in (i) there must be a pause after the IAV adjunct and before the object DP, one can conclude that non-focused elements within *v*P must be dislocated in IAV constructions. Cheng & Downing (2012) argue that this is unexpected under the IAV-as-FocP approach, as it is not clear how the movement to SpecFocP would motivate the dislocation of other elements within *v*P. Instead, they offer a prosodic account, suggesting that the IAV element stays in situ, and when it is focused, it needs to bear phrasal stress, which it can only receive at the phase edge (Zulu IAV elements must be followed by a pause)—this is possible only when all other postverbal elements are dislocated from *v*P.

Cheng & Downing's (2012) reasoning, however, cannot be extended to Chichewa. As we have seen in (23a), repeated below, the object DP in Chichewa following an IAV adjunct does not need to be object-marked:

(ii) Mavúuto a=ná=kónz-a bwáanji gálímooto?
1.Mavuto 1SM=PST=fix-FV how 5.car
'How did Mavuto fix the car?' (Downing 2011:38)

Additionally, Downing (2011) shows that a postverbal focus in Chichewa is *not* obligatorily followed by a pause/prosodic phrase break (although it *can* be); this suggests that the IAV element need not be the only element within *v*P, unlike Zulu. Hence, the prosodic account of IAV is at best unmotivated for Chichewa, and I take the low FocP analysis to be more suitable.

In fact, even for Zulu, Cheng & Downing's (2012) prosodic approach does not rule out the possibility that IAV involves movement to SpecFocP in syntax, with (iii) filtered out purely at PF, which would require that the element in SpecFocP must be pronounced at the phase edge. (i) would then be syntactically unproblematic but PF ill-formed. The prosodic account of (i) and (iii) is thus compatible with the IAV-as-FocP analysis.

(iii) * Ba=bhak-a kanjani isi-nkwa?
2SM=bake-FV how 7-bread
intended: 'How do they bake bread?' (Zulu; Cheng & Downing 2012:252)

30 Note that in (85b), a pause is needed after the fronted nominal element (meaning that there is an intonational phrase boundary following it). Assuming that encliticization is not possible across an intonational phrase boundary (marked as # in (i)), as argued for extensively in Bošković 2001, (85b) can be accounted for in the same way as (87b), as shown in (i):

(ia) INPUT (from syntax):

pulézidenti# > #=be > ndináona > wákale [*enclitic stranding]
president =again I.saw former

dislocation

(ib) pulézidenti# > #=be > ndináona > wákale

(ic) OUTPUT:

pulézídeenti# > #ndináónaa=be > wákaale

On par with (88), (ia) involves a stranded enclitic, which triggers the PF dislocation process in (ib).

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