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EXTRAPOSITION IN MALAGASY*

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This paper documents some of the basic properties of extraposition (right peripheral positioning) in Malagasy. Extraposition is generally optional for a wide range of constituents; however, it is obligatory for clausal constituents. We offer a prosodic explanation for this obligatoriness: leaving the clause in its base position would yield an ill-formed prosodic structure. We also argue that extraposition in Malagasy is derived by A' movement. Various reconstruction effects support this claim.

1. Introduction

We use EXTRAPOSITION (EX) as a descriptive term to refer to the non-canonical placement of certain constituents (EXPs) in a right-peripheral position. There are a number of phenomena that are called extraposition in the literature and it is not clear that they all have the same analysis (Baltin 2006, Sheehan 2010). (1a) illustrates SIMPLE EXTRAPOSITION, in which predicate-related material appears in a right peripheral position. (1b) illustrates EXTRAPOSITION FROM NP and (1c) illustrates HEAVY XP SHIFT. We will be focusing on simple extraposition.

- (1) a. He said yesterday [that they were not prepared].
- b. A man walked in [who was wearing a red hat].
- c. Bob put on the table [all the gifts that his wife insists that they buy].

This paper investigates extraposition in Malagasy, a predicate-initial language spoken by approximately 14 million people on the island of Madagascar. Malagasy has simple extraposition, which one can easily see in the word order. Canonical word order is VOXS, (2), with various elements appearing in the predicate-internal position between the object and the subject. These predicate-internal elements can optionally extrapose, yielding VOSX order, (3). Here and below, the constituents of interest are bold-faced.

* We thank our Malagasy consultants Bodo and Voara Randrianasolo and the audience at AFLA 22. Examples come from our own fieldwork unless otherwise indicated.

- (2) a. Nametraka voninkazo **teo ambonin' ny latabatra** i Koto
 PAST.put flower LOC on DET table Koto
 'Koto put flowers on the table.'
- b. Mananatra ny zafikeliny **mandrakariva** i Dadabe
 admonish DET grandchild.3SG always grandpa
 'Grandpa admonishes his grandchildren constantly.'
- (3) a. Nametraka voninkazo i Koto **teo ambonin' ny latabatra**
 PAST.put flower Koto LOC on DET table
 'Koto put flowers on the table.'
- b. Mananatra ny zafikeliny i Dadabe **mandrakariva**
 admonish DET grandchild.3SG grandpa always
 'Grandpa admonishes his grandchildren constantly.'

CPs in Malagasy have a special status with respect to extraposition in that they obligatorily extrapose (Keenan 1976, others), (4).

- (4) a. Manantena Rabe **fa hividy fiara aho**
 hope Rabe that buy car 1SG.NOM
 'Rabe hopes that I will buy a car.'
- b. *Manantena **fa hividy fiara aho** Rabe
 hope that buy car 1SG.NOM Rabe

The goals and content of this paper are as follows. Section 2 documents the empirical patterns of Malagasy extraposition, both the syntactic distribution and semantic consequences. These have not been previously described. Section 3 considers the analysis of EX in Malagasy and argues in favor of a movement approach. EXPs are moved from a predicate-internal position to their surface position and are not base-generated there. Section 4 more carefully considers the obligatoriness of CP extraposition and offers a prosodic explanation. Section 5 restates our findings and mentions areas for future investigation.

2. Extraposition

The syntactic distribution of extraposed phrases in Malagasy can be summarized as follows: EX is impossible for objects, obligatory for full clauses, and optional for other elements, including various complements, adverbials, and controlled clauses. We illustrate these observations in the data below.

(5) shows that EX is impossible for direct objects.

- (5) Namono (**ny akoho**) Raso'a (***ny akoho**)
 PAST.kill DET chicken Raso'a DET chicken
 'Raso'a killed the chicken.'

As we have already seen in (4), EX is obligatory for full CPs (Keenan 1976, Pearson 2001, Law 2007, Potsdam and Polinsky 2007). This is true for both complement clauses in (6) (repeated from (4)) and adverbial clauses, (7).

- (6) a. Manantena Rabe **fa hividy fiara aho**
 hope Rabe that buy car 1SG.NOM
 ‘Rabe hopes that I will buy a car.’
 b. *Manantena **fa hividy fiara aho** Rabe
 hope that buy car 1SG.NOM Rabe
- (7) a. Tsy nianatra Rabe **satria narary ny vadiny**
 NEG study Rabe because sick DET spouse.3SG
 ‘Rabe didn’t study because his wife was sick.’
 b. *Tsy nianatra **satria narary ny vadiny** Rabe
 NEG study because sick DET spouse.3SG Rabe

EX is optional for other dependents in the predicate (Rajaonarimanana 1995:87). This includes various kinds of PPs (locatives, recipients, goals, instruments, benefactives, material themes), adverbials (temporal, manner, locative, reason, and frequency), standards of comparison, and controlled clauses (complements and adjuncts). Representative data are given below (we do not illustrate every possibility for lack of space). (8) shows extraposition of a locative PP and a recipient PP. (9) illustrates extraposition of a manner adverbial and a frequency adverb. (10) illustrates extraposition of a standard of comparison. Extraposition of controlled clauses is seen later, in (33).

- (8) a. Nitoetra (**tamin’ ity trano ity**) nandritran’ ny
 PAST.live PREP DEM house DEM during DET
 raopolo taona ry Ratsimba (**tamin’ ity trano ity**)
 twenty year DET Ratsimba PREP DEM house DEM
 ‘The Ratsimbas lived in this house for twenty years.’
 b. Nanome vola (**ho an-dRabe**) aho (**ho an-dRabe**)
 PAST.give money PREP PREP-Rabe 1SG.NOM PREP PREP-Rabe
 ‘I gave money to Rabe.’
- (9) a. Namono akoho (**tamin-katezerana**) ny zaza
 kill.PAST chicken PREP-anger DET child
 (**tamin-katezerana**)
 PREP-anger
 ‘The child killed the chickens angrily.’
 b. Tsy mandamina ny trano (**matetika**) Rakoto (**matetika**)
 NEG arrange DET house often Rakoto often
 ‘Rakoto often does not put the house in order.’

- (10) Hendry (**noho ny zandriny**) i Koto (**noho ny zandriny**)
 wise than DET sibling.3SG Koto than DET sibling.3SG
 ‘Koto is wiser than his younger sibling.’

As has been noted in passing by a handful of researchers, EX has semantic consequences. Extraposed constituents are backgrounded/presupposed (Paul and Rabaovololona 1998, Pearson 2001, Kalin 2009). The only explicit evidence for this claim in the literature comes from Pearson 2001:180:

- (11) a. Namaky boky **tany an-tokotany** ve i Tenda?
 read book LOC PREP-garden Q Tenda
 ‘Was reading a book in the garden what Tenda was doing?’
 b. Namaky boky ve i Tenda **tany an-tokotany**
 read book Q Tenda LOC PREP-garden
 ‘Was reading a book what Tenda was doing in the garden?’

Both (11a) and (11b) translate broadly as ‘Was Tenda reading a book in the garden?’. In (11a), the PP ‘in the garden’ is inside the predicate and the question more accurately asks, ‘Was reading a book in the garden what Tenda was doing?’ In (11b), the PP is extraposed. As a result, it is backgrounded and the question is best paraphrased as ‘Was reading a book what Tenda was doing in the garden?’. That is, it is presupposed that Tenda was doing something in the garden and the question asks whether what he was doing there is reading a book.

This characterization of EX correctly predicts that certain elements cannot extrapose because they cannot be backgrounded. This includes wh-phrases and answers to questions. (12) shows that wh-phrases cannot occur in extraposed position. This follows if they are not presuppositional (Fitzpatrick 2005).

- (12) a. Lasa nody (**oviana**) Rabe (***oviana**)?
 gone PAST.go.home when Rabe when
 ‘Rabe went home when?’
 b. Nataon’ i Jehovah (**tamin’ iza**) ilay fifanekena (***tamin’ iza**)?
 do.PASS Jehovah PREP who DEM covenant PREP who
 ‘Jehovah made that covenant with who?’

The question/answer pair in (13) shows that the answer to a wh-question also cannot be extraposed, A2. The new information must appear unextraposed, A1.

- (13) Q: Oviana no lasa nody Rabe?
 when FOC gone PAST.go.home Rabe
 ‘When did Rabe go home?’

- A1: Lasa nody **omaly hariva** Rabe
gone PAST.go.home yesterday evening Rabe
'Rabe went home yesterday evening.'
- A2: #Lasa nody Rabe **omaly hariva**
gone PAST.go.home Rabe yesterday evening

We note in passing that extraposed CPs need not be backgrounded and can function as an answer to a question, (14). This is unsurprising since the word order in A1 without extraposition is simply ungrammatical.

- (14) Q: Inona no notenenan-dRabe momba ahy?
what FOC PAST.say.PASS-Rabe about 1SG.ACC
'What did Rabe say about me?'
- A1: *Niteny **fa miasa tsara ianao** Rabe
said that work well 2SG.NOM Rabe
'Rabe said that you work hard.'
- A2: Niteny Rabe **fa miasa tsara ianao**
said Rabe that work well 2SG.NOM

To summarize, extraposed constituents appear clause-finally, after the subject in Malagasy. Extraposition is impossible for objects, obligatory for full clauses, and optional otherwise. Except when extraposition is obligatory, extraposed constituents are backgrounded.

3. Analysis

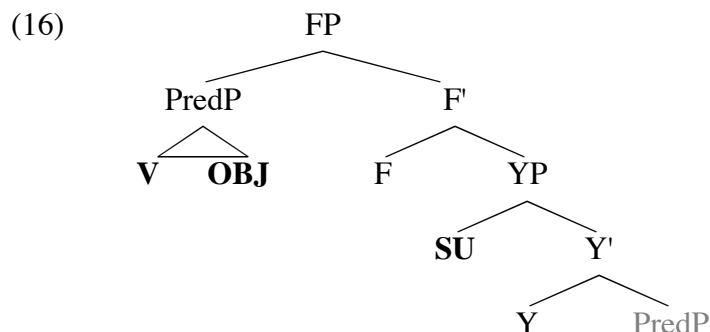
There is no shortage of analytical approaches to EX. We consider two here: an A' movement analysis (Ross 1967, Baltin 1982, Büring and Hartmann 1997, others), and a base-generation analysis (Rochemont and Culicover 1990).¹

Before developing instantiations of these analyses, we introduce our assumptions about Malagasy clause structure, in (15). We adopt a predicate-fronting analysis of VOS word order (Massam and Smallwood 1997, Rackowski and Travis 2000, Pearson 2001, others).

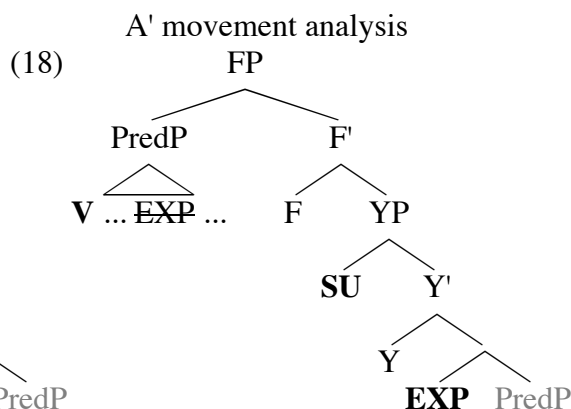
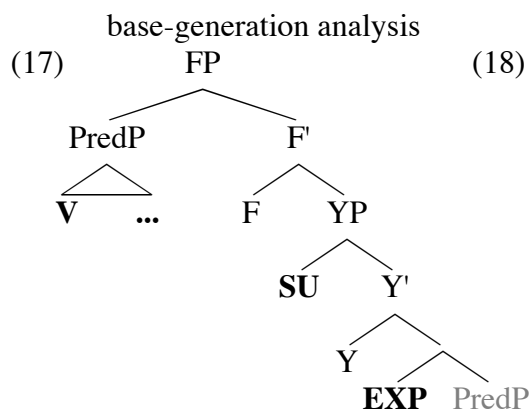
- (15) a. underlying SVO order
b. subject occupies the specifier of a phrase YP above the predicate
c. VOS is derived by leftward movement of a predicate constituent (PredP) to a position above the subject
d. PredP reconstructs to its base position at LF (Massam 2000, Potsdam 2007)

¹ Three more recent analyses that we will not explore given space considerations are a stranding analysis (Kayne 1994, Wilder 1996, Sheehan 2010), an ellipsis analysis (de Vries 2009), and a PF movement analysis (Göbbel 2007).

VOS clauses begin as SVO with the subject occupying a position that we call spec,YP for concreteness. VOS is derived by leftward movement of a predicate constituent, PredP. This movement is A' movement and PredP reconstructs to its base position at LF (Massam 2000, Potsdam 2007). A derivation for VOS is shown in (16).



Under a base-generation analysis of EX, the extraposed constituent is base-generated outside the predicate in a position to the right of the subject, (17). Under a movement analysis, the extraposed constituent is base-generated inside the predicate. It A' moves to a position outside the predicate. PredP then fronts, an instance of remnant movement, (18).



3.1. Evidence for A' movement

Evidence for the movement analysis comes from data showing that extraposed constituents behave as though they are in a predicate-internal position. We call these RECONSTRUCTION facts and they are summarized in (19). They are accounted for under a movement analysis on the assumption that EXPs originate in the predicate-internal position and can reconstruct to this position. They are unexplained on the base-generation analysis since EXPs are never in a predicate-internal position.

- (19) a. EXPs show reconstruction for syntactic selection
 b. EXPs can contain a pronoun bound by an object
 c. EXPs require reconstruction for Binding Principles
 d. EXPs require reconstruction for NPI licensing
 e. EXPs are not islands to extraction

The first argument comes from the observation that EXPs show reconstruction for syntactic selection. Complement selection is widely assumed to require locality and some EXPs are clearly complements:

- (20) Tezitra (**amin' ny mpiasa**) i Dada (**amin' ny mpiasa**)
 angry PREP DET worker father PREP DET worker
 'Father is angry with the worker.'

In the same vein, idiom pieces can extrapose and selection is required for idiom formation (O'Grady 1998, Bruening 2010):

- (21) Mampiditra ahy (**amin' ny kizo**) ianao (**amin' ny kizo**)
 insert 1SG.ACC PREP DET alley 2SG PREP DET alley
 lit. "You're inserting me into a dangerous alley."
 'You're trying to trick me.' (Winterton 2011:90)

The second argument comes from variable binding. EXPs can contain a pronoun bound by an object.² In (22), the extraposed PP contains a pronoun bound by the quantified object. In (23), the extraposed CP contains a bound pronoun. In a predicate fronting derivation, the object does not c-command EXP in these examples unless EXP can reconstruct back inside the predicate.

- (22) Nametraka ny zazakely tsirairay_i (**teo ambonin' ny**
 PAST.put DET child each LOC in DET
fandria-ny_i) ny mpitsabo (**teo ambonin' ny fandria-ny_i**)
 bed-3SG DET nurse LOC in DET bed-3SG
 'The nurse put each child_i in his_i bed.'
- (23) Niteny tamin' ny zazalahy tsirairay_i aho
 PAST.say PREP DET boy each 1SG
fa hanoroka azy_i Raso
 that FUT.kiss 3SG Raso
 'I told each boy_i that Raso will kiss him_i.'

² The subject may also bind a pronoun in an extraposed clause (Zribi-Hertz and Mbolatianavalona 1999, Law 2007); however, this is predicted for the structures under consideration regardless of whether or not there is reconstruction.

The third argument comes from the Binding Principles. Predicate-internal pronominal objects trigger Condition C violations with respect to R-expressions contained in an extraposed constituent. This is shown in (24) for an optionally extraposed PP and in (25) for an obligatorily extraposed CP. The object does not c-command into EXP unless it reconstructs.

- (24) a. Nampahatsiahy an-dRabe_i (**momba ny fivoriana-ny_i**)
 remind ACC-Rabe about DET meeting-3SG
 aho (**momba ny fivoriana-ny_i**)
 1SG.NOM about DET meeting-3SG
 ‘I reminded Rabe_i about his_i meeting.’
 b. *Nampahatsiahy azy_i (**momba ny fivoriana-dRabe_i**)
 remind 3SG.ACC about DET meeting-Rabe
 aho (**momba ny fivoriana-dRabe_i**)
 1SG.NOM about DET meeting-Rabe
 ‘*I reminded him_i about Rabe_i’s meeting.’
- (25) a. Nampahatsiahy an-dRabe_i aho **fa efa nahita azy_i Rasoa**
 PAST.remind ACC-Rabe 1SG that PFV PST.see 3SG Rasoa
 ‘I reminded Rabe_i that Rasoa already saw him_i.’
 b. *Nampahatsiahy azy_i aho **fa efa nahita an-dRabe_i Rasoa**
 PAST.remind 3SG 1SG that PFV PST.see ACC-Rabe Rasoa
 ‘*I reminded him_i that Rasoa already saw Rabe_i.’

The fourth argument comes from Negative Polarity Item (NPI) licensing. We assume that NPIs must be c-commanded by negation and that Malagasy negation *tsy* ‘NEG’ is inside the predicate as in (26a) and not external to the predicate as in (26b).

- (26) a. ✓ [[NEG PREDICATE] SUBJECT]
 b. ✗ [NEG [PREDICATE SUBJECT]]

Evidence for (26a) comes from the observations that subject NPIs are not allowed (unless licensed by genericity or modality) (Paul 2005), (27), and coordination shows that negation forms a constituent with the verb, (28).

- (27) *Tsy nanongo an’ i Koto n’iza n’iza
 NEG PAST.pinch ACC Koto anyone
 (‘No one pinched Koto.’) (Paul 2005:363, (13a))
- (28) [[Tsy maty] ary [tsy manampahataperana]] Izy
 NEG dead and NEG ended 3SG.NOM
 ‘He (God) is not dead, he is eternal.’

Nevertheless, predicate-internal NPIs may extrapose, (29). Reconstruction of the extraposed NPI is required on the assumption that the surface position of EXPs is outside the predicate and not c-commanded by negation.

- (29) Tsy nandroso vary (**tamin' n'iza n'iza**) i Be (**tamin' n'iza n'iza**)
 NEG PAST.serve rice PREP anyone Be PREP anyone
 'Be didn't serve rice to anyone.'

The final argument comes from extraction. A widely-cited generalization about Malagasy wh-questions is that only subjects and adjuncts can be questioned (Keenan 1976, 1995, others):

- (30) a. Iza no hividy fiara?
 who FOC FUT.buy car
 'Who will buy a car?'
 b. Rahoviana no hividy fiara Rabe?
 when.FUT FOC FUT.buy car Rabe
 'When will Rabe buy a car?'
 c. *Inona no hividy Rabe?
 what FOC FUT.buy Rabe
 ('What will Rabe buy?')

(31) shows that an adjunct wh-phrase can be long-distance questioned from inside an extraposed CP. Given the tense morphology on the wh-phrase and the two verbs, this must be a question about the time of the complement clause event; the wh-phrase must be originating in the embedded clause.

- (31) Rahoviana_i no mihevitra Rabe **fa hividy fiara t_i i Soa?**
 when.FUT FOC PRES.think Rabe that FUT.buy car Soa
 'When does Rabe think that Soa will buy a car?'
 (must be a question about the time of car-buying)

Extraction from EXP is problematic for a base-generation analysis of EX because movement from EXP in its extraposed position would violate Huang's (1982) Condition on Extraction Domains (CED), (32), which prohibits extraction from a non-complement. Under the A' movement analysis, movement is taking place from the extraposed clause when it is in its predicate-internal position. It subsequently extraposes.

- (32) *Condition on Extraction Domain* (CED) (Huang 1982:505)
 A phrase may be extracted out of a domain B only if B is properly governed

To summarize this section, reconstruction effects indicate that extraposed elements behave syntactically as though they were in a predicate-internal position. Such facts are incompatible with a base-generation analysis in which EXPs originate in a predicate-external position and require one in which EXPs are in a predicate-internal position at some point in the derivation.

4. Obligatoriness of CP Extraposition

We have argued thus far that, with respect to reconstruction facts, extraposition of CPs (CPEX) and extraposition of other phrases (EX) behave alike. That is, they could be a single phenomenon. There are two differences between CPEX and EX which prevent adopting this view of things. First, EX is optional but CPEX is obligatory and, second, EX backgrounds the EXP but CPEX does not. In this section, we address the first difference, arguing that it has an independent explanation.

We start with some additional data. As we have seen, CPEX is obligatory for both complement and adjunct CPs, (6) and (7). What has not been explicitly noticed before is that CPEX is only obligatory when the CP contains an overt clause-final subject. In situations where the CP lacks a clause-final subject, extraposition again becomes optional. We illustrate with three such situations. (33) demonstrates that controlled clauses, both complements and adjuncts, only optionally extrapose. In (34), subject-less existential clauses also need not extrapose. Finally, (35) illustrates a construction which Potsdam and Polinsky 2007 analyzes as topic drop in finite clauses. Lacking an overt subject, these clauses too do not have to extrapose.

- (33) a. Manantena (**hianatra teny anglisy**) Rabe
PRES.hope FUT.learn language English Rabe
(**hianatra teny anglisy**)
FUT.learn language English
'Rabe hopes to learn English.'
- b. Mianatra mafy (**mba hahazo karama be**)
study hard COMP.IRR get wages big
ilay mpianatra (**mba hahazo karama be**)
DEM student COMP.IRR get wages big
'The student studies hard in order to earn a big salary.' (Paul 2000:94)
- (34) Milaza (**fa misy gidro any an-tsena**) Rabe
PRES.say that exist lemur LOC PREP-market Rabe
(**fa misy gidro any an-tsena**)
that exist lemur LOC PREP-market
'Rabe says that there are lemurs at the market.'

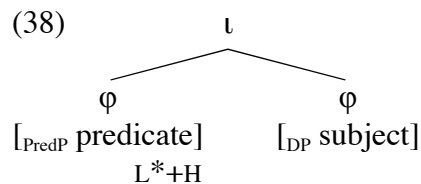
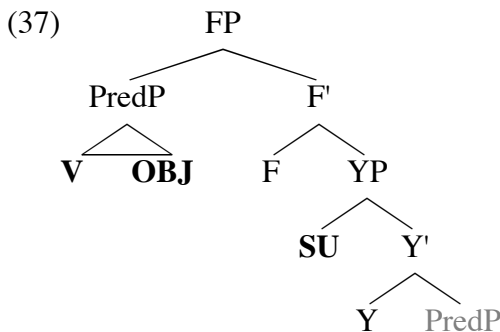
- (35) a. Milaza (fa nahita gidro tany an-tsena) Rabe
 PRES.say that PAST.saw lemur LOC PREP-market Rabe
 (fa nahita gidro tany an-tsena)
 that PAST.saw lemur LOC PREP-market
 ‘Rabe says that he (Rabe) saw a lemur at the market.’
 b. Marary (satria nihinana voankazo manta) Rasoa
 sick because eat fruit unripe Rasoa
 (satria nihinana voankazo manta)
 because eat fruit unripe
 ‘Rasoa is sick because she (Rasoa) ate unripe fruit.’

We propose that the obligatoriness of CPEX only when the CP has an overt clause-final subject follows from the prosodic structure of the language and a principle barring certain kinds of prosodic recursion. To see this, we need to develop a basic picture of Malagasy declarative clause intonation.

We assume a prosodic hierarchy consisting of intonational phrases (ι), phonological phrases (φ), and phonological words (ω) (Nespor and Vogel 1986, Selkirk 1986). Following Selkirk 2009 and Bennett et al. to appear, prosodic structure is read off of the syntactic structure using the default Match principles in (36).

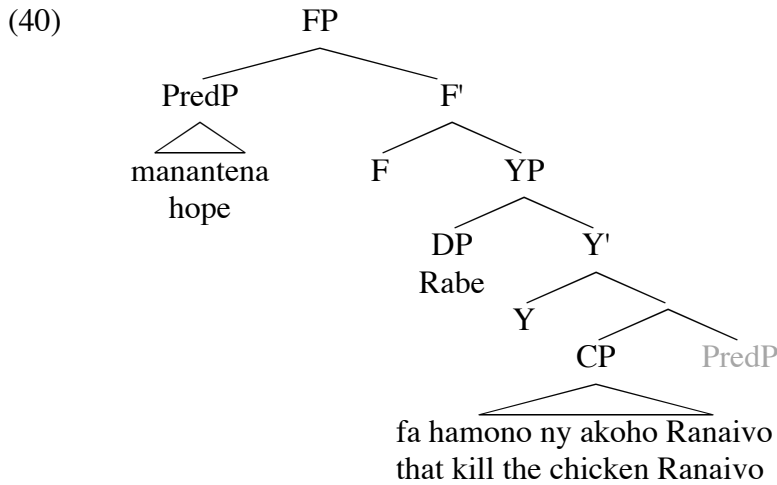
- (36) a. Match Word: Phonological words (ω) correspond to heads of phrases
 b. Match Phrase: Phonological phrases (φ) correspond to phrases
 c. Match Clause: Intonational phrases (ι) correspond to clauses

A VOS clause in Malagasy with the predicate fronting structure repeated in (37) has the prosodic structure in (38) (ignoring prosodic structure below the phonological phrase). This structure accords with descriptions of Malagasy intonation, which clearly identify the subject and predicate in a Malagasy clause as constituting separate phonological phrases (Dahl 1952, 1996, Rafitoson 1980, Raoniarisoa 1990). Frascarelli 2010 indicates that the predicate can be identified by a rising tone on its last word, aligned with the stressed syllable (L*+H using the ToBI labelling system). There is a secondary rising tone on the subject.

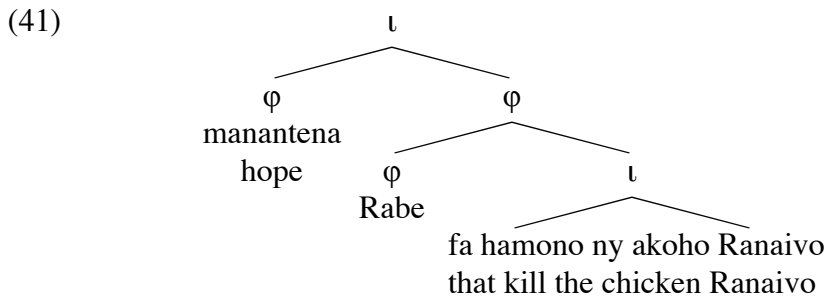


Adopting this picture, we can begin to explain the restriction on CPEX. Consider first a grammatical example of CPEX in (39). This sentence has the structure in (40).

- (39) Manantena Rabe **fa hamono ny akoho Ranaivo**
 hope Rabe that kill DET chicken Ranaivo
 ‘Rabe hopes that Ranaivo will kill the chicken.’



Given the Match principles, its prosodic structure should be as follows:

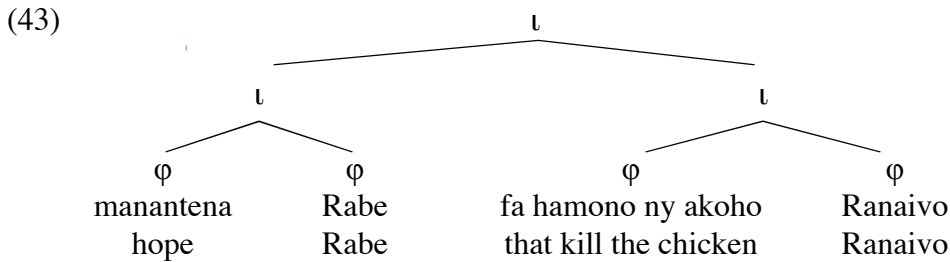


The structure in (41) is ill-formed however. As Bennett et al. to appear:60-62 discusses, certain kinds of recursion are not possible in prosodic structure. In particular, a higher-level phonological constituent may not contain a lower level one. That is, ι may contain ϕ but ϕ may not contain ι . We call this the Nested Layering Constraint, (42).³ Such a constraint differentiates prosodic structure from syntactic structure, which is not restricted in this way.

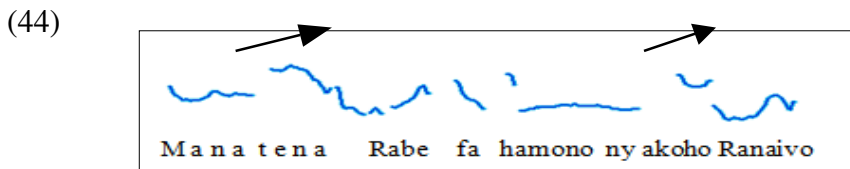
³ This constraint is reminiscent of the Strict Layer Hypothesis (Selkirk 1984, Nespor and Vogel 1986) but is less restrictive in allowing for recursion. Recent work strongly suggests that recursion of like prosodic constituents should be allowed (Ladd 1986, Wagner 2010, Elfner 2012, others).

- (42) **Nested Layering Constraint (NLC)**
 A prosodic constituent of type A may not contain a constituent B that is higher on the prosodic hierarchy

In order to avoid violating the NLC, the prosodic structure in (41) is adjusted (Bennett et al. to appear): the intonational phrase corresponding to the complement clause is adjoined to the matrix intonational phrase, yielding a well-formed representation, (43).

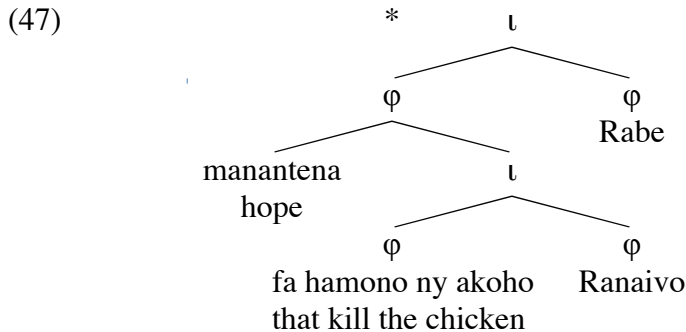
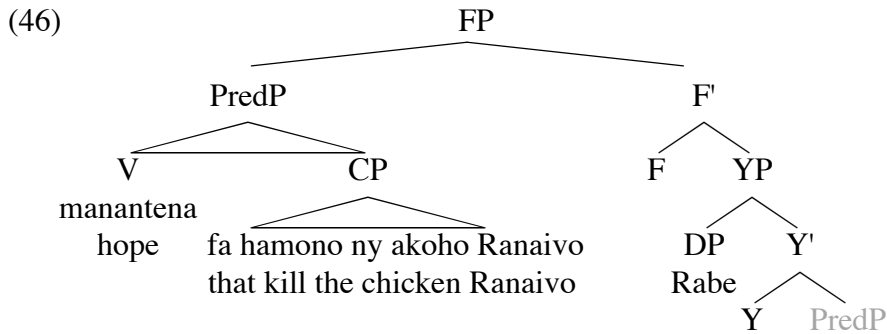


This analysis is confirmed by the pitch track for the sentence in (44). The rising tones on the phonological phrases corresponding to the two predicates are shown. One can also see the secondary rising tones on the subjects.



Now consider the ungrammatical example without extraposition of the CP, in (45). Given the syntactic structure in (46), the predicted prosodic structure is in (47). The embedded CP constitutes its own intonational phrase in accordance with the Match principles. The matrix clause in turn consists of an intonational phrase containing the predicate ‘hope that Ranaivo will kill the chicken’ and the subject ‘Rabe’, as shown.

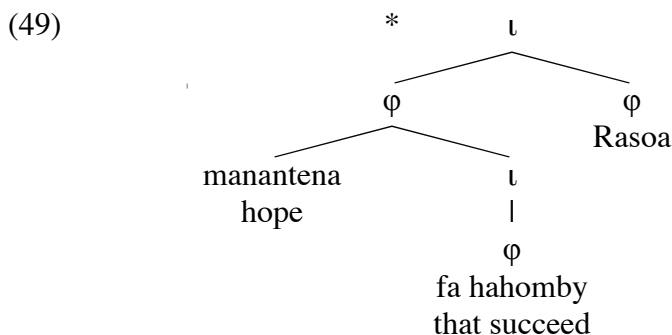
- (45) *Manantena **fa hamono ny akoho Ranaivo** Rabe
 hope that kill DET chicken Ranaivo Rabe
 (‘Rabe hopes that Ranaivo will kill the chicken.’)



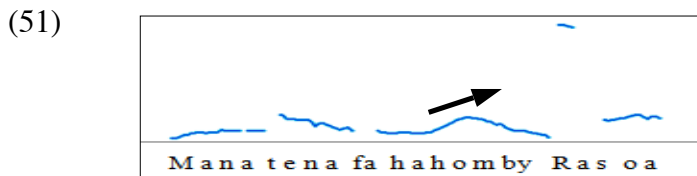
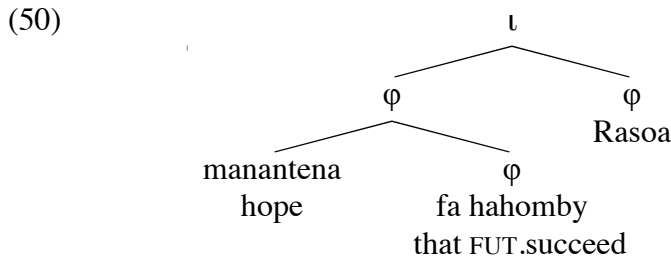
This structure also violates the NLC. It can be adjusted as discussed above to yield the representation in (43). Crucially, however, this would change the word order and would not correspond to (45), but (39). Either the CP is extraposed in the syntax or its position is phonologically adjusted in the prosodic structure. Either way, the word order that results is (39). (45) is never generated.

Finally, we consider an example of optional extraposition when the clause-final subject is absent, as in the topic-drop example in (48). The predicted prosodic structure using the Match principles is (49) (compare to (47)).

- (48) Manantena **fa** **hahomby** e_i Rasoa_i
 hope that succeed Rasoa
 ‘Rasoa hopes that she (Rasoa) will succeed.’



This structure violates the NLC. One way to rescue it is to extrapose the CP, but that would not yield the desired word order. An alternative suggests itself, appealing to binarity: an optimal prosodic constituent contains exactly two subconstituents (Inkelas and Zec 1990). The embedded intonational phrase in (49) does not contain two phonological phrases. This is a direct consequence of the complement clause missing a subject, which would constitute a second phonological phrase. We hypothesize that a more optimal representation eliminates ι , yielding the representation in (50), which is well-formed. It corresponds to the pitch track for this sentence in (51), where there is only one predicate-related high tone at the end of the embedded clause.



In summary, we believe that the obligatoriness of CPEX follows from general and language-specific prosodic requirements. Consequently, CPEX can be viewed as an instance of simple extraposition, its obligatoriness a result of these independent restrictions.⁴

5. Conclusion

Extraposition in Malagasy is a commonplace phenomenon in which predicate-internal elements appear clause-finally, after the subject. It is generally optional except that it is impossible for objects and obligatory for clauses. We proposed that this obligatoriness is due to a prosodic restriction against recursion in which an intonational phrase is embedded inside a phonological phrase. The illicit recursion can be resolved through extraposition, or by removing the embedded clause subject, which reduces the intonational phrase to a phonological phrase. Thus, the

⁴ The obligatoriness of CPEX strikes us as the reason why CPEX overrides the backgrounding function of extraposition. Without this override, there would be no way to express certain information structures. For example, it would not be possible to assert the propositional content of a CP. We save for later a formal implementation of this intuition.

obligatoriness of CP extraposition has an independent account and is not a sufficient reason to recognize two kinds of extraposition, at least not for Malagasy (contra Manetta 2012 for Hindi).

Extraposition has a semantic consequence of backgrounding the extraposed constituent but obligatorily extraposed CPs do not need to be interpreted as backgrounded.

Syntactically, we argued that extraposed constituents are not base-generated in the extraposed position but are A' moved there. They behave syntactically as though they are in the predicate-internal position as evidenced by a variety of reconstruction facts.

A number of issues require further investigation. We quickly mention three: First, why can objects not extrapose? Second, Malagasy has other kinds of extraposition: Extraposition from NP and Heavy XP Shift. Do they have the same analysis? Finally, why does obligatory CPEX not have the same backgrounding function as optional extraposition? We hope to address these questions and others in future work.

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