

Malagasy Phrasal Compounds* A Syntactic Account

Dimitrios Ntelitheos

Introduction

In Malagasy, a linking particle *-n-* prototypically marks the possessee-possessor configuration, as in example (1), and also links postverbal external arguments to the verb in non-active voices, as well as most prepositions to their complements (Keenan and Polinsky 1998)¹.

1. lehibe [ny trano.n-dRabe]
 big DET house.LNK-Rabe
 ‘Rabe’s house is big.’

The structure in (1) resembles a type of productive compounds in the language:

- | | | | |
|-------|--|----|--|
| 2. a. | ambi.m-bava
excess.LNK-mouth
‘a surplus of food’ | b. | lamba.m-baravarana
cloth.LNK-window/door
‘curtain’ |
| c. | feo.n-kira
sound.LNK-song
‘melody’ | d. | trano.n-kala
house.LNK-spider
‘spider-web’ |

The bracketed string in (1) and the strings in (2) exhibit the same prosodic properties in that they both carry a single main stress and are subject to the same type of morphophonological processes of consonant mutation and prenasalization (Keenan and Razafimamonjy 1996).

However, the two structures present a number of differences in their internal structure

* I would like to dedicate this paper to Ed Keenan. I will always be grateful to him for sharing with me his enthusiasm about Malagasy and for never tiring of explaining to me the finer points of the language (including teaching me a reading course based on a first grade reader!). Sometimes when pursuing different working hypotheses, one can get distracted and lose sight of what the data actual shows. Ed’s numerous insightful comments during my dissertation work and my broader research on Malagasy morphosyntax helped me keep a constant eye on the data. This skill, I hope, will always stay with me. Misaotra betsaka anao!

A special thank you goes to Mamy Rasolofondrainibe for providing some of the data used in this paper.

¹ Abbreviations follow the Leipzig rules. The following conventions in abbreviating Malagasy-specific labels in the examples will be used: LNK linking particle –n-; V, verbalizing prefix; CT, circumstantial topic.

and semantic interpretation. While possessive structures are mostly interpreted compositionally, compounds often carry idiomatic readings. In addition, the strings in 2 exhibit lexical integrity effects in that they contain non-referential atoms and are islands for extraction. In addition, while the rightmost element can be modified by its own modifiers in a possessed DP, direct modification is not available for the corresponding element in a compound.

These properties of Malagasy linked compounds match compound properties crosslinguistically in their idiomatic semantics and lexical integrity effects. This seems to indicate that while possessive structures are formed in the syntax, compounds are derived through a morphological process. However, I argue here that both possessive structures and compounds in Malagasy are formed in the syntactic component and that their differences are the result of merging the linker at different heights in the syntactic structure. The proposed analysis relies on the assumption that referential properties are acquired in specified projections outside the domain of first merge (Sportiche 2005). Thus, in both possessive structures and compounds the derivation starts with the two nominals merging in bare form and with no referential properties. In possessive structures the possessor moves to a higher (in)definiteness projection where referential properties are fixed. No such movement occurs in compounds.

The proposed analysis limits the role morphology as a distinct combinatorial grammatical component. It assumes a unified analysis for the derivation of all compounds in the syntactic component via independently motivated syntactic processes. In addition it provides a straightforward analysis of gradient morphosyntactic properties: the degree of “lexicality” of a structure is directly related to the height of merger of specific functional morphology in the language.

The paper is organized as follows: In Section 2, I discuss briefly a number of structures in Malagasy that exhibit compound-like properties and lay down the properties of linking as a generalized mechanism of establishing a relation between two elements in the language. In Section 3, I provide a number of tests that distinguish between possessive structures and linking compounds in Malagasy. The discussion here relies heavily on Borer’s (1988, 2009) tests for Hebrew construct state compounds. In Section 4, I provide a syntactic analysis that captures these differences in a principled manner, relying only on independently motivated syntactic mechanisms. The proposal explains the morphosyntactic as well as the phonological and semantic properties of the structures involved. Finally, in the last section I present my concluding remarks.

1 Generalized Incorporation and Compounds in Malagasy

Malagasy exhibits rich morphological structures that are often the output of synthetic processes, what Keenan and Polinsky (1998:617) term generalized incorporation. Thus, very often direct objects of transitive verbs incorporate into the verb (3.a), while less often adjectival modifiers incorporate into the nouns they modify (3.b):

3. a. [Manana vola] izy → manam-bola
 PRS.V.have money 3SG.NOM
 ‘He/She has money.’
- b. Tsy tia ity [satroka fotsy] ity aho → satro-potsy
 NEG like DEM hat white DEM 1SG.NOM

‘I don’t like this white hat.’

It is not clear whether these are cases of real ‘incorporation’ in the sense of Baker (1988) or a “looser” connection, although accumulated evidence seems to support the latter analysis (see Massam 2001; Paul 2004; Ntelitheos 2012). Better cases of real incorporation in the language involve “possessor-raising” constructions, discussed in detail in Keenan and Ralalaoherivony (2000), and synthetic compounds (Ntelitheos 2012).

In possessor-raising structures the possessor raises to the sentence-rightmost privileged position (the subject position in traditional accounts), while the sentence predicate forms a tight unit with the possessee (see Keenan & Ralalaoherivony 2000; Paul 2004).

4. Maty ny vadi.n-dRabe → Maty vady Rabe
 died DET spouse.LNK-Rabe died spouse Rabe
 ‘Rabe’s spouse died/is dead.’ ‘Rabe was widowed.’

A similar type of compound is formed in synthetic compounds composed by an incorporated verbal argument and the verbal base (see Ntelitheos 2007, 2012):

5. n.a.hita [f.an.ala.hidy] aho
 PST.V.see NMLZ.V.remove.lock 1SG.NOM
 ‘I found a key. (Lit. instrument used to remove lock with)’

Less attention has been paid to more straightforward cases of compounding in the language. These include cases of N-N, N-Adj and Adj-N compounds (examples from Malzac, 1960:26):

6. a. rano.mainty
 water.black
 ‘ink’
 b. rano.maso
 water.eye
 ‘tears’
 c. tani.ravo
 earth.happy
 ‘white earth’ (used for whitewash)

Malagasy compounds are left-headed and so N-Adj compounds (6.a-6.c) are nouns, while N-N compounds’ meaning (as in (6.b)), is determined by the leftmost nominal:

7. a. loha trano c. afo.kasika
 head house fire.rubbing
 ‘rafters in the roof of a house’ ‘matches’
 b. ady hevitra d. ar.omby

fight thought
'discussion, dispute'

protection.ox
'fence'

The meaning of N-N compounds is not always compositional, as the examples in (7) illustrate. Thus, in (7.a), *loha trano* does not mean 'the head of the house' but rather the series of timbers or bamboo with pronounced slope, supporting the sheathing and covering of the roof of the house. Similarly, in (7.d), *aromby* does not mean 'protection from ox' but rather 'fence'.

Compound formation in Malagasy is subject to the same set of morphophonological properties that govern other word-level processes such as affixation and reduplication (Keenan and Razafimamonjy 1996; Paul 1996; Keenan 1995; Keenan and Polinsky 1998). That is, compounding involves concatenation of roots with stress reduction on the leftmost root and additional phonological changes such as consonant mutation and prenasalization, affecting the initial consonantal segments of the rightmost root.

Apart from these types of N-N compounds, Malagasy allows for an additional type of N-N compounds that are connected with the generalized linking mechanisms that involves the linker/ligature *-n-* (see Keenan and Razafimamonjy 1996; Paul 1996; Keenan and Polinsky 1998; Ntelitheos 2006, 2012). In Malagasy, the linker *-n-* marks environments that include possessors (8.a), objects of most prepositions (8.b), internal agents of non-active verbs (8.c)², and arguments of some adjectives and nouns:

8. a. lehibe ny trano.n-dRabe
big DET house.LNK-Rabe
'Rabe's house is big.'
- b. n.an.apaka mofo t.ami.n' ny antsy Rabe
PST.V.cut bread PST.with.LNK'DET knife Rabe
'Rabe cut bread with the knife.'
- c. n.an.orat.an-dRabe ilay penisily vaovao
PST.V.write.CT/LNK-Rabe DEM pencil new
'This new pencil, Rabe wrote (with it).'

I will focus here on the properties of the possessive structure in 8.a, but given that linking in Malagasy is a general mechanism of marking predicate-argument relations, the discussion extends to all other cases of linking with only minimal exceptions (see Ntelitheos 2006, 2012 for discussion). The word order of the linked string is fixed (c.f. (9)), and the string forms a tight morphosyntactic unit in that nothing can intervene between the possessee and the possessor (10.b):

9. * lehibe ny Rabe.n'trano
big DET Rabe.LNK-house

² I have chosen to gloss the nasal in the Circumstantial Trigger (CT) form of the verb in (8.c) as the linker, although it is arguably part of the CT affix *an-*. Geminate consonants are not possible in Malagasy and thus one of the two nasals in the sequence CT.LNK is deleted. I chose to gloss the remaining nasal as the linker to facilitate the discussion.

‘Rabe’s house is big.’

10. a. ny sakaiza.n-dRabe faly ...
 DET companion.LNK- Rabe happy ...
 ‘Rabe’s happy companion...’
- b. * ny sakaiza fali.n-dRabe
 DET companion happy.LNK-Rabe
 ‘Rabe’s happy companion...’

In (10.a), a modifying adjective follows the string possessee-possessor. Adjectival modification by one or more adjectives of a possessed nominal is somewhat unnatural in Malagasy but speakers do accept them as possible in the language and they are attested in Malagasy texts. However, in most cases the adjective is not allowed to appear between the possessor and the possessee (10.b). There are a few exceptions to this empirical generalization. As Keenan (1995) notes, a number of adjectival modifiers, that Keenan (1995: 97) terms ‘inherent property denoting adjectives’, are able to appear between the noun and the possessor in linking structures:

11. a. trano.n-dRabe vaovao
 house.LNK-Rabe new
 ‘Rabe’s new house’
- b. trano vaovao.n-dRabe
 house new.LNK-Rabe
 ‘Rabe’s new house.’

In terms of morphophonological properties the nominal possessee seems to be functioning like a bound morpheme and the linked possessor as a host forming a single prosodic unit. The “sub-lexical” properties of the string include phonological alterations at the boundary between predicate and subject. These processes are also attested in prefixation, reduplication and other morphological processes that are traditionally viewed as word-bound. A second property involves reduction of primary stress to secondary on the possessee, i.e. the string defines a single prosodic unit for purposes of stress assignment (12.a-12.b) (for a detailed discussion of these properties see Keenan and Razafimamonjy 1996; Paul 1996; Keenan 1995; Keenan and Polinsky 1998):

12. a. trano Rabé → tràno.n’dRabé
 house Rabe house. LNK-Rabe
 ‘Rabe’s house ...’
- b. vóla i Vóa → vòla.n’i Vóa
 money DET Voa house.LNK’DET Voa
 ‘Voa’s money...’

In (12.a) the initial [r] of the rightmost element, the possessor, changes to the affricate [dr]. This change is characteristic of word-level processes such as prefixation and reduplication and seems to indicate that the resulting string is a word. This is further

supported by the stress pattern in (12.a-12.b). The primary stress of the possessee reduces to secondary stress allowing for a single main stress for the whole string, again indicating that the string forms a single prosodic domain behaving like a (phonological) word. Obviously, any analysis that deals with the mechanism deriving linking in Malagasy will have to account for these properties in an adequate way (see Ntelitheos (2006) for a phase-based analysis). In the following section we will examine a number of strings which at first glance seem to resemble possessive linking structures, but under closer scrutiny exhibit properties predominately associated with morphological derivations.

2 Linking Compounds

There are a number of strings formed with the use of the linking mechanism which we discussed in the previous section that exhibit compound-like properties. Some examples are provided in (13):

- | | | | |
|--------|--|----|--|
| 13. a. | ambi.m-bava
excess.LNK-mouth
'a surplus of food' | f. | amboa.keli.n.tenda
dog.small.LNK.throat
'tonsil' |
| b. | doka.m-barotra
praise.LNK-trade
'advertising' | g. | antsi.m.panafody
knife.LNK.medicine
'scalpel' |
| c. | horohoro.n-tany
trembling.LNK-earth
'earthquake' | h. | atodi.n.tany
egg.LNK.earth
'edible root, tough mushroom' |
| d. | feo.n-kira
sound.LNK-song
'melody' | i. | ombalahi.n.tongotra
bull.LNK.foot
'heel' |
| e. | trano.n-kala
house.LNK-spider
'spider web' | j. | maso.n.drano
eye.LNK.water
'the channel of a river' |

In many ways the compounds of (13.a-13.j) look identical to the possessive structures of (8). Compare (14) and (15) below:

- | | |
|-----|---|
| 14. | lehibe ny trano.n-dRabe
big DET house.LNK -Rabe
'Rabe's house is big.' |
| 15. | lehibe ny trano.n-kala
big DET house.LNK-spider
'The spider-web is big' |

The two structures behave in exactly the same way for purposes of stress assignment.

There is only one main stress carried by the head of the rightmost element in the construction, as discussed in the previous section. In addition, the leftmost element of both the possessive and compound structures cannot be directly modified:

16. * ny trano.lehibe.n'd Rabe
 det house.big.LNK' Rabe
 'Rabe's big house.'

17. * ny trano.n-lehibe-kala
 DET house.LNK-big-spider
 'The big spider's web'

An exception seems to be cases of the type in (13.f), where an adjective appears inside the compound, modifying its leftmost head. However, these cases are extremely rare and must be listed (I have only managed to find one example in Richardson (1885)). In all cases no free modification with an adjective of choice is permitted.

Careful examination shows that even though the morphophonological shape of the two structures is the same, their morphosyntactic and semantic properties are different. Some extra-linguistic evidence from this comes from the choice of orthographic representation for these compounds: while many of them are written with a hyphen separating the possessee-linker form and the possessor (c.f.13.a-13.e), others are written as single words with no spaces or other spelling conventions, which seems to indicate that speakers conceive them as single units of some sort (i.e. *words* in traditional accounts). In addition to speakers' intuitions, the main body of evidence supporting the treatment of these strings as compounds comes from a number of morphosyntactic tests that have been proposed in the relevant literature on "genitive" or "construct state" compounds (Borer 1988, 2009).

In terms of semantics and in contrast to possessive structures, most of these compounds are not fully compositional and present idiomatic readings. In (13.e) for example, *tranon-kala* does not simply mean 'spider's house' but rather '(spider-)web'. Similarly, in (13.a) the meaning of the compound *ambim-bava* is not 'excess of mouth' but rather 'surplus of food or surplus of things in general' which can only be considered an idiomatic reading. And of course, there is no obvious straightforward connection between a foot's bull and a heel (13.i) or the small dog of a throat and a tonsil (13.f). On the other hand in most cases, possessed DPs are interpreted compositionally.

More support for treating the cases in (13) as compounds comes from a number of syntactic tests (the discussion here relies heavily on Borer's (1988, 2009) discussion of Modern Hebrew compounds). For example, the possessor can be modified by its own modifiers in a possessed DP (18.a). On the other hand, direct modification is not available for the rightmost element in a compound (18.b):

18. a. trano.n'olona mainty
 house.LNK'person black
 'black person' house'
 'person's black house'

b. trano.n-kala mainty
 house.LNK-spider black

‘The spider₁-web is destroyed because it₁ left.’

Similarly, the entire possessive phrase may be coordinated with the identical possessor realized as a pronoun on the second conjunct, as illustrated in (23):

23. ny trano.n-dRabe₁ sy ny zaridai.ny₁
 DET house.LNK Rabe and DET garden.3GEN
 ‘Rabe’s house and his garden.’
24. * ny trano.n-kala₁ sy ny toha.ny₁
 DET house.LNK-spider and DET prey.3GEN
 ‘The spider₁-web and its₁ prey.’

As (24) shows, such coordination is not possible for compounds, nor is any pronominal reference to the non-head allowed without a loss of non-compositional meaning.

Keenan and Ralalaoherivony (1998) discuss cases where a DP-internal possessor raises to subject position while the remnant possessee NP incorporates onto the predicate:

25. a. Maty ny vadi.n-dRabe
 died DET spouse.LNK-Rabe
 ‘Rabe’s spouse died/is dead.’
- b. Maty vady Rabe
 died spouse Rabe
 ‘Rabe was widowed.’
26. a. Róvitra ny void.n’ny hárona
 torn DET bottom.LNK’DET basket
 ‘The bottom of the basket is torn.’
- b. Ròvi-bódy ny hárona
 torn bottom DET basket
 ‘The basket has a torn bottom.’

The possessor subject has to be marked as definite following the general requirement that the rightmost discourse prominent element be marked as definite in Malagasy. This predicts that since the possessor element in linked compounds is always indefinite (in fact non-referential), it cannot participate in possessor-raising structures of this type:

27. a. fongotra ny trano.n-kala
 destroyed DET spider.LNK-web
 ‘The spider-web is destroyed.’
- b. * fongo-drano kala
 destroyed-house spider
 ‘The spider is web-destroyed.’

In other words, the rightmost element in a compound cannot participate in NP-raising

structures due to the definiteness requirement on the Malagasy subject. If the rightmost element appears with a definite determiner, the idiomatic reading is lost and the structure is interpreted as possessive again:

28. fongo-drano ny kala
 destroyed-house DET spider
 ‘The spider is house-destroyed.’

Given the absence of a definiteness projection in Malagasy phrasal compounds the next question addresses the depth of nominal functional layers that the compound structure allows. As we have seen, a specific class of adjectives which Keenan (1995: 97) calls ‘inherent property denoting adjectives’ are able to appear between the noun and the possessor in linking structures, i.e. the leftmost element of a possessive structure can be directly modified by an adjective:

29. trano.n-dRabe vaovao
 house.LNK-Rabe new
 ‘Rabe’s new house’

30. trano vaovao.n-dRabe
 house new.LNK-Rabe
 ‘Rabe’s new house.’

No such modification with this type of adjectives is possible with compounds:

31. * trano vaovao.n-kala
 house new.LNK-spider
 ‘new spider-web’

Thus, adjectival layers, or more precisely the functional projections where attributive adjectives merge, cannot be contained inside these compound structures.

In the following section I provide a syntactic derivation for these compounds, based on recent developments in syntactic theory, which allow for a fresh look on the properties of these compounds and provide explanations supported by independently motivated syntactic mechanisms.

3 A Syntactic Analysis

The properties of Malagasy linked compounds match compound properties crosslinguistically in their idiomatic semantics and in that they exhibit lexical integrity effects: no reference, no modification, and no extraction. This initially seems to point towards a morphological derivation for these compounds as opposed to a syntactic derivation which would be the default analysis for the corresponding possessive strings. On the other hand, the presence of functional morphology in the form of the linker adds Malagasy phrasal compounds to an increasing body of data which contains expressions exhibiting “mixed” morphosyntactic properties. For example, since Siegel (1979) it is generally assumed that the appearance of inflectional morphology is usually strictly forbidden within the word domain. However, even English provides a number of

examples where possessive phrases appear to have compound-like properties, as in expressions like “women’s magazine” (see for example Taylor 1996). Booij (2008) discusses such strings and proposes the following:

“We therefore assume an idiomatic pattern or constructional idiom N’s N for English that serves to create new lexical expressions. A constructional idiom is a fixed syntactic pattern in which some positions may be filled by all kinds of words of the right category, whereas other positions are filled by specific morphemes or words. In this case, there is only one morpheme lexically specified, the morpheme -s. The two N positions are variable, and can be filled by all sorts of noun”. Booij, 2005:83

In other words these constructional idioms are assumed to be phrases with possibly idiosyncratic phonology (i.e. stress patterns) and semantics. But if this is the case, the default analysis should be a syntactic one. How is the combination of “all sorts of noun” with “specific morphemes” different than the combination of all sorts of nouns with specific functional heads which host adjectives? A number of earlier and recent accounts (Baker 1988, Lieber 1992, Marantz 1997, Julien 2003, Ntelitheos 2012) place traditional structure-building morphological processes (including category-changing operations such as nominalization) in the syntactic component and show that these derivations can be accounted for by independently motivated syntactic operations, simplifying thus the computational mechanisms of language.

Following this line of thought, I propose here that despite their word-like properties linking compounds in Malagasy are derived in the syntactic component. The starting point for the discussion is the existence of functional material within what is traditionally assumed to be a “word domain”.

At the phonological level, as we have seen, both possessive and compound structures define a single prosodic domain for purposes of stress-assignment. So the differences between the two structures have to do with different syntactic behavior, the fact that compounds exhibit so-called “lexical-integrity” effects and the semantic distinction of compositionality for possessive structures vs. idiomatic readings for compounds. The latter two can be combined into one if we assume that idiosyncratic readings are associated with the domain of syntax where incorporation, and therefore compound-like properties and lexical-integrity are associated with. Borer (2009) assumes that incorporation takes place at the low level within the noun phrase, and more specifically above N or N+CL the clitic projection in the noun phrase, but crucially not above #P the number associated phrase or DP the referential projection, as the last two projections are of the wrong type <e>. By confining the encyclopedic search to this domain Borer succeeds in deriving semantic opacity for Hebrew construct compounds. In addition the fact that these compounds are derived through incorporation accounts for the set of other properties that they carry (see Borer (2009)) for a detailed discussion of these properties.

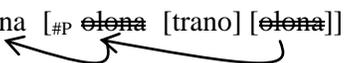
I will follow the same general lines here trying to make more precise the process of linking compound formation, but assuming that the linking compounds derive via phrasal movement rather than head-movement. The reason for this choice is directly related to the presence of the linker in the derived string, as the linker is a functional element that seems to facilitate predicate-inversion type of structures (see Ntelitheos 2012).

The proposal assumed here builds heavily on work by Sportiche (2005), which proposes that referential properties are licensed in projections outside the domain of first

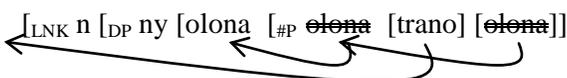
merge (Sportiche 2005). This means that predicates select for bare NPs and that subsequent nominal layers (case, number, quantification) project outside the thematic domain and trigger movement of the argument NP to VP-external positions. A VP-internal argument is selected by the verb as an NP. It subsequently moves to number, case and definiteness projections outside the VP shell. The evidence supporting this claim is drawn from reconstruction effects (see Sportiche 2005, for discussion). The direct result of this claim is that any derivation starts by merging a predicate to a bare NP. Assuming (following DenDikken 2005) that the possessive construction is a merger of a nominal possessee argument with a possessive predicate (possibly headed by a null preposition), then this merge happens at the pre-functional level in Sportiche's analysis. Thus, in both Malagasy possessive structures and compounds the derivation starts with the two nominals merging in bare form and with no referential properties:

32. [trano] [olona]
 house person

In possessive structures the possessor moves to the higher number projection (#P) while an (in)definiteness projection (DP) also merges outside this domain and referential properties are fixed by moving the possessor to this projection:

33. [DP ny [olona [_{#P} ~~olona~~ [trano] [~~olona~~]]]
- 

Given that number and/or the determiner are category-determining functional projections, at this level meaning is compositionally derived⁵. This is based on the hypothesis that compositional semantics is the normal way of interpreting strings derived by merging category-determining functional material in the extended projection. This has been promoted in Marantz (2001, 2007, 2012) and Arad (2003, 2005) and assumes that idiosyncratic meaning derives from locality conditions on the interpretation of roots. Roots obtain semantic interpretation when the first category assigning head (or phase head) merges in their projection and this interpretation is then fixed for the remainder of the derivation. Idiosyncratic meanings arise when functional elements merge directly with a root. However, when affixes attach outside category defining heads (such as NUMBER and DET), the result is a meaning predictable from the meaning of the stem, i.e. compositional. In the example of (33), the linker attaches outside the domain defined by the category-determining affixes for number and definiteness and thus the meaning of the derived string is determined compositionally. After the linker has merged, the possessee moves and gets licensed in its specifier resulting in the final word order. Additional number and definiteness projections can merge now, quantizing the possessee:

34. [LNKP trano [LNK n [DP ny [olona [_{#P} ~~olona~~ [trano] [~~olona~~]]]]]
- 

However, if a functional element such as the linker merges directly with the root domain, before category-determining heads, the semantic interpretation can be idiomatic.

⁵ In the original discussion (Marantz 2001, 2007) category-determining heads are phasal heads like little *v* for the verbal domain (e.g. *n* for nominals and *a* for adjectives). However, this is not crucial; for the discussion here, one can assume a little *n* merging below number and definiteness projections or take these projections to be category-determining. Once these heads have merged, compositionality ensues.

This is possible because as we have discussed above, an “encyclopedic” interpretation, which is connected to the phonological spellout of a specific morphosyntactic domain, confines its searches to this “inner” or lower domain while larger syntactic domains which contain functional projections are interpreted compositionally.

We assume here that the linker merges directly above the root domain in the cases of compound formation, attracting the possessee to its specifier:

35. [LNKP trano [LNK n [~~trano~~] [kalo]
-

The linker acts as a marker of the relation between possessee-possessor in both structures (in the sense of den Dikken 2006). In phonological terms, the projection headed by the linker defines a single prosodic domain for purposes of stress assignment, i.e. only a single main stress is associated with this domain, whatever the internal structure of the domain may be.

If this structure is on the right track then a number of properties exemplified in the previous section follow straightforwardly. The possessor, now embedded in the domain defined by the linker (a phase), has not been quantized, in the sense of Sportiche (2005). Since referentiality is associated with specific projections and since these projections are not available within the compound, it is natural to exclude D-elements like determiners and demonstratives with the possessor:

36. * trano.n' ity/ny kala
 house.LNK'this/the spider
 'the/this spiders house'

Non-referentiality of the compound-internal constituents also prohibits their antecedent pronominals (examples (22-24) repeated here):

37. * Fongotra ny trano.n-kala₁ fa lasa izy₁
 destroyed DET house.LNK-spider because gone 3NOM
 'The spider₁-web is destroyed because it₁ left.'
38. * ny trano.n-kala₁ sy ny toha.ny₁
 det house.lnk-spider and det prey.3gen
 'The spider₁-web and its₁ prey.'

The discussion here is also relevant to modification. If modification is related to specifiers of functional projections above the root or lexical domain (as in Cinque 1999), then these projections are also not available within the domain of compound formation. Thus, adjectives are not expected to be able to modify either the possessor or the possessee. The only possibility is for adjectives to merge above the linking domain, in which case they modify the full possessee-linker-possessor structure:

39. trano.n-kala mainty
 house.LNK-spider black
 'black spider-web'

As we have already seen, the unavailability of extraction is explained independently

by the requirement that Malagasy subjects are preceded by a definite determiner:

40. a. fongotra ny trano.n-kala
 destroyed DET spider.LNK-web
 ‘The spider-web is destroyed.’
- b. * fongo-drano kala
 destroyed-house spider
 ‘The spider is house-destroyed.’

Finally, the problem of iteration can also be somewhat explained. As we have seen iteration of compounding is possible, although very marginal in Malagasy (Keenan and Polinsky 1998:620). This is expected as the linker defines the domain of compounding. A linked compound is a domain where functional material has already been introduced, in the form of the linker. In most cases the derived string will merge with a category-determining head creating an “outer” domain where merging of subsequent linkers will be interpreted compositionally. However, sometimes the language allows for linkers to merge again creating a larger “inner” domain, i.e. a recursive compound with three roots. Speaker dispreference for these compounds then may be attributed to a more general dispreference of iteration in the inner domain, in other words there is a requirement that the category-determining morpheme attaches as early as possible in the derivation.

Conclusion

I have shown that a class of phrasal compounds in Malagasy has properties which point towards a syntactic source. I have derived their compound-like properties from the independently motivated syntactic properties of the domain in which their derivation takes place. This ‘phasal’ domain is responsible not only for their idiosyncratic semantic properties and lexical integrity effects but also for their single prosodic domain for purposes of stress assignment. The discussion indicates that the term “compound” in this context is in fact misleading and what we are actually dealing with is different syntactic phrasal domains whose properties are determined by the height of attachment of certain functional and category-determining heads.

References

- Arad, M. 2003. Locality constraints on the interpretation of roots: The case of Hebrew denominal verbs. *Natural Language & Linguistic Theory* 21: 737–778.
- Arad, M. 2005. *Roots and patterns: Hebrew morpho-syntax*. Dordrecht: Springer.
- Baker, Mark. 1988. *Incorporation*. Chicago: The University of Chicago Press.
- Booij, Geert. 2005. *The Grammar Of Words: An Introduction To Linguistic Morphology*. Oxford: Oxford University Press.
- Borer, Hagit. 1988. On the morphological parallelism between compounds and constructs, *Morphology Yearbook 1*, Foris, Dordrecht

- Borer Hagit 2009. Afro-Asiatic, Semitic: Hebrew. *The Oxford Handbook of Compounding*. eds. Lieber Rochelle & Pavol. Štekauer, Oxford: Oxford University Press.
- Cinque, Guglielmo. 1999. *Adverbs and Functional Heads; A Cross-Linguistic Perspective*. Oxford: Oxford University Press.
- den Dikken, Marcel. 2006. *Relators and Linkers. The Syntax of Predication, Predicate Inversion, and Copulas*. Cambridge, MA: MIT Press.
- Julien, Marit. 2003. *Syntactic Heads and Word Formation*. Oxford: Oxford University Press.
- Keenan, Edward L. 1995. Predicate-argument structure in Malagasy. *Grammatical Relations: Theoretical Approaches to Empirical Questions*, eds. C. S. Burgess, K. Dziwirek, and D. Gerdts. Stanford: CSLI, 171-216.
- Keenan, Edward L. & Jean Paulin Razafimamonjy. 1996. Malagasy Morphology: Basic Rules. *The Structure of Malagasy*, UCLA Occasional Papers in Linguistics 17, eds. M. Pearson & I. Paul, Department of Linguistics, UCLA, 31-48.
- Keenan, Edward L. & Maria Polinsky. 1998. Malagasy (Austronesian). *The Handbook of Morphology*, eds. In A. Spencer & A. Zwicky, Oxford: Oxford University Press, 563-623.
- Keenan, Edward and Baholisoa Ralalaoherivony. 2000. Raising from NP in Malagasy. *Lingvisticae Investigationes 23*: 1-44.
- Lieber, Rochelle. 1992. *Deconstructing morphology: Word Formation in Syntactic Theory*. Chicago: University of Chicago Press.
- Malzac, Victorin. 1960. *Grammaire Malgache*. Paris, Société d'Éditions Géographiques, Maritimes et Coloniales. 4th edition.
- Marantz, Alec. 1997. No escape from syntax: don't try morphological analysis in the privacy of your own lexicon. University of Pennsylvania Working Papers in Linguistics, Vol. 4.2, eds. A. Dimitriadis, L. Siegel, C. Surek-Clark & A. Williams, Proceedings of the 21st Annual Penn Linguistics Colloquium, 201-225.
- Marantz, A. 2001. Words. WCCFL XX Handout, USC, February 2001.
- Marantz, A. 2007. Phases and words. S. H. Choe et al, (eds.) *Phases in the theory of grammar*. Seoul: Dong In Publisher.
- Marantz, A. 2012. Locality Domains for Contextual Allomorphy Across the Interfaces. Ms. NYU.
- Massam, Diane. 2001. Pseudo noun-incorporation. *Natural Language and Linguistic Theory 19*:153-197.
- Ntelitheos, Dimitrios. 2006. Agents vs. Possessors in Malagasy. 80th Annual Meeting of the Linguistic Society of America, Albuquerque, New Mexico, 5-8 January 2006.
- Ntelitheos, Dimitrios. 2007. Malagasy Instrumental Nominalizations. *The Proceedings of*

- the Texas Linguistics Society IX Conference: The Morphosyntax of Under-Represented Languages*, eds. D. S. Bigham, F. Hoyt, N. Seifert, A. Teodorescu, and J. White, CSLI Online Publications, Stanford, California.
- Ntelitheos, Dimitrios. 2012. *Deriving Nominals: A Syntactic Account of Malagasy Nominalizations*. Leiden: Brill.
- Paul, Ileana. 1996. The Active Marker and Nasals in Malagasy. *The Structure of Malagasy, UCLA Occasional Papers in Linguistics 17*, eds. M. Pearson & I. Paul (eds.) Department of Linguistics, UCLA, 49-57.
- Paul, Ileana. 2004. Two types of noun incorporation. In *Proceedings of Austronesian Formal Linguistics Association XI*. Berlin: ZAS. 218-228.
- Richardson, James. (1885) *A New Malagasy-English Dictionary*. LMS, Antananarivo. Reprinted in 1967 by Gregg Press, Farnborough, Hants.
- Siegel, D. 1979. *Topics in English Morphology*. New York: Garland.
- Sportiche, Dominique. 2005. Division of Labor between Merge and Move: Strict Locality of Selection and Apparent Reconstruction Paradoxes. *LingBuzz*, available at <http://ling.auf.net/lingbuzz/@OIUETTjffmWuiVMq/GnKnPeKC>.
- Taylor, John R. 1996. *Possessives in English: An Exploration in Cognitive Grammar*. Oxford: Clarendon Press.

Affiliation

Dimitrios Ntelitheos
Department of Linguistics
United Arab Emirates University
dimitrios_n@uaeu.ac.ae