

# A Direct Analysis of Malagasy Comparatives\*

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**Abstract:** This paper investigates the syntax of Malagasy phrasal comparatives—comparatives in which the standard of comparison is a phrase. It argues for a direct analysis in which the standard is a simple noun phrase at all levels of representation. Evidence is offered against two alternative analyses: A reduced clause analysis in which the standard is the remnant of a partially elided clause, and an implicit comparison analysis in which the standard phrase is an adjunct that expresses comparison indirectly, akin to the English adverbial *compared to X*.

## 0. Introduction

The cross-linguistic picture of the syntax and semantics of comparatives has expanded rapidly in the last two decades. In this paper, I contribute to this body of work by investigating the syntax of the comparative construction in Malagasy, an Austronesian language spoken by as many as seventeen million people on the island of Madagascar. Malagasy is typologically quite distinct from English, although the comparative construction looks superficially very English-like, (1).

- (1)            lava    (kokoa)    [noho [ilay    zaza]] Rabe  
              long    more            than    that    child    Rabe  
              *'Rabe is taller than that child.'*

I use English as a starting point for the investigation and begin with some terminology. In the English comparison in (2), *Sandy* is the TARGET OF COMPARISON and *Kim* is the STANDARD OF COMPARISON. *More* is the COMPARATIVE MORPHEME, *stubborn* is the GRADABLE PREDICATE, and *than* is the STANDARD MARKER. The standard marker plus the standard of comparison constitute the STANDARD PHRASE, bracketed in (2).

- (2)            Sandy            is more            stubborn            [than            Kim].  
              *target of            comparative    gradable            standard            standard of*  
              *comparison            morpheme    predicate            marker            comparison*

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The following non-Leipzig abbreviations are used in glossing: AT-actor topic voice, CT-circumstantial topic voice, DEIC-deictic, DIR-directional, PREP-preposition, T/A-tense/aspect, TT-theme topic voice. Examples come from my own notes unless otherwise indicated.

Two types of comparatives predominate cross-linguistically. A CLAUSAL COMPARATIVE is a comparative in which the object of the standard marker shows clausal syntax:

- (3) a. Mary is taller than *John is*.
- b. Sue bought more books than *she read*.

A widely accepted analysis of clausal comparatives is Comparative Deletion. The complement to the standard marker is a clausal CP complement with a degree operator (Op) in spec,CP binding a degree variable (*d*) in the gradable predicate. Some portion of the clause is then deleted under identity with antecedent material (Bresnan 1973, Heim 2000), as in (4). Deleted material is contained in angled brackets.

- (4) Mary is taller [than [<sub>CP</sub> Op<sub>i</sub> [John is <*d<sub>i</sub>*-tall>]]]

A PHRASAL COMPARATIVE, in contrast, is one in which the object of the standard marker is a phrase:

- (5) a. Mary is taller than *John*.
- b. Sue talked more to Bill than *to Tom*.

Unlike with clausal comparatives, there is no consensus on the analysis of phrasal comparatives, and it is probably the case that Universal Grammar makes available more than one analysis. There are two broad classes of analysis. Under a REDUCED CLAUSE ANALYSIS (Bresnan 1973, Heim 1985, Hazout 1995, Hackl 2000, Lechner 2001, 2004, Pancheva 2006, to appear, Merchant 2009, and others), phrasal comparatives have covert clausal structure, much as in clausal comparatives. The clausal structure is greatly reduced by ellipsis:

- (6) Mary is taller [than [<sub>CP</sub> Op<sub>i</sub> [John <is *d<sub>i</sub>*-tall>]]]

Under a NON-CLAUSAL ANALYSIS, the object of the standard marker is a simple phrase, e.g. a DP, and no ellipsis is involved (Hankamer 1973, Hoeksema 1983, Brame 1983, Napoli 1983, Bhatt and Takahashi 2007, 2008, and others):

- (7) Mary is taller [than [<sub>DP</sub> John]]

Within this non-clausal context, there are again two variants, depending upon whether the standard phrase contributes to EXPLICIT COMPARISON or IMPLICIT COMPARISON. Following Kennedy (2009), explicit comparison involves specialized comparative morphosyntax that expresses a comparative ordering relation. Implicit comparison, in contrast, expresses comparison only indirectly, by specifying the context in which an inherently context-sensitive gradable predicate is evaluated. Kennedy (2009) defines these two modes as follows:

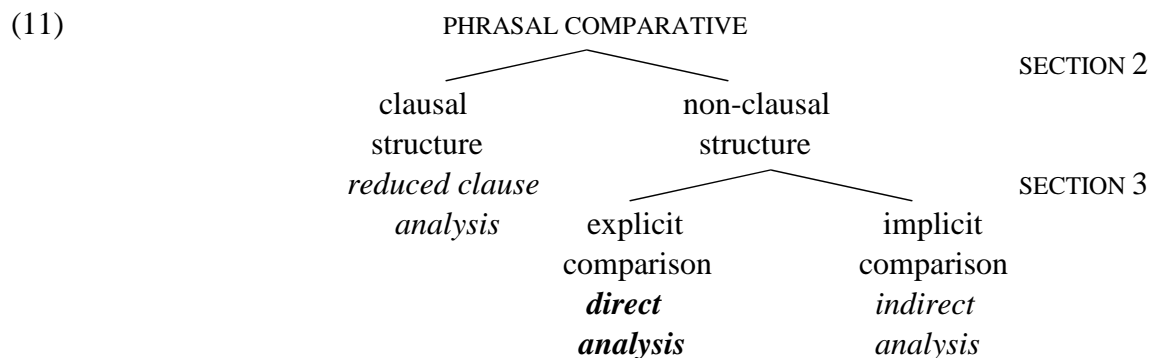
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- (8) *Explicit Comparison*  
 Establish an ordering between objects  $x$  and  $y$  with respect to gradable property  $g$  using amorphosyntactic form whose conventional meaning has the consequence that the degree to which  $x$  is  $g$  exceeds the degree to which  $y$  is  $g$ .
- (9) *Implicit Comparison*  
 Establish an ordering between objects  $x$  and  $y$  with respect to gradable property  $g$  using the positive form by manipulating the context in such a way that the positive form is true of  $x$  and false of  $y$ .

English comparatives as in (10a) clearly represent explicit comparison. Implicit comparison is represented by (10b).

- (10) a. Mary is taller than John.  
 b. Mary is tall, compared to John.

Within this analytical context, this paper explores the syntactic analysis of Malagasy examples such as (1). Two basic questions regarding the standard phrase are addressed: (i) Is the complement of the standard marker phrasal or clausal, and (ii) Does the standard phrase express explicit or implicit comparison. The paper is structured as follows. Section 1 lays out relevant aspects of Malagasy morphosyntax and the comparative construction. Sections 2 and 3 are the heart of the paper and explore the syntactic analysis of the phrasal comparative. Section 2 first considers the opposition between a clausal analysis and a non-clausal analysis. I offer evidence in favor of a non-clausal analysis. Section 3 then considers the explicit versus implicit comparison distinction and shows that the implicit comparison analysis is not appropriate for Malagasy. These contrasts are in (11). The analysis that the paper ultimately argues for is a non-clausal explicit comparison analysis, which I will call the DIRECT ANALYSIS. Section 4 concludes.



### 1. Malagasy Morphosyntax and Comparatives

Malagasy is traditionally described as a VOS language. In fact, this view is somewhat controversial because it depends upon the analysis of Malagasy's Philippine-style voicing system illustrated in (12) through (14) below. I will remain neutral about the exact analysis and will base the rest of the paper on the following conception of Malagasy clauses: I take the core of a clause to be a predicate, in a non-technical sense. Within a verbal predicate, the constituent order is verb, followed by the subject, object, obliques, and adjuncts. From within this predicate, one element, the TRIGGER, externalizes to a clause-final position. Voice morphology on the verb then registers the grammatical role of this externalized trigger.

Malagasy has three voices. In the actor topic voice (AT), the trigger is the subject, (12). When the object is the trigger, the verb shows theme topic (TT) morphology, (13). Finally, when the trigger is an oblique or adjunct, the verb is in the circumstantial topic (CT) form, (14). CT can be used to externalize a wide range of elements, including place, time, goal, cause, means, manner, instrument, price, benefactive, and locative phrases (Rajemisa-Raolison 1969).

- (12) n-i-antso mpiasa i Mery  
 past-AT-call worker Mary  
*'Mary called the worker.'*
- (13) n-antso-in' i Mery ny mpiasa  
 past-call-TT Mary the worker  
*'Mary called the worker.'*
- (14) a. n-i-antso-an' i Mery mpiasa ny kiririoka  
 PAST-CT-call-CT Mary worker the whistle  
*'Mary called the worker with the whistle.'*
- b. n-an-droso-an- dRakoto vary ny vahiny (Paul 2000:93)  
 PAST-CT-serve-CT- Rakoto rice the guests  
*'Rakoto served rice to the guests.'*
- c. i-toer-an' ny lehilahy ity trano ity (Paul 2000:91)  
 CT-live-CT the man this house this  
*'The man lives in this house.'*

Note that in the non-actor topic clauses, (13) and (14), the subject appears immediately after the verb. It is phonologically "bonded" to the verb, indicated in the orthography by an apostrophe or hyphen according to the initial sound of the subject.

In the traditional view (Keenan 1976 and numerous descriptive grammars), the trigger is itself the subject of the clause and the non-AT voices function much like familiar passive morphology in advancing various elements to subject position. Under this conception, Malagasy is a VOS language, (12). In contrast, some recent approaches to Malagasy voice (notably M. Pearson 2005) take the trigger to be a topic-like element, with the post-verbal noun phrase being the sub-

ject. Under this view, Malagasy is a VSO language, with basic word order distorted by obligatory externalization of some topic phrase to a clause-final position. I will not decide between these two views and will continue to call the clause-final element the trigger.

### 1.1. Trigger Restrictions

The trigger is subject to certain restrictions that will be relevant in the discussion of comparatives. In particular, the trigger must be nominal, appears in the nominative case, and, most interestingly, must occur with an overt determiner:

- (15) *Trigger restrictions*
- i. nominal
  - ii. nominative case
  - iii. overt determiner

As with English subjects, Malagasy triggers are typically nominal. Even though circumstantial topic morphology can be used to advance a wide range of elements to the trigger position, these elements must be nominal. PPs (16a), adverbs (16b), and clausal adverbials (16c) are impossible triggers.<sup>1</sup>

- (16) a.\* nividiana-ko vary [PP tamin' ny zoma] (Paul 2000:92)  
 buy.CT-1SG rice PREP the Friday  
*('I bought rice on Friday.')*
- b.\* itenenan' i Bozy [AP mafy] (after Paul 2000:94)  
 speak.CT Bozy hard  
*('Bozy speaks loudly.')*
- c.\* itsanganan- dRabe [VP mihinana akoho] (after Paul 2000:94)  
 stand.CT- Rabe eat.AT chicken  
*('Rabe stands while eating chicken.')*

The Malagasy pronominal system recognizes three cases: Accusative, genitive, and nominative. A partial paradigm for singular pronouns is given in (17).

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<sup>1</sup> As in English, there are exceptions. PPs may be triggers in copula clauses, (i), and finite argument CPs (Keenan 1976) also superficially appear to be triggers, (ii).

(i) toerana tsara hiafenana [PP ao ambanin' ny latabatra]  
 place good hide.CT DEIC under the table  
*'Under the table is a good place to hide.'*

(ii) antenai-ko [CP fa handeha Rabe]  
 hope.TT-1SG that go.AT Rabe  
*'That Rabe will go is hoped by me.'*

(17) *Malagasy singular pronouns*

	ACCUSATIVE	GENITIVE	NOMINATIVE
1SG	<i>ahy</i>	<i>-ko</i>	<i>(iz)aho</i>
2SG	<i>anao</i>	<i>-nao</i>	<i>ianao</i>
3SG	<i>azy</i>	<i>-ny</i>	<i>izy</i>

Nominative case is used for triggers, (18), as well as predicates, modified pronouns, and conjoined noun phrases (M. Pearson 2001).

(18)

<i>nihomehy</i>	<i>izy/*azy/*-ny</i>
laugh.AT	3SG.NOM/3SG.ACC/3SG.GEN
<i>'S/he laughed.'</i>	

Finally, there is an unusual, robust requirement that triggers have an overt pre-nominal determiner (Keenan 1976, 2008, M. Pearson 1996, 2001, Paul 2000, 2009, Law and Gärtner 2005, Law 2006, and others). A range of elements counts as determiners. Names may have the determiner *i* or the incorporated determiner *Ra-*, as in *i Soa/Rasoa*. Pronouns count as determiners. There are also demonstrative determiners such as *ilay* 'that' or *ireo* 'those.' Finally, there is the default determiner *ny*, which roughly translates as 'the' but does not always indicate definiteness. Grammatical triggers with an appropriate determiner are shown in (19).

(19)

a.	<i>nihomehy i Soa/Ra-soa/izy</i>
	laugh.AT DET NAME/DET-NAME/3SG
	<i>'Soa/Rasoa/She laughed.'</i>
b.	<i>nihomehy ny zaza/ny zanan-dRasoa/ilay vehivavy</i>
	laugh.AT DET child/DET child-Rasoa/that woman
	<i>'The child/Rasoa's child/That woman laughed.'</i>

If the triggers in the above examples are missing a determiner, the results are ungrammatical:

(20)

* <i>nihomehy zaza/vehivavy/zanan-dRasoa</i>
laugh.AT child/woman/child Rasoa

The source of this restriction is still unclear (see Law 2006, Keenan 2008, and Paul 2009). I assume that it is a purely formal requirement that D° be phonologically filled. I return to these restrictions after introducing the comparative construction in Malagasy.

## 1.2. Comparatives

The Malagasy comparative looks superficially similar to its English phrasal counterpart:<sup>2</sup>

- (21) a. lava (kokoa) noho Rasoa Rabe  
 long more than Rasoa Rabe  
*'Rabe is taller than Rasoa.'*
- b. nividy boky betsaka (kokoa) [PP noho [Rasoa]] Rabe  
 buy book many more than Rasoa Rabe  
*'Rabe bought more books than Rasoa.'*
- c. nividy laoranjy betsaka (kokoa) noho ny akondro Rabe  
 buy orange many more than the banana Rabe  
*'Rabe bought more oranges than bananas.'*

There is an optional morpheme *kokoa* which I tentatively equate with 'more' and the standard marker is *noho* 'than.' I will assume that *noho* is a preposition and that the standard phrase is a PP, as explicitly bracketed in (21b).

The connection to the trigger restrictions in section 1.1, (15), is that the standard of comparison is subject to these restrictions. First, the standard of comparison must be nominal. Note the ungrammaticality of the following Malagasy examples in contrast to their English translations. The standard may be neither a PP, (22a), nor a CP, (22b), nor other kinds of non-nominals (not shown).

- (22) a. \*nandihy kokoa tamin' ny lehilahy noho [PP tamin' ny vehivavy] Rasoa  
 dance more PREP the men than PREP the woman Rasoa  
*('Rasoa danced more with men than with women.')*
- b. \*mahagaga kokoa fa nitety an' i Frantsa ny mpanjaka  
 surprising more that visit ACC France the king  
 noho [CP fa nitety an' i Amerika izy]  
 than that visit ACC America 3SG.NOM  
*('That the king visited France is more surprising than that he visited America.')*

Second, the standard must be in the nominative case:

- (23) lava noho izy/\*azy/\*-ny aho  
 long than 3NOM/3ACC/3GEN 1SG.NOM  
*'I am taller than him.'*

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<sup>2</sup> Verbs below are in the AT form unless otherwise indicated.

Third, the standard must have an overt determiner, like triggers. The examples in (24) have an appropriate determiner and are grammatical. Those in (25), in contrast, are ungrammatical because the standard lacks an overt determiner. Even when the standard is not interpreted as definite, (25b), a determiner is still necessary, reinforcing the formal nature of this restriction.

- (24) a. lava noho **i** Soa/**Ra**-soa/**izy** Rabe  
 long than **DET** NAME/**DET**-NAME/**3SG** Rabe  
*'Rabe is taller than Soa/Rasoa/her.'*
- b. lava noho **ny** zaza /**ny** zanan-dRasoa/**ilay** vehivavy Rabe  
 long than **DET** child /**DET** child-Rasoa/**that** woman Rabe  
*'Rabe is taller than the child/Rasoa's child/that woman.'*
- (25) a.\* lava noho zaza/zanan-dRasoa Rabe  
 long than child /child-Rasoa Rabe  
*('Rabe is taller than a child/Rasoa's child.')*
- b. nividy laoranjy betsaka noho \*(ny) akondro Rasoa  
 buy orange many than the banana Rasoa  
*'Rasoa bought more oranges than bananas.'*

The parallel between triggers in clauses and the standard of comparison in the comparative construction suggests a clausal source for comparatives. I pursue this in the next section.

## 2. Clausal versus Phrasal Comparison

A basic analytical question regarding the syntax of comparatives is whether the standard of comparison is clausal or not. English appears to allow both clausal and non-clausal standards:

- (26) a. John is taller than [I am]<sub>clause</sub>  
 b. John is taller than [me]<sub>phrase</sub>

On the one hand, the fact that the standard of comparison is subject to restrictions governing triggers suggests covert clausal structure, as triggers are found in clauses. On the other hand, the Malagasy comparative superficially looks phrasal in that what follows *noho* is a phrase. In this section I flesh out both options by developing reduced clause and non-clausal analyses for Malagasy. I then provide evidence in favor of the non-clausal analysis. Despite the attractiveness of a clausal analysis, it does not appear to be correct.

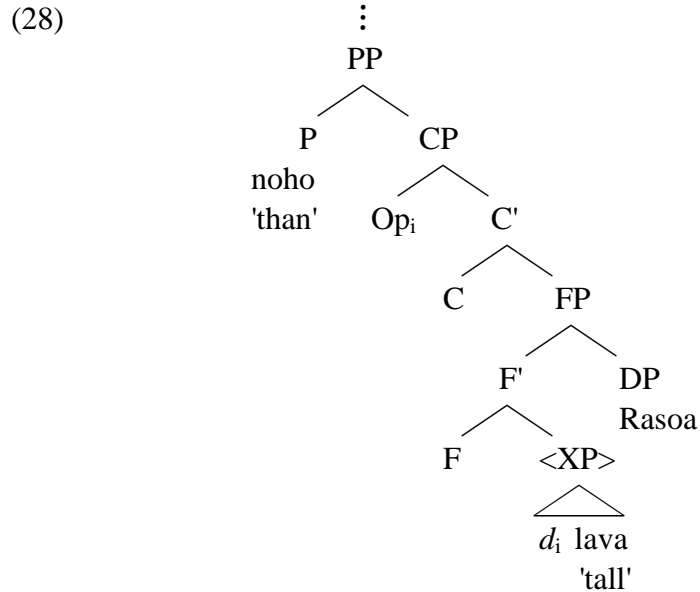
### 2.1. Two Analyses

As indicated above, a reduced clause analysis for the Malagasy comparative is motivated by the observation that the standard obeys the trigger restrictions. The standard is the trigger of a clausal complement to *noho* 'than' in which non-trigger material has been elided. I schematize this process in the two examples in (27) and illustrate it structurally in (28).



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- (27) a. lava [noho [CP <lava> Rasoa]] Rabe  
 long than long Rasoa Rabe  
*'Rabe is taller than Rasoa.'*
- b. nividy boky kokoa [noho [CP <nividy boky> Rasoa]] Rabe  
 buy book more than buy book Rasoa Rabe  
*'Rabe bought more books than Rasoa.'*



The analysis shown assumes that the complement of *noho* 'than' is a CP. A degree operator in spec,CP binds a degree variable inside the gradable predicate. The trigger is external to this predicate and I locate it in the rightward specifier of a high projection that I simply label FP. The surface form is achieved by deleting the non-trigger material, the complement of F°.

Weak indirect support for a clausal complement to *noho* comes from its other uses. *Noho* can also be used to mean 'because' and, in this use, it can be followed by a noun phrase or an overt clause:

- (29) a. nandositra izy [noho [DP ny tahony]]  
 flee 3SG.NOM because the fear.3SG  
*'He fled because of his fear.'*
- b. nandositra izy [noho [clause izaho nanenjika azy]]  
 flee 3SG.NOM because 1SG.NOM chase 3SG.ACC  
*'He fled because I chased him.'*

A contrasting, non-clausal analysis takes the complement of *noho* to be a simple phrase, with no hidden clausal structure and no deletion:

- (30)      lava    [noho [DP Rasoa]]    Rabe  
           long    than            Rasoa    Rabe  
           *'Rabe is taller than Rasoa.'*

- (31)
- ```

      ∴
      PP
     /  \
    P    DP
   noho  Rasoa
   'than'
  
```

## 2.2. Evidence for a Non-clausal Analysis

In this section I provide three types of evidence in favor of the non-clausal analysis. First, there is indirect evidence from the empirical observation that the standard never shows overt clausal structure. Second, locality diagnostics indicate the standard is in the matrix clause, as expected under the non-clausal analysis but not under the bi-clausal, reduced clause analysis. Finally, there is a mismatch between possible standards and possible triggers. The reduced clause analysis makes the incorrect prediction that standards are also clausal triggers, while the non-clausal analysis does not make this claim.

### 2.2.1. Non-clausal Characteristics of the Standard

An expectation from the reduced clause analysis is that one might see unreduced clauses in comparatives. The non-clausal analysis, in contrast, precludes clausal comparatives because the standard is never a clause. English allows a wide range of clausal comparatives and it will be seen that none has a direct grammatical Malagasy counterpart.

Not surprisingly, fully unreduced clausal comparatives are not possible. They are also ungrammatical in English, indicating that some amount of ellipsis is obligatory.

- (32) a.\* lava    kokoa [noho lava    Rasoa] Rabe  
           long    more    than    long    Rasoa    Rabe  
           *(\*Rabe is taller than Rasoa is tall.)*
- b.\* nivity boky    betsaka [noho nivity    boky    Rasoa] Rabe  
           buy    book    many    than    buy.AT    book    Rasoa    Rabe  
           *(\*Rabe bought more books than Rasoa bought books.)*

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Examples in English that do have some amount of ellipsis are still ungrammatical in Malagasy. The presence of a verb indicates that we still have a clause. For completeness, I give examples with both AT and TT verbs.

- (33) a. \* nividy boky betsaka [noho nividy Raso] Rabe  
 buy book many than buy.AT Raso Rabe  
*('Rabe bought more books than Raso bought.')*
- b. \* nividy boky betsaka [noho novidin- dRaso] Rabe  
 buy book many than buy.TT Raso Rabe  
*('Rabe bought more books than were bought by Raso.')*
- (34) a. \* nividy boky betsaka [noho namaky izy ireo] ny mpianatra  
 buy book many than read 3PL.NOM the student  
*('The students bought more books than they read.')*
- b. \* nividy boky betsaka [noho vakiany] ny mpianatra  
 buy book many than read.TT.3 the student  
*('The students bought more books than were read by them.')*
- (35) a. \* nividy laoranjy betsaka [noho nividy akondro izy] Rabe  
 buy orange many than buy banana 3SG.NOM Rabe  
*('Rabe bought more oranges than he bought bananas.')*
- b. \* nividy laoranjy betsaka [noho novidiny ny akondro] Rabe  
 buy orange many than buy.TT.3 the banana Rabe  
*(\*Rabe bought more oranges than bananas were bought by him.')*

So-called subcomparatives, which also show clausal structure, are also impossible in Malagasy:

- (36) \* lava kokoa ny latabatra [noho [lehibe ny varavarana]]  
 long more the table than big the door  
*('The table is longer than the door is wide.')*

The absence of these clausal comparatives does not conclusively show that phrasal comparatives do not come from a clausal source. Rather, they indicate that, if the source is clausal, the comparative deletion process is maximal in deleting everything but the trigger and it is obligatory.

Such comparatives can be expressed without clausal structure. In each case, the object of *noho* 'than' is a clear noun phrase. For example, subcomparatives are formulated as in (37). "The table is longer than the door is wide" is expressed as "The table's length is bigger than the door's width."

- (37) be kokoa ny halavan' ny latabatra noho ny sakan' ny varavarana  
 big more the length the table than the width the door  
 Lit. "Bigger [the table's length] [than [the door's width]]"  
 "The table's length is bigger than the door's width."  
*'The table is longer than the door is wide.'*

Similarly, "The students bought more books than they read" can be expressed as "The books the students bought are more than the ones they read:"

- (38) betsaka ny boky novidin' ny mpianatra [noho [ny vakiany]]  
 many the book buy.TT the student than the read.TT.3  
 Lit. "More [the books the students bought] [than [the ones they read]]"  
 "The books the students bought are more than the ones they read."  
*'The students bought more books than they read.'*

Finally, Merchant (2009:138) indicates that examples with multiple standard phrases, as in the English translation of (38), are evidence for a reduced clause analysis. They presumably require a clausal source that contains both of the standards. A non-clausal analysis precludes such examples on the reasonable assumption that prepositions allow only one object.

- (39) \* nividy boky betsaka Rabe noho ny gazety Raso  
 read book more Rabe than the newspaper Raso  
*('Rabe read more books than Raso newspapers.')*

I turn now to more direct evidence.

### 2.2.2. Locality Arguments

A structural difference between the reduced clause analysis and the non-clausal analysis is the number of clauses and the position of the standard with respect to the matrix clause. In the reduced clause analysis, (28), the standard is the trigger of an embedded clause. In the non-clausal analysis, (31), the construction is mono-clausal and the standard is in the matrix clause; it is the object of a preposition. A number of phenomena sensitive to clause boundaries and locality can be used to distinguish these two proposals: Scope, negative polarity item (NPI) licensing, and Binding Theory.

It is widely recognized that the scope of many quantifiers, particularly the universal quantifier *every*, is clause-bound (May 1977, Farkas 1981, Fodor and Sag 1982, Aoun and Hornstein 1985, Hornstein 1995, and others). This is seen by the contrast between (40) and (41). *Every play* can take wide or narrow scope with respect to the indefinite *a reviewer* in (40) because they are in the same clause. In particular, the reviewers can vary with the plays showing that *every play* can take wide scope with respect *a reviewer*. This is not possible in (41). The notation  $X > Y$  indicates that  $X$  takes scope over  $Y$ .

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- (40) *A reviewer* attended *every play* this season.
- a. There is a reviewer who attended every play. A > EVERY
- b. Every play was attended by some reviewer or other. EVERY > A
- (41) *A reviewer* thinks [<sub>CP</sub> that *every play* will fail this season]
- a. There is a reviewer who thinks that every play will fail. A > EVERY
- b. \*Every play is such that some reviewer or other thinks that it will fail. \*EVERY > A

Larson (1988) observed that phrasal comparatives in English in which the standard of comparisons a universal quantifier are ambiguous. (42) has a scope ambiguity: The universal can take wide or narrow scope over clausemate negation. This is expected because it is mono-clausal. The clausal comparative in (43), in contrast, is unambiguous. The universal quantifier cannot scope out of the standard clause because its scope is clause-bound.

- (42) Joe didn't score more than [<sub>DP</sub> everyone]
- a. Joe scored more than not everyone. NEG > EVERY
- b. Joe didn't score more than anyone. EVERY > NEG
- (43) Joe didn't score more than [<sub>CP</sub> everyone did]
- a. Joe scored more than not everyone. NEG > EVERY
- b. \*Joe didn't score more than anyone. \*EVERY > NEG

Returning to Malagasy, we see that the corresponding comparative is ambiguous like the mono-clausal phrasal comparative above, providing support for the non-clausal analysis.

- (44)      *tsy lava*    *noho*    [*ny rehetra*]    *Rabe*  
              NEG tall    than    the all            Rabe  
              '*Rabe isn't taller than everyone.*'
- a. 'Rabe is taller than not everyone.' NEG > ALL
- b. 'Rabe isn't taller than anyone.' ALL > NEG

Turning to NPIs, Hoeksema (1983) argues that they provide a diagnostic for phrasal versus clausal comparatives. Using the Dutch NPI *ook maar*, he proposes that phrasal comparatives are not an NPI licensing environment but clausal comparatives are:

- (45) a. *Phrasal comparative*  
 \* Wim is gevaarlijker dan [DP ook maar iemand] (Hoeksema 1983:407)  
 Wim is more.dangerous than whosoever anyone  
 ('Wim is more dangerous than anybody whosoever.')
- b. *Clausal comparative*  
 Wim was minder vervelend, dan (Hoeksema 1983:407)  
 Wim was less obnoxious than  
 [CP ook maar iemand voor hem was geweest]  
 at-all anyone before him (had) been  
 'Wim was less obnoxious than anyone at all before him had been.'

The expression *na dia iray aza* is a Malagasy NPI equivalent to English 'even one:'

- (46) a. \* *nahomby na dia iray aza*  
 succeed even\_one  
 ('\*Even one succeeded.')
- b. *tsy nahomby na dia iray aza*  
 NEG succeed even\_one  
 'Not even one succeeded.'

As expected under the non-clausal analysis and Hoeksema's generalization, the NPI is not licensed in comparatives, (46). If the comparative were a reduced clause, Hoeksema's data leads us to expect that (46) would be grammatical.

- (47) \* *lava kokoa noho na dia iray aza Rabe*  
 long more than even\_one Rabe  
 ('\*Rabe is taller than even one (girl).')

Finally, Binding Theory can be used to reach the same conclusion. Malagasy does not have a strict clause-bound reflexive (Paul 2004) so Principle A is not helpful. One can however use Principle B, which, to first approximation, requires that pronouns be free in their minimal clause. We can see its application in the English examples below. In the phrasal comparative, (48a), a pronominal standard cannot be coreferential with the matrix subject because they are in the same clause. This is possible in the clausal comparative, (48b), because of the clause boundary.

- (48) a.  $\text{Matt}_m$  can't be taller than [DP  $\text{him}_{k,*m}$ ] PHRASAL COMPARATIVE  
 b.  $\text{Matt}_m$  can't be taller than [CP  $\text{he}_{k,m}$  is] CLAUSAL COMPARATIVE

As above, Malagasy behaves like the phrasal comparative case:

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- (49)      tsy      ambony    noho    izy<sub>k,\*R</sub>    Rabe<sub>R</sub>  
              NEG      above      than      3SG.NOM   Rabe  
              *'Rabe isn't better than him(\*self).'*

In summary, scope, binding, and NPI licensing facts support a non-clausal analysis of the Malagasy standard.

**2.2.3. Trigger – Standard Mismatches**

The final set of arguments against the reduced clause analysis comes from cases in which there is a mismatch between possible standards in comparatives and possible triggers in canonical clauses. The reduced clause analysis derives the standard phrase from a full clause by advancing the standard to trigger position and deleting non-trigger material. It thus correlates standards and triggers and leads to the expectation that a phrase that is a possible standard in a comparative should be a possible trigger in a non-comparative. The non-clausal analysis does not correlate standards and triggers. As evidence against the clausal analysis, there are a number of cases in which a possible standard does not correspond to a well-formed trigger.

One such case comes from nominalized standards. As seen above, standards require an overt determiner. This restriction extends to cases where the standards are not DPs. The examples in (50) are ungrammatical because the standards are not DPs, they are a PP and an AdvP, respectively.

- (50) a. \* nandihy    kokoa tamin' ny lehilahy noho [**tamin'**    **ny vehivavy**] Rasoa  
              dance      more    PREP    the man      than      PREP      the woman      Rasoa  
              *('Rasoa danced more with men than with women.')*  
       b. \* nijinja vary betsaka omaly      noho [**androany**]    ny mpiasa  
              harvest rice    much      yesterday    than      today              the worker  
              *('The worker harvested more rice yesterday than today.')*

These examples can be made grammatical by including the default determiner *ny* in the standard:

- (51) a. nandihy    kokoa tamin' ny lehilahy    noho [**ny tamin'** **ny vehivavy**] Rasoa  
              dance      more    PREP    the man      than      the PREP    the woman      Rasoa  
              *'Rasoa danced more with men than with women.'*  
       b. nijinja vary    betsaka    omaly      noho [**ny androany**]    ny mpiasa  
              harvest rice    much      yesterday    than      the today              the worker  
              *'The worker harvested more rice yesterday than today.'*

The challenge that these examples pose for the reduced clause analysis is that such nominalized phrases are not possible triggers, (52). Although the circumstantial voice (CT) used in these examples can externalize a wide range of elements, it cannot create the needed triggers here.

- (52) a. \* nandihizan- dRasoa [ny tamin' ny lehilahy]  
 dance.CT Rasoa the PREP the man  
 ('Rasoa danced with the man.')
- b. \* nijinjan' ny mpiasa vary [ny androany]  
 harvest.CT the worker rice the today  
 ('The worker harvested rice today.')

The full structure for (51b), for example, would need to be (53) but (52b) shows this embedded clause to be ill-formed, independent of the comparative syntax/semantics.

- (53) nijinja vary betsaka omaly  
 harvest rice much yesterday  
 noho [Op<sub>i</sub> <nijinjan' ny mpiasa d<sub>i</sub>-much vary> ny androany]  
 than harvest.CT the worker rice the today  
 'The worker harvested more rice yesterday than today.'

A similar case exists with standards that seem to originate in islands. They are possible; however, they cannot become triggers from these positions. (54a) illustrates a case in which the standard corresponds to the subject of a relative clause, as seen in the unreduced English translation in (54b).

- (54) a. nividy boky betsaka nosoratan' i Balzac noho i Tolstoy aho  
 buy book many write.TT Balzac than Tolstoy 1SG.NOM  
 'I bought more books that Balzac wrote than Tolstoy wrote.'
- b. I bought more books that Balzac wrote than [I bought books [that Tolstoy wrote]]

In order for *i Tolstoy* to be the standard in the reduced clause analysis of (54a), it would have to externalize from inside the relative clause in (55a). (55b) shows that this is not possible (Keenan and Ralalaherivony 2000):

- (55) a. nividy [boky [nosoratan' i Tolstoy]] aho  
 buy book write.TT Tolstoy 1SG.NOM  
 'I bought books that Tolstoy wrote.'
- b. \* [novidi-ko/nividiana-ko [boky [nosoratana \_\_\_]]] i Tolstoy  
 buy.TT-1SG/buy.CT-1SG book write.TT Tolstoy

### 2.3. Intermediate Conclusion

I take the above evidence to show that phrasal comparatives in Malagasy are best analyzed with a non-clausal analysis. Although independently motivated by being able to account for the trigger restrictions, the reduced clause analysis makes incorrect predictions elsewhere. I conclude



this section by showing how the non-clausal analysis can nonetheless account for the trigger restrictions.

The fact that comparative standards obey the trigger restrictions, repeated in (56), has no automatic explanation in non-reduced clause analysis as the standard cannot be a trigger.

- (56) *Trigger restrictions*
- i. nominal
  - ii. nominative case
  - iii. overt determiner

I propose that all three follow from strict subcategorization. *Noho* 'than' is a preposition that selects a DP complement against which it checks nominative Case. The DP category of the complement will ensure that there is an overt  $D^\circ$ , provided that we do not allow null determiners in Malagasy.<sup>3</sup>

- (57) a. *noho*,  $P^\circ$ [Case: NOM], 'than', [ \_\_ DP]  
b. no null determiners in Malagasy

Rajemisa-Raolison (1969:145) indicates two other prepositional elements with the same characteristics: *afa-tsy* 'except' and *toy* 'like.' It seems unlikely to me that both of these prepositions are amenable to a reduced clause analysis. Thus, the non-clausal analysis can account for the trigger restrictions but they are not related to the standard of comparison being a trigger. The parallels are accidental.

### 3. Explicit versus Implicit Comparison

The non-clausal analysis argued for above takes the standard phrase to be a simple prepositional phrase but it did not indicate how the PP is syntactically and semantically integrated into the clause. This question relates to Kennedy's (2009) distinction between explicit and implicit comparison from the Introduction. In this section, I present concrete analyses addressing these issues by comparing an explicit comparison analysis and an implicit comparison analysis. I argue that an explicit comparison analysis—the direct analysis—is more appropriate for Malagasy.

#### 3.1. Two Non-Clausal Analyses

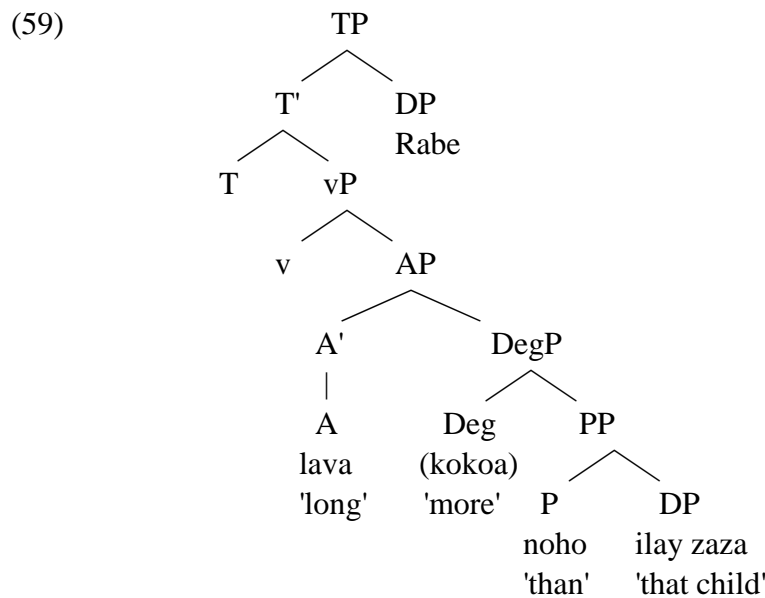
The direct analysis assumes that the Malagasy comparative is syntactically much like its English counterpart, with the standard phrase introduced as part of the gradable predicate. Although there is some debate over the syntactic analysis of explicit comparison (see Kennedy 1999 among oth-

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<sup>3</sup> Paul 2009 proposes that Malagasy has a null determiner with a restricted distribution, being allowed in DPs that are direct objects, accusative objects of prepositions, or predicates, but not elsewhere. One could adopt Paul's proposal if there were a principled way to rule out the null  $D^\circ$  in positions where it does not appear. For example, there would need to be a mechanism to license it in the object of a preposition that checks accusative Case but not one that checks nominative Case. I leave this choice for future work.

ers for discussion), I will assume a traditional analysis in which a gradable predicate selects a degree argument, DegP, headed by the comparative morpheme. The standard phrase is an argument of this comparative morpheme (Bresnan 1973, Heim 2000, Bhatt and Pancheva 2004, and others). (59) shows the structure for (58). Crucially, the standard phrase originates in the maximal projection of the gradable predicate and is syntactically related to it.<sup>4</sup>

- (58)      lava    (kokoa)    [noho [ilay zaza]] Rabe  
           long    more            than    that    child    Rabe  
           *'Rabe is taller than that child.'*



Under an implicit comparison analysis, in contrast, the standard phrase is more loosely integrated into the clause because there is no dedicated comparative syntax. Kennedy's (2009) definition of implicit comparison is repeated below.

- (60)      *Implicit Comparison*  
 Establish an ordering between objects *x* and *y* with respect to gradable property *g* using the positive form by manipulating the context such that the positive form is true of *x* and false of *y*. i.e. compared to *y*, *x* is *g*.

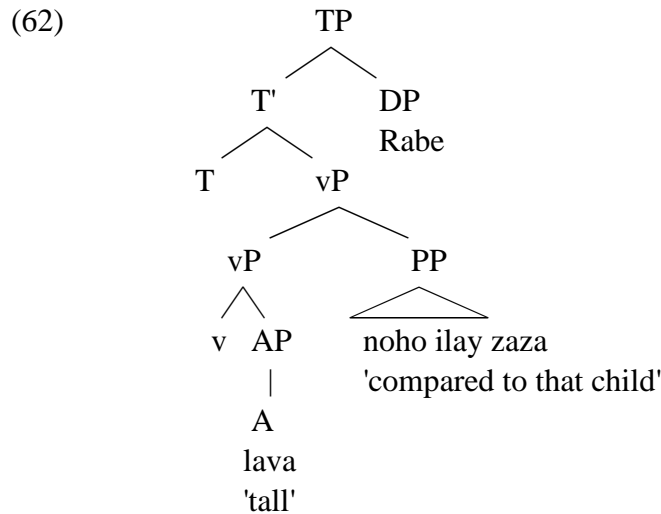
Using English as a guide, the fundamental idea is that the comparative in (61a) is better translated as (61b). The standard phrase serves to supply a context, *compared to that child*, against which the positive form, *Rabe is tall*, is evaluated.

<sup>4</sup> In English the standard phrase undergoes obligatory extraposition, which separates it from the Degree head, (i). I assume that this is also available in Malagasy, at least optionally, but further investigation of the details is required.  
 (i)            Rabe is more (\*than Rasoa) stubborn (than Rasoa).

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- (61) a. lava (kokoa) [noho [ilay zaza]] Rabe  
 long more than that child Rabe  
 b. Compared to that child, Rabe is tall.

Syntactically, the standard phrase looks like an adverbial and I take it to be an adjunct in the main spine of the clause. In contrast to the treatment in the direct analysis, it is not an argument of the comparative morpheme or the gradable predicate. This is illustrated in (62) for (61a).



The implicit comparison analysis is attractive for Malagasy as it has been argued to be correct for other Austronesian languages, specifically Samoan, (63a), and Fijian, (63b).

- (63) a. e umi atu Malia iā Ioane (Hohaus 2010:11)  
 T/A tall DIR Mary PREP John  
 'Mary is taller than John.'  
 b. e qase mai vei Meri 'o Pita (H. Pearson 2010b:357)  
 T/A old DIR PREP Mary DET Peter  
 'Peter is older than Mary.'

### 3.2. Evidence for a Direct Analysis

This section provides evidence against an implicit comparison analysis of Malagasy comparatives. The argumentation is based on differences between (64a) and (64b) in English.

- (64) a. John is taller than Mary. EXPLICIT COMPARISON  
 b. John is tall compared to Mary. IMPLICIT COMPARISON

I present one syntactic argument and several semantic ones. The argumentation at this point is somewhat tentative and imprecise, something I hope to rectify in future work.

On the syntactic side, extraction restrictions argue against implicit comparison. The English contrast in (65) shows that the standard phrase can be displaced in implicit comparison but not in explicit comparison.

- (65) a. \*Than Mary, John is taller. EXPLICIT COMPARISON  
 b. Compared to Mary, John is tall. IMPLICIT COMPARISON

The Malagasy comparative patterns with explicit comparison in that the standard phrase cannot be extracted:

- (66) \* noho Rasoa no/dia lava (kokoa) Rabe  
 than Rasoa FOCUS/TOPIC long more Rabe  
 ('\*Than Rasoa, Rabe is tall(er).')

This contrast might follow from the syntax above in that the standard phrase in the explicit comparison structure, (59), is more deeply embedded in the structure than the implicit comparison adjunct.

H. Pearson (2010b) explores semantic differences between explicit and implicit comparison. I use her diagnostics here to show that Malagasy patterns with explicit comparison. One semantic contrast is illustrated in (67). In the explicit comparison example, (67a), the meaning is that the degree to which Rabe's height is surprising exceeds the degree to which Rabe's weight is surprising. In contrast, the implicit comparison example, (67b), means that Rabe's height is surprising given his weight; there is a mismatch in dimensions.

- (67) a. Rabe's height is more surprising than his weight. EXPLICIT COMPARISON  
 b. Rabe's height is surprising compared to his weight. IMPLICIT COMPARISON

The Malagasy equivalent in (68) has only the explicit comparison meaning:

- (68) mahagaga ny hahavon-dRabe noho ny havesara-ny  
 surprising the height-Rabe than the weight-3SG  
 'Rabe's height is more surprising than his weight.'  
 '\*Compared to Rabe's weight, his height is surprising.'

A second semantic contrast comes from sortal restrictions, in (69). Explicit comparison in (69a) is infelicitous because it entails that Paul is a woman. The implicit comparison example in (69b) has no such entailment.

- (69) a. # Mary is an older woman than Paul. EXPLICIT COMPARISON  
 b. Mary is an old woman compared to Paul. IMPLICIT COMPARISON

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As above, Malagasy patterns with explicit comparison:

- (70) # vehivavy antitra noho i Paoly i Mery  
woman old than Paul Mary  
# 'Mary is an older woman than Paul.'  
\* 'Compared to Paul, Mary is an old woman.'

Finally, Kennedy (2009) develops a diagnostic for explicit versus implicit comparison based on minimal standard adjectives. In a context where there are two wires, both of which are bent but one is more bent than another, explicit comparison in (71a) is an appropriate description but implicit comparison in (71b) is not. The implicit comparison form incorrectly implies that one wire, the standard, is not bent, making it infelicitous in this scenario.

- (71) *Context: Two wires are both bent. This one is more bent than that one.*  
a. This wire is more bent than that wire. EXPLICIT COMPARISON  
b. # This wire is bent, compared to that wire. IMPLICIT COMPARISON

As before, the Malagasy equivalent parallels the explicit comparison structure:

- (72) bila ity tariiby ity noho io tariiby io  
bent this wire this than that wire that  
a. 'This wire is more bent than that one.'  
b.\* 'Compared to that wire, this wire is bent.'

This last diagnostics relies on Kennedy's description of implicit comparison in (60), specifically the claim that the gradable predicate is true of the target of comparison but false of the standard. This does not obtain in the context given, making implicit comparison inappropriate. I conclude from these brief arguments that Malagasy comparatives likely do not involve implicit comparison as defined above.<sup>5</sup>

#### **4. Conclusion**

I conclude that Malagasy phrasal comparatives are best analyzed with a direct analysis. The standard phrase is a simple prepositional phrase with the preposition taking a DP complement. There is no covert clausal structure in the standard.

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<sup>5</sup> As H. Pearson 2010a points out, however, most of the diagnostics do not rule out what she calls WEAK IMPLICIT COMPARISON, which contains a context phrase but still contains comparative morphology on the gradable predicate.

(i) a. Compared to y, x is *g-er*.  
b. Compared to John, Mary is taller.

- (73) lava (kokoa) [PP noho [DP ilay zaza]] Rabe  
 long more than that child Rabe  
 'Rabe is taller than that child.'

Furthermore, this PP is integrated with the gradable predicate in a way compatible with explicit comparison. This analysis is in line with other languages that show only direct phrasal comparatives: Mandarin Chinese (Xiang 2003, Lin 2009, but see Erlewine 2007), Hindi (Bhatt and Takahashi 2007, 2008), Japanese (Beck et al. 2004, Kennedy 2009, but see H. Pearson 2010a) Turkish, Mooré, Yorùbá (Beck et al. to appear).

Some of the argumentation thus far is tentative and there are several obvious questions for further investigation. First, there are other versions of the reduced clause analysis in the literature (e.g. Merchant 2009, Pancheva 2006, to appear, Lechner 2001, 2004) and it may be that one of these can overcome the arguments from section 2. This requires investigation. Second, the question remains how exactly the standard phrase is syntactically integrated with the gradable predicate. I have assumed a syntax as in (59) without evidence. Even if the implicit comparison syntax is incorrect, there are a number of options for the direct analysis that will need to come to terms with constituency, word order, and extraction facts not presented here. Third, as indicated in footnote 5, it is necessary to rule out a weak implicit comparison analysis. This will be more challenging as it seems largely indistinguishable semantically from explicit comparison:

- (74) a. Mary is taller than John. EXPLICIT COMPARISON  
 b. Mary is taller compared to John. WEAK IMPLICIT COMPARISON

Finally, an analysis of Malagasy leads to the larger question of how to capture cross-linguistic variation with respect to the analysis of comparatives. Why do some languages not have clausal comparatives, for example. This leaves numerous questions for future work.

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