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Word order in measure phrases in Malagasy dialects

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WORD ORDER IN MEASURE PHRASES IN MALAGASY DIALECTS

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1. Introduction

The goal of this paper is to explore a possible dialectal (and idiolectal) variation within measure phrases in Malagasy. It appears that there is a word order variation that appears in structure of the type two bottles of wine. We will see further that there are idiolect variations within one dialect in term of what acts as the head of the entire nominal. I will suggest some directions for theoretical accounts (Spec to Spec vs. roll-up movement of Cinque (2005) and Head Complement Construction vs. Modifying Construction of Cheng and Sybesma (1998)) but remain tentative as the data still require further study.

2. Methodology

While on a research trip to Madagascar in April 2013, I worked with consultants from Antananarivo and Antsiranana collecting data on word order variation within measure phrases. Data was collected by elicitation in groups of five and six, where speakers were asked to translate French strings. The findings from these sessions were followed up by more careful collection in Montreal in May 2014. At this point I worked with two speakers of Official Malagasy. One, VR, was living in Montreal and the other, AR, was living in Antananarivo so that elicitation was done by email. I also worked with a speaker from Antsiranana, RH, who was living in Montreal. Again these elicitations were done by asking for translations of French strings as well as asking grammaticality judgments and semantic plausibility judgments of Malagasy constructions that I had created. These data sets are preliminary and need to be verified, particularly because there appear to be some disagreements. However, it is clear that there is a word order difference that arises and is worth pursuing.

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1 I would like to thank SSHRC 410-2011-0977 (Ileana Paul, PI), and SSHRC 435-2012-0882 (Lisa Travis, PI) for financing this research. I thank the students working on the SSHRC Dialect Project, Vololona Razafimbelo, Rina Rajaharison, and Rita Hanitrimalala for their patience in helping me with the data, and Ileana Paul for delivering the paper at the workshop in Antsiranana.

2 These were linguistics students working on the SSHRC funded project and they were either studying at the University of Antananarivo or at the University of Antsiranana.
3. Relevant Data

In this section I will present the baseline data, comparing Official Malagasy data with Northern Dialect data, highlighting the differences.

3.1 Official Malagasy

In Official Malagasy (OM), cardinal numbers can appear either to the left or to the right of a head noun depending on the choice of noun. This can be seen in the data below where roa ‘two’ appears after the noun ankizy ‘child’ but before the noun taona ‘year’.

(1) a. ankizy roa
   child two
   ‘the two children’  OM

   b. roa taona
   two year
   ‘two years’  OM

This is striking for second language learners and it is not surprising that it is addressed in introductory language texts such as Malagasy Introductory Course by Catherine J. Garvey, who states that ‘[number] preced[es] a quantifying noun’. This can be seen even more clearly in the following structure which contains a ‘quantifying’ noun pake ‘package’, as well as the ‘quantified’ noun sigara ‘cigarette’.

(2) sigara iray pake
    cigarette one package
    ‘one package of cigarettes’  OM

The claim that the difference in order has to do with quantifying (I will call this the CONTAINER) vs. quantified nouns (I will call this the CONTENTS) is confirmed by the following data. Bottles can act both as MEASURE and as SIMPLE OBJECT Ns.\(^2\) In (3a) below, tavoahangy ‘bottle’ is behaving as a SIMPLE OBJECT N and we see that the number follows it while in (3b) tavoahangy ‘bottle’ is behaving as a MEASURE N and the number precedes it.

(3) a. nividy tavoahangy ROA aho
    PAST.AT-buy bottle two 1SG
    ‘I bought two bottles.’  OM

   b. nividy divay ROA tavoahangy aho
    PAST.AT-buy wine two bottle 1SG
    ‘I bought two bottles of wine.’  OM

\(^2\)In this paper, I will be using the terms CONTAINER and CONTENTS as well as the terms SIMPLE OBJECT and MEASURE. The nominal ‘bottle’, which is a CONTAINER, can either be used as a SIMPLE OBJECT or as a MEASURE. The term CONTAINER will be relevant for the sentences here, but other nominals that can be used as MEASURE can involve TIME (‘hour’, ‘week’), Weight (‘kilo’, ‘gram’), LENGTH (‘kilometer’, ‘meter’), etc.
3.2 Northern Dialect: Antsiranana

Now turning to the same data set from the Northern Dialect (ND) spoken in Antsiranana, we see that the order of the cardinal number with respect to the noun is different, displaying a more regular pattern. We see that the cardinal number always follows the noun, showing no distinction between a Measure N and a Simple Object N.

(4) a. kafe tasy aroe
    coffee cup two
    ‘two cups of coffee’

    b. taoña aroe
    year two
    ‘two years’

I am assuming that while both Official Malagasy (OM) and the Northern Dialect (A) appear to allow a bit of variation with measure phrases, the preferred order is different (where N is used for the Simple Object N and M for the measure phrase).

(5) Preferred order in the Measure Phrase Construction

a. Official Malagasy CONTENTS Num CONTAINER
b. Northern Dialect CONTENTS CONTAINER Num

3.3 Two Structures within each Dialect

Having seen that nouns like tavoahangy ‘bottle’ can behave either as an object or as a measure, it is perhaps not surprising that ‘bottles of wine’ can be translated in two ways. Below are the two forms for each of the dialects discussed. In each case, the hypothesis is that the (a) example is the Measure Phrase Construction and that the (b) example is the Simple Object Construction with some specified CONTENTS.

(6) Official Malagasy (from VR and AR)

a. divay ROA tavoahangy
    wine two bottle
    ‘two bottles of wine’

b. tavoahangy na divay ROA
    bottle na wine two
    ‘two bottles of wine’

(7) Northern Dialect (from RH)

a. diven tavoangy AROE
    wine bottle two
    ‘two bottles of wine’

b. tavoangin’ny diven AROE
    bottle’DET wine two
    ‘two bottles of wine’
To summarize this first step of the study, we can see that each dialect has two constructions. The construction which I have been calling the SIMPLE OBJECT N construction has the same word order in the two dialects. The construction I have been calling the measure phrase construction places the cardinal number in a different position in the two dialects. These are summarized below.

(8) Summary of dialectal word orders
   a. OM (Official Malagasy)
      • MPC: wine two bottle
      • SOC: bottle na wine two
   b. ND (Northern Dialect)
      • MPC: wine bottle two
      • SOC: bottle ‘the wine two

4. Tests and Results

Having observed the difference in word orders both across the dialects (Official Malagasy vs. Northern Dialects) and within the dialects (the Measure Phrase Construction (MPC) and the Simple Object Construction (SOC) construction), the next step is to test whether these structure differ in terms of what behaves as the semantic head of the structure. More specifically, is the semantic head tavoahangy/tavoangy ‘bottle’ or divay/divën ‘wine’.

Note that in both dialects the relative order of the CONTAINER and the CONTENTS varies with the construction but not with the dialect. So, by hypothesis, both have the CONTAINER preceding the CONTENTS in the SIMPLE OBJECT N construction but the reverse in the MEASURE N construction. I start with the further hypothesis that the CONTAINER is the semantic head of the construction when it precedes the CONTENTS (what I have been calling the SOC), and that the CONTENTS is the semantic head of the construction in the opposite order (the MPC). The following sections provides tests for this hypothesis.

4.1 Test 1: Choice of Verb

In order to test the semantic heads, we can use different verbs and assess the semantic appropriateness. The assumption is that the verbs ‘drink’ and ‘spill’ will be more appropriate for constructions where ‘wine’ (the CONTENTS) is the semantic head of the object, the verbs ‘break’, ‘open’, and ‘paint’ will be more appropriate where ‘bottle’ (the CONTAINER) is the semantic head of the object. The verb ‘buy’ is expected to take either ‘wine’ or ‘bottle’ as the semantic head of the object. The table below sums up the expectations.

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3The details of the construction differ in interesting ways with the Northern Dialect using N-bonding (Keenan 2000) tavoahangin’ny divën while Official Malagasy uses a particle na. This difference most likely points to a difference in the syntax but I leave this for future research.
Verbs requiring different types of objects

<table>
<thead>
<tr>
<th>Verb (OM)</th>
<th>Verb (ND)</th>
<th>bottle</th>
<th>wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>misotro</td>
<td>nigiaka</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>mandraraka</td>
<td>mandraraka</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>mamaky</td>
<td>mamaky</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>mamoha</td>
<td>mañabiaña</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>mandoko</td>
<td>mipėndra</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>mividy</td>
<td>mivanga</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The results are given below in table form (the actual constructions are given in Appendix A). The least interesting case is with the verb ‘buy’ which is expected to be able to take either the SOC or the MPC and as the table below shows, this is the case.

Either CONTENT or CONTAINER oriented verb

<table>
<thead>
<tr>
<th>VERB</th>
<th>bottle&gt;wine (SOC)</th>
<th>wine&gt;bottle (MPC)</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘buy’</td>
<td>Yes</td>
<td>Yes</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>VR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
</tr>
</tbody>
</table>

With the CONTENTS oriented verbs (‘drink’ and ‘spill’), things become less straightforward. AR gets the expected judgments while VR accepts both word orders. I have highlighted VR’s responses where they differ from AR. RH, the speaker of the Northern Dialect, also accepts both word orders, but as we will see shortly, she accepts all possible combinations.

CONTENT oriented verbs

<table>
<thead>
<tr>
<th>VERB</th>
<th>bottle&gt;wine (SOC)</th>
<th>wine&gt;bottle (MPC)</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘drink’</td>
<td>*</td>
<td>ok</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>VR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
</tr>
<tr>
<td>‘spill’</td>
<td>*</td>
<td>ok</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>VR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
</tr>
</tbody>
</table>

With the CONTAINER oriented verbs, RH still accepts both word orders, and AR follows expectations. What is interesting is that VR’s judgments now coincide with AR’s judgments (and the original expectations) in two of the three cases.
(12) **Container oriented verbs**

<table>
<thead>
<tr>
<th>VERB</th>
<th>bottle &gt; wine (SOC)</th>
<th>wine &gt; bottle (MPC)</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>'break'</td>
<td>Yes</td>
<td>No</td>
<td>Prediction</td>
</tr>
<tr>
<td>ok</td>
<td>*</td>
<td>AR (OM)</td>
<td></td>
</tr>
<tr>
<td>ok</td>
<td>*</td>
<td>VR (OM)</td>
<td></td>
</tr>
<tr>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
<td></td>
</tr>
<tr>
<td>'open'</td>
<td>Yes</td>
<td>No</td>
<td>Prediction</td>
</tr>
<tr>
<td>ok</td>
<td>*</td>
<td>AR (OM)</td>
<td></td>
</tr>
<tr>
<td>ok</td>
<td>ok</td>
<td>VR (OM)</td>
<td></td>
</tr>
<tr>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
<td></td>
</tr>
<tr>
<td>'paint'</td>
<td>Yes</td>
<td>No</td>
<td>Prediction</td>
</tr>
<tr>
<td>ok</td>
<td>*</td>
<td>AR (OM)</td>
<td></td>
</tr>
<tr>
<td>ok</td>
<td>*</td>
<td>VR (OM)</td>
<td></td>
</tr>
<tr>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
<td></td>
</tr>
</tbody>
</table>

Looking only at the judgements of the two speakers of Official Malagasy, AR and VR, there arises an interesting split. Putting aside the verb ‘open’ for a moment, it looks as if VR allows either nominal to act as the semantic head in the SOC, but allows only the CONTENTS to be the semantic head in the MPC. In other words, the MEASURE N could not be the semantic head. Returning to the question of the verb ‘open’, it is interesting that in English, one can open wine, but one cannot break the wine nor paint the wine (with the intended reading), so I tentatively will remove the verb ‘open’ from consideration.

(13) **Tentative results**

**OM1 (AR):** in the SOC, the CONTENTS cannot be interpreted as the semantic head  
**OM2 (VR):** in the SOC, either nominal can be interpreted as the semantic head  
**OM (AR, VR):** in the MPC, the CONTAINER cannot be interpreted as the semantic head 
**ND (RH):** in the SOC and the MPC, either nominal can be interpreted as the semantic head

4.2 **Tests 2/3: Adjective and Agreement**

A second way to test the semantic head of the construction is through adjectival predication. The table below presents five adjectives – two pertaining to wine (CONTENTS) and two pertaining to bottles (CONTAINER), and one that can pertain to either nominal.

(14) **Adjectives referring to different types of subjects**

<table>
<thead>
<tr>
<th>Verb (OM)</th>
<th>Verb (ND)</th>
<th>bottle</th>
<th>wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>mahery</td>
<td>mahery</td>
<td>‘strong’</td>
<td>No</td>
</tr>
<tr>
<td>mamy</td>
<td>mamy</td>
<td>‘sweet’</td>
<td>No</td>
</tr>
<tr>
<td>mora vaky</td>
<td>mora vaky</td>
<td>‘fragile’</td>
<td>Yes</td>
</tr>
<tr>
<td>lehibe</td>
<td>maventy</td>
<td>‘big’</td>
<td>Yes</td>
</tr>
<tr>
<td>lafo</td>
<td>lafo</td>
<td>‘expensive’</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*This generalization excludes the data for the verb ‘open’ (see (33a) in Appendix A).*
As well as testing the semantic compatibility of the adjective, I also tested number agreement with the subject. Since Malagasy does not have verbal agreement, I used other markers of number. The basic pattern is given in (15) below, followed by the Official Malagasy equivalent of the pattern.

(15) I bought two bottles of wine...
   a. ... and they were really A.
   b. ... and it was really A.

(16) Nividy divay roa tavoahangy aho.
   a. ary tena A izy roa
      and really A 3.SG two
      ‘... and they were really A.’
   b. ary tena A ilay izy.
      and really A  DEM 3.SG
      ‘... and it was really A.’

I tested three representative adjectives on the two constructions, using only two consultants, AR and RH. The results for the adjectives are given in the table below.

(17) Adjectives

<table>
<thead>
<tr>
<th>Adjective</th>
<th>bottle &gt; wine (SOC)</th>
<th>wine &gt; bottle (MPC)</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘fragile’</td>
<td>Yes</td>
<td>No</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
</tr>
<tr>
<td>‘strong’</td>
<td>No</td>
<td>Yes</td>
<td>Prediction</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>ok</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
</tr>
</tbody>
</table>

These results mirror the results from the verb test. AR performed according to expectations – the adjective could refer only to the CONTAINER in the SOC and only to the CONTENTS in the MPC. Again, RH accepted reference to either nominal in both constructions.

The data below shows that agreement appears to work differently from semantic predicate selection. AR allows the subject to share number features with either of the nominals in both constructions.

(18) Agreement

<table>
<thead>
<tr>
<th>Agree with</th>
<th>bottle &gt; wine (SOC)</th>
<th>wine &gt; bottle (MPC)</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>bottle</td>
<td>Yes</td>
<td>No</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>*</td>
<td>RH (ND)</td>
</tr>
<tr>
<td>wine</td>
<td>No</td>
<td>Yes</td>
<td>Prediction</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>AR (OM)</td>
</tr>
<tr>
<td></td>
<td>ok</td>
<td>ok</td>
<td>RH (ND)</td>
</tr>
</tbody>
</table>

In particular, for AR the subject can refer back to the number of the MEASURE (19), but a predicate can neither select (20a) nor be predicated of the MEASURE (21b).
5. Analysis

There are two observations that need to be accounted for. One is that both dialects have two ways of expressing a very similar concept. In Official Malagasy, there appears to be a subtle difference in the interpretation of the two constructions in terms of what the semantic head is. The second observation is that the word order of the Measure phrase construction is different in the two dialects. I start by investigating this second observation.

5.1 Word Order in MPC

One way of accounting for the differences in word order between the two dialects in the Measure Phrase is through an analysis following the observations of Cinque (2005) on variations in word order within nominal phrases. This account would start with the following underlying order.

\[
\text{Det} > \text{Number} > \text{Measure} \ N > \ N
\]

b. \(\text{ny} > \text{roa} > \text{tavoahangy} > \text{divay}\)

c. \([\text{DetP ny} \ [\text{NumP roa} \ [\text{MP tavoahangy [NP divay]]}]]\)
The order for Official Malagasy would be created via Spec to Spec movement of the NP.

\[(23) \text{divay roa tavoahangy}\]

According to Cinque, Spec to Spec movement is more marked than roll-up movement, therefore one might expect that the construction would be open to reanalysis, changing from Spec to Spec movement and becoming roll-up movement. In fact, roll-up movement when applied to this structure produces the word order of the Northern Dialects as shown in the trees below.\(^5\) This is shown in its two steps. First the NP moves to Spec, MP, just as it does in OM. In the second step, however, where the movement in OM targets the NP in Spec, MP (Spec to Spec movement), in ND, it is the whole MP that is targeted for movement to Spec, NumP.\(^6\)

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\(^5\)Note that roll-up movement is used to explain the order in the Malagasy verb phrase. See Pearson (2000) and Rackowski and Travis (2000).

\(^6\)I have put the cardinal number aroe ‘two’ in the head of Num, which might not be ideal since Num is usually used for singular/plural features. I leave this issue for future research.
An alternative analysis is exemplified in work by Cheng and Sybesma (1995). They propose two structure for classifiers in Mandarin – a head complement structure and a modifying structure. This applied to OM would be as below. In one case the CONTAINER selected a constituent containing the CONTENTS. In the other, the CONTENTS is modified by a constituent containing the CONTAINER.

(25) a. HeadP b. X

Head CONTAINER Complement X Modifier
...CONTENTS... CONTENTS ...CONTAINER...

Since modifiers do follow the head N in Malagasy, this is a plausible account. I leave these as the two avenues to pursue in future work.

5.2 Semantic heads in MPC and SOC

In terms of the data surrounding the semantic heads of these constructions, it would be ideal if the structure itself can account for the facts. For example, it could be that AR and VR cannot have the CONTAINER act as the semantic head.
in the MPC because the CONTAINER appears within the modifier (using a Cheng and Sybesma (1998) structure). Or perhaps the CONTAINER is a M( easure) head in this construction rather than an N head (using a Cinque (2005) structure). This could suggest that RH’s accepting both CONTENTS and CONTAINER as the semantic head in both constructions indicates a difference underlying structure either in terms of modification (Cheng 1998) or in terms of categorization (Cinque 2005). Ideally, the revisions in the structure will be tied to the differences in word order in the MPC between OM and ND.

6 Conclusion

There is more work to be done on this topic, both in terms of data and in terms of analysis. More speakers need to be consulted and more data points probed. For example, presumably the CONTENTS cannot be definite inside a MEASURE construction. Also, a better understanding of measure constructions (and classifiers) cross-linguistically would add different perspectives on the issue. For example, Cheng and Sybesma (1998) argue that one type of classifier construction has the container head in a modifier position where it functions as a measure. In another type of classifier construction, the container head selects the contents, but now the container is being referred to as an object. Further research would look into whether a similar analysis would work for the Malagasy data.

APPENDIX A: Verb choices, word order, semantic heads

(26) mividy/mivanga ‘buy’ – MEASURE N
   a. Nividy tavoahangy na divay roa aho.
      PST.AT.buy bottle na wine two 1SG.NOM
      ‘I bought two bottles of wine.’ VR: ok – AR: ok
   b. Nivanga tavoangin’ny divên aro ezâ
      PST.AT.buy bottle DET wine two 1SG.NOM
      ‘I bought two bottles of wine.’ RH: ok

(27) misotro/nigiaka ‘drink’ – MEASURE N
   a. Nisotro tavoahangy na divay roa aho.
      PST.AT.drink bottle na wine two 1SG.NOM
      ‘I drank two bottles of wine.’ VR: ok – AR: *7
   b. Nigiaka tavoangin’ny divên aro ezâ
      PST.AT.drink bottle DET wine two 1SG.NOM
      ‘I drank two bottles of wine.’ RH: ok

(28) misotro/nigiaka ‘drink’ – N MEASURE
   a. Nisotro divay roa tavoahangy aho.
      PST.AT.drink wine two bottle 1SG.NOM
      ‘I drank two bottles of wine.’ VR: ok – AR:ok

7AR commented that one cannot drink a bottle.
b. Nigiaka divën tavoangy aroe za
   PST.AT.drink wine bottle two 1SG.NOM
   ‘I drank two bottles of wine.’
   RH: ok

(29) mandraraka ‘spill’ – MEASURE N
   a. Nandraraka tavoahangy na divay roa aho.
      PST.AT.spill bottle na wine two 1SG.NOM
      ‘I spilled two bottles of wine.’
      VR: ok – AR: *
   b. Nandraraka tavoangin’ny divën aroe za
      PST.AT.spill bottle’DET wine two 1SG.NOM
      ‘I spilled two bottles of wine.’
      RH: ok

(30) mandraraka ‘spill’ – N MEASURE
   a. Nandraraka divay roa tavoahangy aho.
      PST.AT.spill wine two bottle 1SG.NOM
      ‘I spilled two bottles of wine.’
      VR: ok – AR: ok
   b. Nandraraka divën tavoangy aroe za
      PST.AT.spill wine bottle two 1SG.NOM
      ‘I spilled two bottles of wine.’
      RH: ok

(31) mamaky ‘break’ – MEASURE N
   a. Namaky tavoahangy na divay roa aho.
      PST.AT.break bottle na wine two 1SG.NOM
      ‘I broke two bottles of wine.’
      VR: ok – AR: ok
   b. Namaky tavoangin’ny divën aroe za
      PST.AT.break bottle’DET wine two 1SG.NOM
      ‘I broke two bottles of wine.’
      RH: ok

(32) mamaky ‘break’ – N MEASURE
   a. Namaky divay roa tavoahangy aho.
      PST.AT.break wine two bottle 1SG.NOM
      ‘I broke two bottles of wine.’
      VR: * – AR: *
   b. Namaky divën tavoangy aroe za
      PST.AT.break wine bottle two 1SG.NOM
      ‘I broke two bottles of wine.’
      RH: ok

(33) mamoha/mañabíaña ‘open’ – N MEASURE
   a. Namoha divay roa tavoahangy aho.
      PST.AT.open wine two bottle 1SG.NOM
      ‘I opened two bottles of wine.’
      VR: ok – AR: *
   b. Nañabíaña divëns tavoangy aroe za
      PST.AT.open wine bottle two 1SG.NOM

8AR commented that one cannot open wine, one must open a bottle.
‘I opened two bottles of wine.’ RH: ok

(34) mamoha/mañabiña ‘open’ – MEASURE N
a. Namoha tavoahangy na divay roa aho. PST.AT.open bottle na wine two 1SG.NOM ‘I opened two bottles of wine.’ VR: ok – AR: ok

b. Nañabiña tavoangin’ny divën aroe za PST.AT.open bottle DET wine two 1SG.NOM ‘I opened two bottles of wine.’ RH: ok

(35) mandoko/mipêndra ‘paint’ – N MEASURE
a. Nandoko divay roa tavoahangy aho. PST.AT.paint wine two bottle 1SG.NOM ‘I painted two bottles of wine.’ VR: * – AR: *

b. Mipêndra divën tavoangy aroe za PST.AT.paint DET wine bottle two 1SG.NOM ‘I painted two bottles of wine.’ RH: ok

(36) mandoko/mipêndra ‘paint’ – MEASURE N
a. Nandoko tavoahangy na divay roa aho. PST.AT.paint bottle na wine two 1SG.NOM ‘I painted two bottles of wine.’ VR: ok – AR: ok

b. Mipêndra tavoangin’ny divën aroe za PST.AT.paint bottle DET wine two 1SG.NOM ‘I painted two bottles of wine.’ RH: ok

(37) mividy/mivanga ‘buy’ – N MEASURE
a. Nividy divay roa tavoahangy aho. PST.AT.buy wine two bottle 1SG.NOM ‘I bought two bottles of wine.’ VR: ok – AR: ok

b. Nivanga divën tavoangy aroe za PST.AT.buy DET wine bottle two 1SG.NOM ‘I bought two bottles of wine.’ RH: ok

APPENDIX B: Adjective choices, agreement

OFFICIAL MALAGASY

Adjective for BOTTLES: wine > two > bottles

(38) Nividy divay roa tavoahangy aho.
a. ary tena mora vaky izy roa and really fragile 3.SG two ‘... and they were really fragile.’ AR: #
b. ary tena mora vaky ilay izy.
and really fragile DEM 3.SG
‘... and it was really fragile.’ AR: #

**Adjective for BOTTLES: bottles > na > wine > two**

(39) Nividy tavoahangy na divay roa aho.
   a. ary tena mora vaky izy roa
      and really fragile 3.SG two
      ‘... and they were really fragile.’ AR: ok
   b. ary tena mora vaky ilay izy.
      and really fragile DEM 3.SG
      ‘... and it was really fragile.’ AR: ok

**Adjective for WINE: wine > two > bottles**

(40) Nividy divay roa tavoahangy aho.
   a. ary tena mahery izy roa
      and really strong 3.SG two
      ‘... and they were really strong.’ AR: ok
   b. ary tena mahery ilay izy.
      and really strong DEM 3.SG
      ‘... and it was really strong.’ AR: ok

**Adjective for WINE: bottles > na > wine > two**

(41) Nividy tavoahangy na divay roa aho.
   a. ary tena mahery izy roa
      and really strong 3.SG two
      ‘... and they were really strong.’ AR: #
   b. ary tena mahery ilay izy.
      and really strong DEM 3.SG
      ‘... and it was really strong.’ AR: #

**Adjective for BOTTLES and WINE: wine > two > bottles**

(42) Nividy divay roa tavoahangy aho.
   a. ary tena lafo izy roa
      and really strong 3.SG two
      ‘... and they were really expensive.’ AR: ok
   b. ary tena lafo ilay izy.
      and really strong DEM 3.SG
      ‘... and it was really expensive.’ AR: ok

**Adjective for BOTTLES and WINE: bottles > na > wine > two**
NORTHERN DIALECT

Adjective for BOTTLES: wine > bottles > two

(43) Nividy tavoahangy na divay roa aho.
   a. ary tena lafo izy roa
      and really strong 3.SG two
      ‘... and they were really expensive.’ AR: ok
   b. ary tena lafo ilay izy.
      and really strong DEM 3.SG
      ‘... and it was really expensive.’ AR: ok

Adjective for BOTTLES: bottles > ‘ny > wine > two

(44) Nividy divay roa tavoahangy aho.
   a. ary teña môra vaky rô aroe
      and really fragile DEM two
      ‘... and they were really fragile.’ RH: ok
   b. ary teña môra vaky zeñy
      and really strong DEM
      ‘... and it was really fragile.’ RH: ok

Adjective for WINE: wine > bottles > two

(45) Nivangy tavoahangy na divay roa aho.
   a. ary teña môra vaky rô aroe
      and really strong DEM two
      ‘... and they were really strong.’ RH: ok
   b. ary teña môra vaky zeñy
      and really strong DEM
      ‘... and it was really strong.’ RH: ok

Adjective for WINE: bottles > ‘ny > wine > two

(46) Nivanga divên tavoangy aroe za.
   a. ary teña mahery rô aroe
      and really strong 3.SG two
      ‘... and they were really strong.’ RH: ok
   b. ary teña mahery zeñy
      and really strong DEM
      ‘... and it was really strong.’ RH: ok

Adjective for WINE: bottles > ‘ny > wine > two

(47) Nivanga tavoangin’ny divên aroe za.
   a. ary teña mahery rô aroe
      and really strong 3.SG two
‘... and they were really strong.’

b. ary teña mahery zeñy
and really strong DEM
‘... and it was really strong.’

Adjective for BOTTLES and WINE: wine > bottles > two

(48) Nividy diav roa tavoahangy aho.

a. ary teña lafo ró aroe
and really strong DEM two
‘... and they were really expensive.’

b. ary teña lafo zeñy
and really strong DEM
‘... and it was really expensive.’

Adjective for BOTTLES and WINE: bottles > ‘ny > wine > two

(49) Nividy tavoahangy na diav roa aho.

a. ary teña lafo ró aroe
and really strong DEM two
‘... and they were really expensive.’

b. ary teña lafo zeñy
and really strong DEM
‘... and it was really expensive.’

References


