

Chapter 11

Malagasy Quantifiers*

Rita Hanitramalala and Ileana Paul

11.1 Introduction

In this paper we explore the various syntactic and morphological means used to express quantification in Malagasy. Malagasy is an Austronesian language spoken throughout Madagascar and has been described in some detail both in traditional grammars (e.g. Domenichini-Ramiaramanana 1977, Rahajarizafy 1960, Rajemisa-Raolison 1971) and by structuralist and generative linguists (e.g. Dez 1980a, 1990, Keenan 1976, Paul 2000, Pearson 2001, 2005, Rajaona 1972). More recently, Keenan (2007) provides an overview of some of the quantificational strategies in Malagasy – this paper expands on these. As we will see, Malagasy has a range of both D-quantifiers (those that appear within the nominal domain) and A-quantifiers (those that modify VP or the clause as a whole). On the other hand, Malagasy quantifiers do not pattern with determiners in this language. The goal of this paper is essentially descriptive. The organization follows the questionnaire supplied by the editors.

Some background on Malagasy syntax is necessary before we discuss the data in any detail. Malagasy is a VOS language with fairly rigid word order. There is some debate over the status of the clause-final argument – it behaves more like an A-bar element than a subject and hence is often called a topic (Pearson 2005 is a recent analysis). For the purposes of this paper, we will refer to it as a subject. Like many languages in the family, Malagasy also has a rich verbal morphology, often called ‘voice’. The verbal morphology indicates (roughly) the semantic role of the subject. Again there is much debate over the nature of the verbal morphology, but that debate is tangential to this paper. Finally, subject-initial word order is possible if the subject is topicalized or

* The authors would like to thank the editors of this volume as well as the anonymous reviewer for their comments.

I. Paul (✉)

Department of French Studies, University of Western Ontario, London,
ON N6A3K7 Canada
e-mail: ileana@uwo.ca

focussed – several examples of fronting will be seen in the examples in this paper. We also note the following non-obvious glossing conventions. The ubiquitous preposition (*t*)*ami*(*na*) is glossed simply as ‘*p*’. The preposition *an-* marks (some) direct objects and is always glossed *acc*. *An-* is also a locative marker meaning roughly *at*, and a predicate possessor marker as in *That is John’s*. The proper noun article *i* is not glossed.

The Malagasy DP is head-initial (see Ntelitheos 2006); the basic order of elements is given in (1) and an example is provided in (2).

- (1) det/dem + N + poss’r + adj + numerals + quantifiers + rel clause + dem
- (2) ny alika kely fotsy tsara tarehy anankiray
 det dog little white good face one
 ‘one pretty little white dog’ (Dez 1990:105)

Demonstratives typically ‘frame’ the DP – in other words, they appear at the beginning (like determiners) and at the end (almost like a phrasal circumfix). An example with *io* (proximal, visible, singular) is given below:

- (3) Ento any io olona ratsy fanahy io.
 carry.imp there dem person bad spirit dem
 ‘Take over there this mean person.’ (Rajemisa-Raolison 1971:54)

Plural is overtly marked only on the demonstratives. Nouns and determiners are underspecified for number, what Corbett (2000) calls ‘general number’.

11.2 Existential (Intersective) Quantifiers

The examples in (4) illustrate some cardinal quantifiers in Malagasy: these typically surface to the right of the head noun, much like adjectival modifiers. Note that the equivalent of a weak existential quantifier can be expressed by the existential construction, as in (4)d.

- (4) a. Nahita [sarin’i Churchill iray] aho teo ambonin’ny
 see picture Churchill one 1sg there on det
 lafaoro
 chimney
 ‘I saw one picture of Churchill above the fireplace.’
- b. Mihira eny an-dalana [ny tantsambo sasany].
 sing there acc-street det sailor certain
 ‘Certain sailors are singing in the street.’
- c. Mihira eny an-dalana [ny tantsambo vitsivitsy].
 sing there acc-street det sailor few.few
 ‘Some sailors are singing in the street.’

- d. Misy [tantsambo mihira] eny an-dalana.
 exist sailor sing there acc-street
 ‘There are sailors singing in the street.’
- e. Nanao fangatahana asa [ny vehivavy maromaro].
 make request work det woman many.many
 ‘Several women applied for work.’

11.2.1 Existentials

Malagasy has a dedicated existential verb, *misy*, that inflects with tense, much like other verbs: *misy* (present), *nisy* (past), *hisy* (future).

- (5) a. Misy vehivavy dimy eo am-pianarana izao.
 exist woman five there acc-class now
 ‘There are five women in the class now.’
- b. Tamin’ ny taon-dasa dia nisy vehivavy folo tao
 p det year-gone top exist woman ten there
 am-pianarana.
 acc-class
 ‘Last year there were ten women in the class.’
- c. Tsy misy vehivavy na dia iray aza eo am-pianarana
 neg exist woman or top one even there acc-class
 izao, kanefa tamin’ ny taon-dasa nisy betsaka.
 now but p det year-gone exist many
 ‘There are no women in the class now, but last year there were many.’

The same verb occurs in interrogatives, but *wh*-questions with *iza* ‘who’ are not grammatical.

- (6) a. Misy olona ao an-trano.
 exist person there acc-house
 ‘There is someone in the house.’
- b. *Iza no misy ao an-trano?
 who foc exist there acc-house
- c. Inona no misy ao an-trano?
 what foc exist there acc-house
 ‘What is (there) in the house?’
- d. Iza no ao an-trano?
 who foc there acc-house
 ‘Who is in the house?’

- e. Mba misy olona (na dia iray/na iray) ve ao an-trano?
 part exist person (or top one/or one) q there acc-house
 'Is there anyone in the house?'
- f. Tsy misy olona (na dia iray/na iray) ao an-trano.
 neg exist person (or top one/or one) there acc-house
 'There isn't anyone in the house.'

The data in (6) and (7) show that in order to express a negative existential, the standard pre-verbal negation *tsy* is used.

- (7) a. Tsy misy voalavo na dia iray aza ao an-trano.
 neg exist rat or top one even there acc-house
 'There aren't any rats at all in the house.'
- b. Tsy nahita voalavo mihitsy aho ao an-trano.
 neg see rat indeed 1sg(nom) there acc-house
 (na dia iray aza)
 (or top one even)
 'I didn't see any rats (at all) in the house.'

The existential verb is also used to express possession (inalienable or integral possession).

- (8) Misy tongotra efatra ny alika.
 exist leg four det dog
 'Dogs have four legs'.

As for the definiteness effect typically found in existential constructions cross-linguistically, it can be found in Malagasy, but with certain exceptions, such as the possessive use, as in (9), where there is no definiteness effect for the possessor.

- (9) a. *Misy mihira ny olon-drehetra.
 exist sing det person-all
 'There is everyone singing.'
- b. Misy tongotra efatra ny alika rehetra.
 exist leg four det dog all
 'All dogs have four legs.'

11.2.2 Numerals and Modified Numerals

Within DP, numerals occur post-nominally and can be modified. Most naturally, however, the numeral occurs as the matrix predicate, as illustrated in (10) (recall that the subject occurs after the predicate).

- (10) a. Mihoatran' ny dimy ny vehivavy ao am-pianarana.
 exceed det five det woman there acc-class
 'More than five women are in the class.'
 lit. 'The women in the class are more than five.'
- b. Dimy ihany ny vehivavy ao am-pianarana.
 five only det woman there acc-class
 'Only five women are in the class.'
 lit. 'The women in the class are only five.'

Below, we give further examples of modified numerals. As noted above, within DP, the modified numeral occurs post-nominally – we have bracketed the relevant DPs. In the first two examples, the DP occupies the subject position, while in (11)c–g, the DP is in the clause-initial focus position. Modified numerals can also be the main predicate, as in (11)h.

- (11) a. Nomena loka [ny mpianatra efa ho zato].
 give prize det student already fut hundred
 'Almost 100 students received a prize.'
- b. Nomena loka [ny mpianatra efa ho zato mahery].
 give prize det student already fut hundred strong
 'More than 100 students received a prize.'
- c. [Gadralava mihoatra ny roa] no nandositra.
 prisoner exceed det two foc escape
 'More than two prisoners escaped.'
- d. [Gadralava zato eo ho eo] no nandositra.
 prisoner hundred here fut here foc escape
 'Around 100 prisoners escaped.'
- e. [Gadralava dimampolo ka hatramin'ny zato
 prisoner fifty and up-to'det hundred
 eo ho eo] no nandositra.
 here fut here foc escape
 'Between 50 and 100 prisoners escaped.'

- f. [Gadralava farafahakeliny roa] no nandositra.
 prisoner least two foc escape
 ‘At least two prisoners escaped.’
- g. [Gadralava latsaka ny zato] no nandositra.
 prisoner fall det hundred foc escape
 ‘Fewer than 100 prisoners escaped.’
- h. Saika zato ny gadralava nandositra.
 almost hundred det prisoner escape
 ‘Almost 100 prisoners escaped.’
 lit. ‘The prisoners who escaped were almost 100.’

Malagasy does not have the equivalent of English ‘no’ – a negated existential is used to express the equivalent.

- (12) Tsy misy vehivavy ao am-pianarana.
 neg exist woman there acc-class
 ‘No woman is in the class. / There aren’t any women in the class.’

11.2.3 Value Judgment Cardinals

Malagasy has some value judgement cardinals, and they pattern with other modifiers, appearing post-nominally (13)a–d or as the matrix predicate (13)e,f. Unlike in English, *tena* ‘very’ cannot modify a quantifier – we leave this unexplained.

- (13) a. Nanadihady [mpifaninana mahay (*tena) betsaka/
 examine candidate able (*very) many /
 vitsy kely/maro be] i John.
 few little/many big John
 ‘John examined many/few/numerous qualified candidates.’
- b. Nanatrika ny fivoriana [ny mpianatra maro / tsy dia maro].
 attend det meeting det student many / neg top many
 ‘Many / not enough students attended the meeting.’
- c. Tonga tamin’ ny fety [ny mpandraharaha vitsy kely].
 arrive p det party det administrator few little
 ‘Few administrators came to the party.’
- d. Tonga tamin’ ny fety [ny mpandraharaha maro].
 arrive p det party det administrator many
 ‘Many administrators came to the party.’

- e. Vitsy loatra [ny mpianatra tonga].
 few too det student arrive
 ‘The students who came were too few.’
- f. Betsaka loatra [ny gadralava nandositra].
 many too det prisoner escape
 ‘The prisoners who escaped were too many.’

11.2.4 Interrogatives

Interrogatives are possible within the DP, although they tend to surface as the predicate (much like numerals), as seen in the (b) and (d) examples below.

- (14) a. [Mpianatra firy] no tonga namaky boky?
 student how-many foc arrive read book
 ‘How many students came to the book reading?’
- b. Firy ny isan’ ny mpianatra tonga namaky
 how-many det number det student arrive read
 boky?
 book
 ‘How many students came to read books?’
 lit. ‘How many is the number of students who came to read books?’
- c. [Mpianatra iza] no afa-panadianana?
 student who foc free-exam
 ‘Which students passed the exam?’
- d. Iza avy ny mpianatra afa-panadinana?
 who all det student free-exam
 ‘Which students passed the exam?’

Note that examples (14)a,c involve focus fronting, where the fronted element has been argued to be a predicate (Paul 2001, Potsdam 2006, see Law 2007 for an alternative view).

11.2.5 Boolean Compounds

Although (15) expresses roughly the equivalent of the English translation, it is not possible to replace the complementizer *fa* by a conjunction (*ary* or *sy*). We gloss *fa* as a complementizer, as this is how it typically surfaces. In particular, *fa* can only be used as a connector between clauses or possibly VPs, never between NPs. In these examples, the quantifiers are once again in the predicate position.

- (15) a. Tsy nandilatra ny folo ny mpianatra tonga nandihy.
 neg touch det ten det student arrive dance
 ‘Not more than ten students came to dance.’
 lit. ‘The students who came to dance did not exceed ten.’
- b. Roa ny farafahakeliny fa/*ary/*sy tsy nandilatra ny folo
 two det least but/*and/*and neg touch det ten
 ny mpianatra tonga nandihy.
 det student arrive dance
 ‘At least two but not more than ten students came to dance.’

11.2.6 Numeral Classifiers, Containers and Measure Phrases

Like English, Malagasy is not a classifier language and uses containers and measure phrases to count units of mass nouns.

- (16) a. divay roa tavoahangy
 wine two bottle
 ‘two bottles of wine’
- b. ronono iray baoritra
 milk one carton
 ‘one carton of milk’
- c. landy telo metatra
 silk three metre
 ‘three metres of silk’

Note that the measure phrase occurs post-nominally, like other modifiers in DPs, and that the numeral precedes the measure unit. This word order is also found with measure phrases of time and distance, as illustrated in the next section.

- (17) a. sira iray kilao
 salt one kilo
 ‘one kilo of salt’
- b. fromazy iray kilao
 cheese one kilo
 ‘one kilo of cheese’

11.2.7 Units of Time and Distance

Unlike most other instances we have seen of modification by a numeral, numerals precede nouns of time and distance.

- (18) a. Natory nandritran' [ny folo ora] aho.
 sleep during det ten hour 1sg
 'I slept for ten hours.'
- b. Hiverina aho afaka [fito andro].
 return 1sg free seven day
 'I will return in seven days.'
- c. Misy fito andro anatin' [ny iray herin'andro].
 exist seven day in det one week
 'There are seven days in one week.'
- (19) a. [Efapolo kilometatra] miala an'i Paris no misy
 forty kilometre leave acc'Paris foc exist
 an'i Fontainebleau.
 acc'Fontainebleau
 'Fontainebleau is forty kilometres from Paris.'
- b. Lava kokoa [telo sentimetatra] noho i Bill i John.
 long more three centimetres than Bill John
 'John is three centimetres taller than Bill.'

In this way, measure phrases of time and distance pattern more generally with measure phrases (e.g. of mass).

11.2.8 *A-Quantifiers*

We now turn to adverbial expressions that quantify over events, much like the D-quantifiers quantify over individuals. We give some examples of intersective A-quantifiers. In (20), the quantificational adverbs appear after the subject, though they can precede the subject.

- (20) a. Mandeha tongotra mankany an-tsekoly aho [indraindray].
 go foot go-there acc-school 1sg(nom) sometimes
 'I sometimes walk to school.'
- b. Mandeha tongotra mankany an-tsekoly aho [mahalana
 go foot go-there acc-school 1sg(nom) rare
 dia mahalana].
 top rare
 'I rarely walk to school.'

In (21), the quantificational adverbs surface between the verb phrase and the subject. This is the typical position for manner adverbs in Malagasy. As we saw above, these adverbs can also surface after the subject.

- (21) a. Nitsidika an'i Tashken [indroa] i John.
visit acc Tashken twice John
'John visited Tashkent twice.'
- b. Nitsidika an'i Tashken [in'efatra] i John.
visit acc Tashkent four-times John
'John visited Tashkent four times.'
- c. Nitsidika an'i Tashken [matetika] i John
visit acc Tashkent often John
'John visited Tashkent often.'

11.3 Generalized Universal (Co-intersective) Quantifiers

Malagasy offers a wide array of universal quantifiers, both D- and A-types.

11.3.1 D-Quantifiers

The D universals are *rehetra* 'all', which is collective, and *tsirairay* 'each', which is distributive. We will shortly discuss the A-quantifiers, but it worth noting that the D-quantifier *rehetra* often co-occurs with the A-quantifier *daholo*, as in examples (22)a,d below.

- (22) a. Manonofinofy daholo [ny mpanoratra tonon-kalo rehetra].
dream all det writer poem all
'All poets daydream.'
- b. Nanoratra tonon-kalo [ny mpianatra tsirairay tao
write poem det student each there
an-dakilasy].
acc-class
'Each student in the class wrote a poem.'
- c. Tsy [ny saka rehetra] no maramara.
neg det cat all foc grey
'Not all cats are grey.'
- d. Afa-panadinana daholo [ny mpianatra rehetra afa-tsy
free-exam all det student all free-neg
ny roa ihany].
det two only
'All but two students passed the exam.'

- e. Nandao ny tanana [ny lehilahy, ny vehivavy ary
leave det town det man, det woman and
ny ankizy tsirairay].
det child each
'Each man, woman and child left the city.'

We note in passing that the universal quantifiers pattern with the other D-quantifiers, appearing to the right of the head noun. Moreover, both universal quantifiers must co-occur with the determiner *ny*.

The quantifier *isaky* 'each' has a slightly different distribution. It is a head noun that takes an NP as a complement, as shown below.

- (23) a. isan'olona
each person
'each person'
- b. isaky ny maraina
each det morning
'each morning'
- c. isaky ny manorotra izy
each det write 3(nom)
'each time he writes'
- d. Nozaraina penina [isaky ny mpianatra tao an-dakilasy].
distribute pen each det student there acc-class
'Pens were distributed to each student in the class.'

11.3.2 A-Quantifiers

In the adverbial domain, *foana* and *lalandava* are the equivalents of 'always', and can be modified by *saika* 'almost' (although *saika* is preverbal, perhaps modifying the entire VP and not just the adverb).

- (24) a. Mandeha taxi-be foana aho rehefa mankany
go taxi big always 1sg(nom) when go-there
am-pianarana.
acc-school
'I always take the bus to school.'
- b. Saika mandeha taxi-be foana aho rehefa mankany
almost go taxi-big always 1sg(nom) when go-there
am-pianarana.
acc-school
'I almost always take the bus to school.'

- c. Saika mitomany lalandava ny zaza.
almost cry always det child
'The children almost always cry.'
- d. Mandratra ny tenany i John isaky ny manala volom-bava.
cut det body John each det remove hair-mouth
'John cuts himself each time he shaves.'

11.3.3 *Universal Quantifiers from Interrogatives*

Malagasy has a productive process of forming universals (free choice expressions or *ever* free relatives) from disjunctive interrogative elements.

- (25) a. Ento aty ny mpianatra [na firy na firy].
bring here det student or how-many or how-many
'Bring here however many students there are.'
- b. [Na iza na iza] no milaza izany, aza inoana.
or who or who foc say that, neg believe
'Whoever says that, don't believe it.'
- c. [Na saka inona na saka inona] dia mihaza voalavo.
or cat what or cat what top hunt rat
'Any cat hunts rats.'

The same form is interpreted as a negative polarity item in the context of negation.

- (26) Tsy hitako [na aiza na aiza] ny ondriko.
neg find.1sg or where or where det sheep.1sg
'I can't find my sheep anywhere.' (Dez 1990: (1871))

11.4 Proportional Quantifiers

11.4.1 *D-Quantifiers*

All of the proportional quantifiers in the nominal domain have a complex structure, resembling partitives. We therefore give an example of a simple partitive below: the multipurpose preposition *amin* takes a genitive complement *ny olona* 'the people'.

- (27) iray amin'ny olona
one p det person
'one of the people'

The genitive is also used to mark possessors of nouns: in (28) the possessor of the head noun *trano* ‘house’ is the genitive *ny olona* ‘the person’.

- (28) ny tranon’ny olona
 det house det person
 ‘the person’s house’

As described in detail in Keenan and Polinsky (1998), the morphological expression of genitive is a nasal segment that surfaces between the head and its complement. Turning now to proportional quantifiers, we see in examples such as (29) that the quantifier corresponds to a noun (e.g. *ankamaroana* ‘most’) that selects for a genitive complement.

- (29) a. Manonofinofy ny ankamaroan’ ny mpanoratra.
 dream det most det writer
 ‘Most writers daydream.’
- b. Manonofinofy ny habetsahan’ ny mpanoratra.
 dream det most det writer
 ‘Most writers daydream.’

Expressions of percentage follow the same pattern: ‘percent’ is expressed by a head *isan-* ‘each’ that takes *zato* ‘hundred’ as a genitive complement. The number then precedes this expression:

- (30) Folo isan-jaton’ ireo boky eto Madagasikara dia amin’ ny
 ten each-hundred dem book here Madagascar top p det
 teny frantsay.
 language French
 ‘Ten percent of the books in Madagascar are in French.’

In (31), we provide further examples of overt partitives that are marked by the preposition *ami(na)* (which also selects a genitive complement). Note that in the first two examples, the partitive surfaces in the predicate position.

- (31) a. Fito amin’ny folo ny mpanoratra manonofinofy.
 seven p det ten det writer dream
 ‘Seven out of ten writers daydream.’
 lit. ‘The writers who daydream are seven out of ten.’
- b. Mandilatra ny iray amin’ny folo ny isan’ny
 touch det one p det ten det number’det
 mpianatra hahazo loka.
 student get prize
 ‘More than one in ten students will get a prize.’
 lit. ‘The number of students who will get a prize is more than one in ten.’

- c. Tsy misy mpampianatra iray amin'ny folo
 neg exist teacher one p'det ten
 no mahafantatra izany valim-panontaniana izany.
 foc know dem answer-question dem
 'Not one teacher in ten knows that answer to that question.'

11.4.2 A-Quantifiers

Malagasy does not have productive formation of A-quantifiers from D-quantifiers (cf. English *-ly*), but there are many A-quantifiers that can appear in the verb phrase. There is no A-quantifier equivalent to *mostly*, however.

- (32) a. Ny ankabetsahan'ny vehivavy no nifidy an'i Reagan.
 det most det woman foc choose acc Reagan
 'Most women voted for Reagan.'
- b. Ny vehivavy no maro nifidy an'i Reagan.
 det woman foc many choose acc Reagan
 'Women mainly voted for Reagan.'
- c. Matetika tsy mijanona hisotro kafe ny jiolahy
 often neg stop drink coffee det thief
 rehefa mandositra ny polisy.
 when flee det police
 'Usually thieves don't stop for coffee when they are fleeing the police.'
- d. Mandeha taxi-be matetika / mazana mankany
 go taxi-big often / frequently go-there
 am-pianarana i John.
 acc-school John
 'John often/frequently takes the bus to school.'
- e. Mahalana i John no mitsidika ny tranom-bakoka ny alahady.
 rare John foc visit det house-treasure det Sunday
 'It is rarely John who visits the museum on Sundays.'

Note that in (32)e, the adverb is in the preverbal focus position together with the proper name *John*. Therefore the adverb is interpreted as modifying *John*.

11.5 Follow Up Questions

11.5.1 NP Background

11.5.1.1 Definite NPs

As noted in the introduction, DPs in Malagasy are head initial. There are a range of determiners and demonstratives in definite DPs.

- (33) a. *ra, i, andria, ry* – for people
 b. *ilay* – determiner for previously mentioned entities (usually singular)
 c. *ny* – definite/specific determiner (unmarked for number)
- (34) Tonga i Koto/ ry Rakoto.
 arrive det Koto/ det Rakoto
 ‘Koto/The Rakoto family arrived.’ (Dez 1990:(21), (29))

The demonstrative system is highly complex, encoding seven degrees of distance, singular vs. plural, and invisible vs. invisible (Table 11.1).

The definite article *ny* is clearly distinct from the demonstratives (all the demonstratives have initial *i-*), though Dahl (1951) claims that the determiner *ny* is historically related to the proximal demonstrative *ini* that is found in languages such as Malay. This historical connection between a determiner and demonstratives is very common cross-linguistically – Lyons (1999) claims that definite articles almost always arise from demonstratives. It is possible to show that the determiner and the demonstratives have different syntax and semantics. Syntactically, demonstratives typically frame the NP, while the determiner doesn’t, as can be seen by comparing (35) and (36). On the semantics side, Löbner (1985) uses consistency to distinguish determiners from demonstratives. In contexts such as (35), the determiner gives rise to a contradiction. If the determiner is replaced with a demonstrative, as in (36), there is no contradiction

Table 11.1 Demonstratives

	Visible			Invisible		
	Singular	Plural	Generic	Singular	Plural	Generic
No distance	ito/ity	ireto	itony	Izato/izaty		izatony
Undefined distance	io/inny	ireo/ireny		izao/izay/izany		
Very close	itsy	iretsy	itsony	izatsy		izatsony
Small distance	itsy	iretsy		izatsy		
Big distance	iròà	ireròà		izaròà		
Very big distance	iry	irery	iròny	Izary		izaròny

- (35) # Mazoto ny mpianatra ary tsy mazoto ny mpianatra.
 zealous det student and neg zealous det student
 # ‘The student is zealous and the student is not zealous.’
- (36) Mazoto ity mpianatra ity ary tsy mazoto ity mpianatra ity.
 zealous dem student dem and neg zealous dem student dem
 ‘This student is zealous and this student is not zealous.’

11.5.1.2 Generic NPs

Malagasy does not have a special marker for generic NPs – definite NPs can be used to refer to kinds.

- (37) Tonga tany Madagasikara tamin’ ny taona 1900 ny bitro.
 arrive there Madagascar p det year 1900 det rabbit
 ‘The rabbit arrived in Madagascar in 1900.’

11.5.2 Monomorphemic Quantifiers

Malagasy appears to lack a monomorphemic proportional quantifier – the equivalents of *most* are closer to the French *la plupart de* in their internal structure. As noted by Keenan (2008, fn. 6), the forms meaning ‘most’ are all composed of the causative prefix *anka*, followed by root (*be* ‘big’, *maro* ‘many’, *betsaka* ‘many’), which is followed by the voice suffix *ana*. Malagasy also lacks a quantifier equivalent to English *no*. We note that A-quantifiers are not in general morpho-syntactically more complex than D-quantifiers. Some of the A-quantifiers may appear as matrix predicates and therefore can be classified as either adjectives or adverbs (Tables 11.2 and 11.3).

- (38) a. Matetika ny tsena.
 often det market
 ‘The market occurs often.’
- b. Mahalana ny tsena
 rare det market
 ‘The market occurs rarely.’

Table 11.2 Monomorphemic quantifiers

D-quantifiers		A-quantifiers	
<i>rehetra</i>	all	<i>daholo</i>	all
<i>vitsy</i>	few	<i>foana</i>	always
<i>maro</i>	many	<i>mazana</i>	usually
<i>betsaka</i>	many	<i>avy</i>	each
<i>iray, roa, etc.</i>	one, two, etc.	<i>avokoa</i>	all
		<i>samy</i>	each

Table 11.3 Multimorphemic quantifiers (one phonological word)

D-quantifiers		A-quantifiers	
<i>ankabeazana</i>	most	<i>lalandava</i>	always
<i>ankamaroana</i>	most	<i>matetika</i>	often
<i>ankabetsahana</i>	most	<i>mahalana</i>	rarely
<i>sasany</i>	certain	<i>indroa, intelo, etc.</i>	twice, thrice, etc.
		<i>tsirairay</i>	each

All of the D-quantifiers select for count nouns and some are also compatible with mass nouns (see below for more discussion of the mass/count distinction). Given the lack of morphological marking of singular or plural, there is no selection based on number.

11.5.3 Decreasing NPs

Malagasy has a range of decreasing NPs, built mainly using the negation *tsy*.

- (39) a. *Tsy nisy mpianatra tonga namaky boky.*
 neg exist student arrive read book
 ‘No students came to the book reading.’
- b. *Latsaky ny dimy ny mpianatra nanaraka fampianarana.*
 fall det five det student followed teaching
 ‘The students who followed the class were fewer than five.’
- c. *Tsy ny ankizy rehetra no be tomany.*
 neg det child all foc big cry
 ‘Not all children cry a lot.’
- d. *Latsaky ny fahefan’ ny mpianatra no afa-panadinana.*
 fall det quarter det student foc free-exam
 ‘Less than one quarter of the students passed the exam.’
- e. *Tsy mandilatra ny fito amin’ ny folo ny tantsambo*
 neg touch det seven p det ten det sailor
mifoka Players.
 smoke Players
 ‘Not more than seven out of ten sailors smoke Players.’

Decreasing NPs in Malagasy do not license negative polarity items: the examples in (40)a–c are all ungrammatical without the negative particle *tsy*, as illustrated in (40)d. In examples (40)a and c, the presence of *tsy* affects the meaning of *mbola* ‘still’ to give rise to the meaning ‘ever’. In (40)b, the NPI *na dia iray aza* ‘not even one’ requires an overt marker of negation.

- (40) a. Na i John na i Bill dia samy tsy mbola tany Mosko
 or John or Bill topeach neg still there Moskow
 mihitsy.
 indeed
 ‘Neither John nor Bill have ever been to Moscow.’
- b. Tsy nandilatra ny roa ny mpianatra tsy nahita vorona
 neg touch det two det student neg see bird
 na dia iray aza teo am-pitsangatsanganana.
 or top one even here acc-walk
 ‘Not more than two students saw any birds on the walk.’
- c. Latsaky ny antsasan’ ny mpianatra eto dia mbola tsy
 fall det half det student here top still neg
 tany Pinsk mihitsy.
 there Pinsk indeed
 ‘Less than half of the students here have ever been to Pinsk.’
- d. *Tsy nandilatra ny roa ny mpianatra nahita vorona na dia
 neg touch det two det student see bird or top
 iray aza teo am-pitsangatsanganana.
 one even here acc-walk

11.5.4 Boolean Compounds

Boolean compounds of determiners are not directly possible in Malagasy (see Section 11.2.5). The rough equivalents of English examples use coordinated phrases of different types. In other words, the syntactic structure of the sentences in (41) and (42) is radically different from the English translations. The coordinated elements appear to be most acceptable in the predicate position, as in (41)a and (42)a.

- (41) a. Farafahakeliny roa ary tsy mandilatra folo ny
 least two and neg touch ten det
 isan’ ny mpianatra hahazo vatsim-pianarana amin’ny
 number det student get provision-study p det
 taona avy.
 year come
 ‘At least two but not more than ten students will get scholarships next year.’
 lit. ‘The number of students who will get scholarships next year is at least two and not more than ten.’

- b. Maro fa tsy ny mpanoratra rehetra no matory antoandro.
many but neg det writer all foc sleep afternoon
'Many but not all writers sleep in the afternoon.'
- c. *Tsy tonga tamin'ny fety na ny mpianatra tsirairay
neg arrive p det party or det student each
na ny mpampianatra tsirairay
or det teacher each
'Neither every student nor every teacher came to the party.'
- (42) a. Indroa farafahakeliny fa tsy mihoatra ny indimy i Koto
twice least but neg exceed det five-times Koto
tsy nianatra.
neg study
'At least twice but not more than five times Koto didn't study'
- b. Amin'ny fifidianana ny filoham-pirenena dia tsy mifidy
p'det election det head-state top neg choose
foana ny Demokraty Rasoa fa matetika dia ny Demokraty
always det Democrat Rasoa but often top det Democrat
no fidiny.
foc choice
'In presidential elections Rasoa doesn't always vote for
Democrats, but often the Democrats are her choice.'

11.5.5 Exception Phrases

Exception is marked by *afa-tsy*, a morphologically complex expression built up from *afaka* 'free' and *tsy* 'not'. Note that the complement of *afa-tsy* must have a determiner, but is not always interpreted as definite, as seen in (43)e.

- (43) a. Tonga ny mpianatra rehetra afa-tsy Rabe.
arrive det student all free-neg Rabe
'All the students came except Rabe.'
- b. Ny mpianatra rehetra afa-tsy Rabe no tonga.
det student all free-neg Rabe foc arrive
'All the students came except Rabe.'
- c. Namangy ny mpianatra rehetra afa-tsy Rabe aho.
visit det student all free-neg Rabe 1sg(nom)
'I visited all the students except Rabe.'

- d. Namangy ny mpianatra rehetra aho afa-tsy Rabe.
visit det student all 1sg(nom) free-neg Rabe
'I visited all the students except Rabe.'
- e. Tonga ny mpianatra rehetra afa-tsy ny roa.
arrive det student all free-neg det two
'All the students arrived except two.'
- f. Tsy nisy mpianatra nandao ny fety tara afa-tsy Rabe.
neg exist student leave det party late free-neg Rabe
'No student left the party late except Rabe.'

The data in (43)d,f show that the exception phrase can be extraposed to the right, while the data in (43)b suggest that the NP and the exception phrase form a constituent.

11.5.6 *Only*

The equivalent of 'only' is expressed with *fotsiny*, *irery* 'alone' or *ihany* 'only' (or both, as in (44)b). Typically 'only' phrases appear in the focus position, as illustrated below.

- (44) a. I John irery no nahazo loka.
John alone foc got prize
'Only John got a prize.'
- b. Mpianatra (irery) ihany no nanatrika ny lanonana.
student alone only foc attend det ceremony
'Only students attended the ceremony.'

11.5.7 *Partitives*

As discussed in Section 11.4, partitives are productively formed with the preposition *amin* (or *tamin* – its past tense form), but there is no partitive equivalent to the English 'all of the' or 'none of the' and there are no partitive equivalents to 'both' or 'neither'.

- (45) a. Afa-panadinana ny roa tamin' ny mpianatra.
free-exam det two p det student
'Two of the students passed the exam.'
- b. Afa-panadinana ny roa tamin' iretsy mpianatra iretsy.
free-exam det two p dem student dem
'Two of these students passed the exam.'

- c. Afa-panadinana ny roa tamin' ny mpianatro.
free-exam det two p det student.1sg(gen)
'Two of my students passed the exam.'
- d. Afa-panadinana ny roa tamin' ny mpianatrin' i John.
free-exam det two p det student John
'Two of John's students passed the exam.'
- e. Iza amin'ireo mpianatra ireo no afa-panadinana?
who p dem student dem foc free-exam
'Which of the students passed the exam?'
- f. Ny mpianatra rehetra/ tsy ny mpianatra rehetra
det student all / neg det student all
no afa-panadinana.
foc free-exam
'All/not all (of the) students passed the exam.'
- g. Roa tamin' ny mpianatra no afa-panadinana.
two p det student foc free-exam
'Two of the students passed the exam.'
- h. Mihoatra ny valopolo isan-jaton ny mpianatra
exceed det eighty number-hundred det student
no afa-panadinana.
foc free-exam
'More than eighty percent of the students passed the exam.'
- i. Mihoatra ny dimy tamin' ny enina ny mpianatra
exceed det five p det six det student
afa-panadinana.
free-exam
'More than five sixths of the students passed the exam.'
lit. 'The students who passed the exam are more than five out of six.'

The equivalent of 'most' does not involve a preposition. Instead, the head noun *ankamaroana* or *ankabetsahana* 'most', is directly followed by a complement that is marked for genitive case.

- (46) a. Afa-panadinana ny ankamaroan' ny mpianatra.
free-exam det most det student
'Most of the students passed the exam.'
- b. Afa-panadinana ny ankabetsahan' ny mpianatra.
free-exam det most det student
'Most of the students passed the exam.'

The Malagasy data thus support the claim that all languages have syntactically complex NP partitives and the claim that all NPs with a partitive interpretation are syntactically complex (raising the question about the nature of ‘all of the’).

There are however two other structure types that assign a partitive interpretation to an NP. One is the existential construction and the other is with special verbal morphology (circumstantial topic), as illustrated in (47). In these examples, the NP itself bears no special marking, but the syntactic structure is marked.

- (47) a. Nisy namangy azy isika.
 exist visit 3(acc) 1plex(nom)
 ‘Some of us visited him.’
- b. Namonoana ny akoho.
 kill+circumstantial det chicken
 ‘Some of the chickens were killed.’

See Paul (2000) for an analysis.

11.5.8 Quantificational NPIs

The expression *na dia iray* ‘not even one’ is a negative polarity item in Malagasy – it must occur with negation, giving rise to the contrast in (48).

- (48) a. Tsy misy akondro na dia iray aza aho.
 neg exist banana or top one even 1sg(nom)
 ‘I don’t have any bananas, not even one.’
- b. *Misy akondro na dia iray (aza) aho.
 exist banana or top one (even) 1sg(nom)

The adverb *foana* is listed in the dictionary as meaning ‘freely, foolishly, useless’, but in certain contexts it means ‘always’, such as (49)a. In (49)c, it appears that the adverb takes wide scope with respect to negation, giving rise to a ‘never’ interpretation.

- (49) a. Tonga amin’ny fotoana foana izy.
 arrive p det time always 3(nom)
 ‘He always arrives on time.’
- b. Mbola tsy tonga foana izy.
 still neg arrive always 3(nom)
 ‘He still hasn’t arrived.’

- c. Tsy tonga foana izy.
 neg arrive always 3(nom)
 ‘He never arrives.’

11.5.9 *Qs as Predicates*

As we have already seen, cardinal numerals are possible as predicates. This is not possible, however, for strong quantifiers, such as *rehetra* ‘all’, *sasany* ‘certain’, and *ankabeazana* ‘most’.

- (50) a. Latsaka ny zato ny gadralava nandositra.
 fall det hundred det prisoner escape
 ‘The prisoners who escaped were fewer than one hundred.’
- b. Fito amin’ny folo ny dokotera manome fanafody.
 seven p det ten det doctor give medicine
 ‘The doctors who give medicine are seven out of ten.’
- c. Adiny valo ny fatoriako.
 hour eight det sleep.1sg(gen)
 ‘My usual sleep is eight hours.’
- d. Tsy mihoatra ny zato ny gadralava nandositra.
 neg exceed det hundred det prisoner escape
 ‘The prisoners who escaped were not more than one hundred.’
- e. *Rehetra/*Sasany/*Ankabeazany ny gadralava nandositra.
 All/ certain/ most det prisoner escape

11.5.10 *Qs as DPs*

In general, quantifiers can serve in argument positions (e.g. subject or object). Because of the restriction on the subject position, however, bare quantifiers are not possible as subject – they are always accompanied by a determiner or a pronoun. The examples in (51) illustrate this pattern for *telo* ‘three’.

- (51) a. Mora ireo boky ka nividy [telo] aho.
 cheap det book so bought three 1sg(nom)
 ‘The books were inexpensive so I bought three’
- b. Mora ireo boky dia novidiko [ny telo].
 cheap det book top buy.1sg det three
 ‘As the books were inexpensive I bought three’

Certain quantifiers, however, are always accompanied by a pronoun or a determiner, independent of their syntactic position.

- (52) a. Mora ireo boky dia nividy [azy rehetra] aho.
 cheap det book top buy 3(acc) all 1sg(nom)
 ‘The books were inexpensive, so I bought them all’
- b. Mora ireo boky dia novidiko [izy rehetra].
 cheap det book top buy.1sg 3(nom) all
 ‘The books were inexpensive so I bought them all’
- c. Mora ireo boky dia nividy [ny sasany] aho.
 cheap det book top buy det certain 1sg(nom)
 ‘The books were inexpensive so I bought some.’
- d. Mora ireo boky dia novidiko [ny sasany].
 cheap det book top buy.1sg det certain
 ‘The books were inexpensive so I bought some.’
- e. Mora ireo boky dia novidiko [ny ankabiazany]
 cheap det book top buy.1sg det most
 ‘The books were inexpensive so I bought most.’

11.5.11 *Distribution*

Quantified NPs can occur in all major grammatical functions: subject (53)a, direct object (53)b, and object of a preposition (53)c.

- (53) a. Novaliko daholo [ny fanontaniana rehetra afa-tsy ny
 answer all det question all free-neg det
 iray ihany].
 one only
 ‘I answered all but one of the questions.’
- b. Namaly [fanontaniana telo] ihany i John tamin’ ny
 answer question three only John p det
 fanadinana.
 exam
 ‘John answered just three questions on the exam.’
- c. Nanao fanambarana tamin’ [ny mpianatra maro/ rehetra/
 do notice p det student many/ all
 antsasaky ny isan’ny mpianatra] ny mpiasan’ny
 half det number det student det worker’det
 tranomboky.
 library
 ‘The librarian sent a notice to several/all/ about half the students.’

There are no special restrictions on quantified NPs nor do they occupy positions that are unusual for definite NPs in Malagasy.

Scope ambiguities are more difficult to track. In our experience we have found that speakers tend to initially find sentences to be unambiguous (even when the two potential contexts are given). But during subsequent elicitation, many speakers find the sentence to be appropriate in the two different contexts. For this reason, we feel unable to make any definitive statement about scope ambiguities in Malagasy.

On the other hand, there are some differences between the different quantifiers. The universal quantifier *rehetra* is collective, while *tsirairay* is distributive. Therefore *rehetra* but not *tsirairay* is acceptable with predicates such as *mivory* ‘gather’.

- (54) a. Nivory tao an-tokotany ny mpiantra rehetra omaly.
gather there acc-yard det student all yesterday
‘All the students gathered in the yard yesterday.’
- b. *Nivory tao an-tokotany ny mpiantra tsirairay omaly.
gather there acc-yard det student each yesterday

This difference is also apparent in the two following sentences, where *tsirairay* forces a distributive reading in (55)b.

- (55) a. Misy sarin’ny mpianatra rehetra eo ambonin’ny
exist picture’det student all there on det
latabatra.
table
‘There is a picture of all the students on the table.’
(ambiguous: one picture of all the students or one picture per student)
- b. Misy sarin’ ny mpianatra tsirairay eo ambonin’ny
exist picture det student each there on det
latabatra.
table
‘There is a picture of each student on the table.’
(unambiguous: one picture per student)

Scope interactions are also visible in wh-questions, where fronting a wh-expression tends to force a wide-scope reading, as in (56)a, while an in-situ wh-expression can take narrow scope (56)b.

- (56) a. Ny boky inona no novidin’ ny mpianatra rehetra?
det book what foc buy det student all
‘Which book did all the students buy?’
possible answer: a single book

- b. Nividy boky inona daholo ny mpianatra?
 buy book what all det student
 ‘What book did all the students buy?’
 possible answer: pair-list (a different book for each student)

If the *wh*-expression is an agent, however, both wide and narrow scope interpretations are possible, as seen in (57).

- (57) Iza no nidera ny mpianatra rehetra?
 who foc praise det student all
 ‘Who praised all the students?’
 single or list

Due to the limitations on embedding quantified NPs in NPs, it is not easy to test for scope ambiguities in such contexts.

- (58) a. naman’ ny senatera tsirairay avy
 friend det senator each each
 ‘a friend of each senator’
- b. *namana roa ny senatera tsirairay avy
 friend two det senator each each
 ‘two friends of each senator’
- c. *namana tsirairay ny senatera tsirairay avy
 friend each det senator each each
 ‘each friend of each senator’

11.5.12 *Distributive Numerals*

Malagasy allows for the productive formation of distributive numerals: the prefix *tsi-* is attached to the reduplicated form of the number (numbers from one to ten, and then one hundred, one thousand, ten thousand).

- (59) a. tsirairay ‘one by one’
 b. tsiroaroa ‘two by two’
 c. tsizatozato ‘one hundred by one hundred’

The result is an adverb that generally appears post-verbally, as in (60).

- (60) Nilahatra tsiroaroa ny mpianatra.
 line-up tsi-two-two det student
 ‘The students lined up two by two.’

The same formation applies to some adjectives and nouns.

- (61) a. tsikelikely ‘little by little’
 b. tsitaitaika ‘drop by drop’

11.5.13 *Mass vs. Count Quantifiers*

Malagasy does appear to have a grammatical mass/count distinction, but only a few quantifiers are sensitive to it. The numerals are incompatible with a mass noun (without a measure word), as is the quantifier *vitsy* ‘few’. This is true whether the quantifier is in modifier position, as in (62), or in the predicate position, as in (63).

- (62) a. Novidiny ny boky enina.
 buy.3(gen) det book six
 ‘She bought six books.’
 b. *Novidiny ny lafarina enina.
 buy.3(gen) det flour six
 ‘She bought six flours.’
- (63) a. Roa/vitsy ny boky.
 two/few det book
 ‘There are two/few books.’
 b. *Roa/vitsy ny lafarina.
 two/few det flour
 ‘There are two/few flours.’

Most other quantifiers are possible with both mass and count nouns.

- (64) a. trano firy?
 house how-many
 ‘how many houses’
 b. hidrozena firy?
 hydrogen how-many
 ‘how much hydrogen’
 c. ny trano rehetra
 det house all
 ‘all houses’
 d. ny lafarina rehetra
 det flour all
 ‘all flour’

But *tsirairay* (*avy*) ‘each’ is only possible with count nouns.

- (65) a. ny trano tsirairay
 det house each
 ‘each house’
- b. *ny lafarina tsirairay
 det flour each

11.5.14 *The Indexing Function of Universal Quantifiers*

Universal quantifiers such as *isany* ‘each’ can introduce an indexing function as adverbial expressions in (66):

- (66) a. Mitombo isan-taona ny mpividy Toyota
 grows each-year det buyers Toyota
 ‘The number of Toyota buyers grows every year’
- b. Isaky ny oram-barotra mianjera ny trano iray.
 each det rain-thunder collapses det house one
 ‘At each thunder-storm one house collapses.’

Rate phrases are productively formed with the noun *isany* ‘number, total, each’

- (67) a. Efa-jato kilometatra isan’ora ny hafaingam-
 four-hundred kilometre each hour det speed
 pandehan’ ity fiarandalam-by ity.
 go dem train dem
 ‘That train is travelling at 400 kilometres per hour.’
 lit. ‘The going-speed of that train is 400 km/h.’
- b. Mihazakazaka roapolo kilometatra isan’andro aho.
 run two-ten kilometre each day 1sg(nom)
 ‘I run twenty kilometres a day.’
- c. Manasa ny tarehiny indroa isan’andro/
 wash det face.3(gen) twice each day /
 in-telo isan’andro/ isan’andro izy.
 thrice each day/ each day 3(nom)
 ‘He washes his face twice a day / three times a day / every day.’

11.5.15 Type 2 Quantifiers

The Malagasy equivalents of English Type 2 quantifiers follow the patterns that we have already seen: *wh*-quantifiers as well as modifiers such as *samihafa* ‘different’ and *mitovy* ‘same’ are possible.

- (68) a. Mpianatra iza no namaly fanontaniana mikasika ny
 student who foc answer question concern det
 inona tamin’ ny fanadinana?
 what p det exam
 ‘Which students answered which questions on the exam?’
- b. Namaly fanontaniana mitovy ny mpianatra rehetra
 answer question same det student all
 tamin’ ny fanadinana.
 p det exam
 ‘All the students answered the same questions on the exam.’
- c. Samy namaly fanontaniana samihafa ny mpianatra tsirairay
 each answer question different det student each
 tamin’ ny fanadinana.
 p det exam
 ‘Each student answered a different question on the exam.’
- d. Namaly fanontaniana samihafa ny mpianatra samihafa.
 answer question different det student different
 ‘Different students answered different questions.’
- e. Mipetraka amin’ ny tanàna mifanakaiky i John sy Bill.
 live p det town recip.close John and Bill
 ‘John and Bill live in neighbouring villages.’
- f. Manohana antoko politika mpifaninana i John sy Bill.
 support party political rival(e.o) John and Bill
 ‘John and Bill support rival political parties.’
- g. Samy nanana ny efitrano nipetrany avy ry zareo
 each have det room live each det 3pl
 tao amin’ny trano.
 there p det house
 ‘They live in different apartments in the same building.’
- h. Ny mpanatrika rehetra dia nanao fehitenda mitovy loko.
 det spectator all top do tie same colour
 ‘All the participants wore the same colour necktie.’

- i. Niara nandihy tamin' i Mary i John fa tsy nisy
together dance p Mary John but neg exist
olon-kafa nandihy niaraka tamin' olona mihitsy.
person-other dance together p person indeed
'John danced with Mary but no one danced with anyone else.'
- j. Tokony hapetraka amina efitrano mitokana avy
should put p room separate each
na amina rindrina mifanatrika ny sary hosodoko.
or p wall facing det picture paint
'The paintings should be hung in separate rooms or on oppo-
site walls of the same room.'
- k. Samy nanatsoaka hevitra samihafa avy amin' ny
each deduce thought different each p det
tohan-kevitra ny mpitsara.
support-thought det judge
'The jurors drew different conclusions from the same arguments.'

11.5.16 Type ((1,1),1)

11.5.16.1 Comparative D-Quantifiers

Comparative quantification is only expressed within the predicate. As a result, the equivalent of 'more students than teachers came', is closer to 'the students who came were more numerous than the teachers', as in (69). Note, however, that in (69)f, there is no overt expression that corresponds to 'many'.

- (69) a. Maro kokoa ny mpianatra nohon' ny mpampianatra
many more det student than det teacher
tonga amin' ny fety.
arrive p det party
'More students than teachers came to the party.'
- b. Maro ny mpianatra na mpampianatra tonga
many det student or teacher arrive
tamin' ny fety farafaharatsiny.
p det party least
'At least as many students as teachers came to the party.'
- c. Mahafantatra mpianatra kokoa nohon' ny mpampianatra
know student more than det teacher
aho.
1sg(nom)
'I know more students than teachers.'

- d. Niara-niasa bebe kokoa tamin'ny mpianatra
 together-work big-big more p det student
 aho nohon' ny mpampianatra.
 1sg(nom) than det teacher
 'I worked with more students than teachers.'
- e. Ninoana nanao sonia kokoa ny mpianatra maromaro
 believe do signature more det student many
 nohon' ny mpampianatra.
 than det teacher
 'More students than teachers were believed to have signed.'
- f. Tena mitovy na ny hamaron' ny bisikiletan' ny
 really same or det number det bicycle det
 mpianatra na ny an'ny mpampianatra nangalarin' olona.
 student or det acc det teacher steal person
 'Just as many students' as teachers' bicycles were stolen.'

11.5.16.2 Combinations with Conjunctions

- (70) a. Ny lehilahy, ny vehivavy ary ny ankizy rehetra
 det man, det woman and det child all
 no mitsambikina an-dranomasina
 foc jump acc-ocean
 'Every man, woman and child jumped overboard.'
- b. Betsaka ny lehilahy, ny vehivavy na ny ankizy miasa
 many det man, det woman or det child work
 alahady.
 Sunday
 'Many men, women and children work on Sunday.'
 lit. 'The men, women, and children who work on Sunday are many.'

11.5.16.3 Predicates

The comparative discussed above easily generalizes to predicates.

- (71) Betsaka kokoa ny mpianatra tonga tamin' ny fety
 many more det student arrive p det party
 noho ireo nianatra nanomam-panadinana.
 than dem study prepare-exam
 'More students came to the party than studied for their exams.'
 lit. 'The students who came to the party were more than those who
 studied for the exam.'

11.5.17 Floating Quantifiers

Per Tables 11.2 and 11.3 Malagasy has several A-quantifiers and several D-quantifiers. The two sets are almost disjoint and they may co-occur: *avokoa* ‘all’, *daholo* ‘all’, *avy* ‘each’, *samy* ‘each’. These all appear in adverbial positions (*samy* occurs pre-verbally and the others after the VP) and never within the NP (72)c. Note that these often co-occur with each other, as in (72)a,b.

- (72) a. Samy lasa daholo/avokoa ny ankizy rehetra
 each gone all/all the student all
 ‘All the children left’
- b. Latsaka avy any ambonin’ny tendrombohitra daholo
 fall from there on+top+of det hill all
 ny ankizy.
 det children
 ‘The children all fell down the hill.’
- c. *Latsaka avy any ambonin’ny tendrombohitra
 fall from there on+top+of det hill
 ny ankizy daholo.
 det child all

The D-quantifier *rehetra* ‘all’ never floats, nor do numerals.

- (73) a. Ny mpianatra rehetra no tonga tamin’ ny fety.
 det student all foc arrive p det party
 ‘All the students came to the party.’
- b. *Ny mpianatra no tonga tamin’ ny fety rehetra.
 det student foc arrive p det party all
- c. Nihomehy mafy ny mpianatra roa.
 laugh hard det student two
 ‘Two students laughed out loud.’
- d. *Nihomehy mafy roa ny mpianatra.
 laugh hard two det student

The one quantifier that can appear both in a ‘floated’ VP position (74)a and within NP subject 74(b) is *tsirairay* ‘each’ and its variant *tsirairay avy* (Dez 1980b:172). It always takes the subject as antecedent.

- (74) a. Nomeko paiso dimy tsirairay ny mpianatra.
 give peach five each det student
 ‘I gave the students five peaches each.’

- b. Nomeko paiso dimy ny mpianatra tsirairay.
 give peach five det student each
 'I gave five peaches to each of the students.'

11.6 Conclusion

The goal of this paper is essentially a descriptive one: to explore the range of morphosyntactic expressions of quantification in Malagasy. We leave the analysis of these expressions for future research.

References

- Corbett, G.G. 2000. *Number*. Cambridge, MA: Cambridge University Press.
- Dahl, O.C. 1951. *Malgache et maanja*. Oslo: Egede-Instituttet.
- Dez, J. 1980a. *La syntaxe du malgache*. Thèse de doctorat, Université de Paris VII. Lille: Atelier reproduction des thèses.
- Dez, J. 1980b. *Structures de la langue malgache*. Publications Orientalistes de France. 2 rue de Lille, 75007 Paris.
- Dez, J. 1990. *Cheminevements linguistiques malgaches*. Paris: Peeters/SELAF.
- Domenichini-Ramiaramana, B. 1977. *Le malgache. Essai de description sommaire*. Paris: SELAF.
- Keenan, E. 1976. Remarkable subjects in Malagasy. In *Subject and topic*, ed. C. Li, 249–301. New York, NY: Academic Press.
- Keenan, E. 2007. Quantification in Malagasy. In *Quantification: A cross-linguistic perspective*, ed. L. Matthewson, 319–352. Amsterdam: John Benjamins.
- Keenan, E. 2008. The definiteness of subjects and objects in Malagasy. In *Case and grammatical relations*, eds. G. Corbett and M. Noonan, 241–261. Amsterdam: John Benjamins.
- Keenan, E., and M. Polinsky. 1998. Malagasy morphology. In *The handbook of morphology*, eds. A. Spencer and A.M. Zwicky, 563–624. Oxford: Blackwell.
- Law, P. 2007. The syntactic structure of the cleft construction in Malagasy. *Natural Language and Linguistic Theory* 25:765–823.
- Löbner, S. 1985. Definites. *Journal of Semantics* 4:279–326.
- Lyons, C. 1999. *Definiteness*. Cambridge, MA: Cambridge University Press.
- Ntelitheos, D. 2006. *The morpho-syntax of nominalizations: A case study*. PhD thesis, University of California, Los Angeles, CA.
- Paul, I. 2000. *Malagasy clause structure*. PhD thesis, McGill University, Montreal, QC.
- Paul, I. 2001. Concealed pseudo-clefts. *Lingua* 111:707–727.
- Pearson, M. 2001. *The clause structure of Malagasy: A minimalist approach*. PhD thesis, UCLA, Los Angeles, CA.
- Pearson, M. 2005. The Malagasy subject/topic as an A-bar element. *Natural Language and Linguistic Theory* 23:381–457.
- Potsdam, E. 2006. More concealed pseudoclefts and the clausal typing hypothesis. *Lingua* 116:2154–2182.
- Rahajarizafy, A. 1960. *Essai de grammaire malgache*. Antanimena Tananarive: Imprimerie Catholique.
- Rajaona, S. 1972. *Structure du malgache. Etude des formes prédictives*. Fianarantsoa: Librairie Ambozontany.
- Rajemisa-Raolison, R. 1971. *Grammaire malgache*. Fianarantsoa: Librairie Ambozontany.