Transitivity in the Analysis of Northern Betsimisaraka Malagasy*

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In this paper, the sentence structures of Betsimisaraka Malagasy are described. It will be shown that Betsimisaraka Malagasy is a language with an ergative case-marking system, where each transitive sentence has a corresponding passive. The paper will then provide a brief discussion as to why this analysis captures the characteristics of sentence structures and their derivational relationships better than traditional analyses of Malagasy, where sentence structures are described as exhibiting voice contrasts.

1. Introduction

Northern Betsimisaraka Malagasy is one of the regional varieties of Malagasy, the Austronesian language spoken in Madagascar. The Betsimisaraka region spreads north-south on the east coast of Madagascar, where a variety of languages are spoken. The variety described in this paper is spoken in the area surrounding a town called Vavatenina (pronounced locally as Vavatèñ),[1] which is about four hours by local transportation (about 140 km) from the provincial capital, Toamasina. Example sentences and information about the language presented in this study were collected during my fieldwork, which was conducted in the years 2003 to 2005, totalling about 5 months' stay.

Malagasy sentences have been traditionally described applying the notion 'voice,' where verbs are classified into active, passive, and circumstantial voices (Beaujard 1998, Rajaonarimanana 2001, Keenan and Polinsky 1998, and others). The claim made in this paper is that the voice alternations of the language should be examined separately from

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[1] The orthography conventions used in this paper follow in general the Standard Malagasy orthography. They are as follows: *ô* [o], *o* [u], *i* [ɯ], *y* [i] in word final position (*i* [i] elsewhere), *è* [ɛ], and *é* [e]. The symbol ' ` ' indicates stress. The vowels *è*, *é*, and *ô* always carry stress; *v* [β], *f* [ɸ], *j* [ʤ], *ts* [ts], *ndr* [nr], *dr* [ɖ], *tr* [ʈ], *ñ* [ŋ]. Others follow the IPA symbols. The sequence *nn* indicates geminate consonants. In Betsimisaraka, they are always pronounced as geminates.

the intransitive/transitive alternation, since the latter approach enables us to better capture some of the syntactic characteristics of Betsimisaraka Malagasy sentence structure, and possibly of other Malagasy languages as well. Sentence structures are described as showing four patterns, namely, intransitive, extended intransitive, transitive, and extended transitive. Related factors, such as the morphological derivation of verbs, are touched upon in relation to each sentence structure. Then a derivational process, namely, passivization, is described.

The discussion is presented as follows. Section 2 presents an overall view of Malagasy sentence structures, with an outline of my analysis of the verbal sentence structures of Betsimisaraka Malagasy based on their transitivity. Section 3 focuses on the syntactic differences between corresponding sentence types, namely, extended intransitive and transitive sentences, transitive and extended transitive sentences. It will also discuss the derivational process of passivization. Section 4 compares the analysis presented here with traditional voice analyses and discusses problems in their application to Betsimisaraka Malagasy. Section 5 is a conclusion.

2. Sentence structures in Betsimisaraka Malagasy

In this section, a brief introduction to the basic typological characteristics of Malagasy is given (§2.1), followed by a sketch description of Betsimisaraka Malagasy verbal sentence structures, based on their transitivity (§2.2). The case-marking system (§2.3) and syntactic properties commonly associated with the subjecthood (such as topicalization and relativization) are also described (§2.4).

2.1. Basic typological characteristics

Betsimisaraka Malagasy, like Standard and other Malagasy languages, is a predicate-initial, right-branching language. Dependent phrases, such as arguments of the verb and noun modifiers (except for determiners) follow the modified noun, and dependents of the predicate typically follow the predicate. The predicate of a sentence may be a verb (including those carrying adjectival or prepositional meanings) as in (1), a prepositional phrase as in (2), or a noun, such as the interrogative pronoun in (3), where the predicates are underlined.

(1)　　*Madìtra*　*izy.*
　　　　be.naughty　3sg.IND

　　　　'S/he is naughty.'

(2)　　*Tañati-ràno*　*izy.*
　　　　PERF.in-water　3sg.IND

　　　　'It was in the water.'

(3)　　*Aèza*　　*taña=nò*　　*madìtra?*
　　　　where　　hand=2sg.GEN　naughty

　　　　'Where is your naughty hand?' (Lit. 'Be where, your hand (which is) naughty?')

As in a typical right-branching language, the noun phrases and prepositional phrases that constitute a clause follow the predicate, as in (1)–(3), and nominal modifiers follow their head noun, as shown in (4)–(5), where modifying elements are indicated in square brackets.

(4)　　*biby*　　[*jiaby*　*añatiala*]
　　　　animal　all　　wild

　　　　'[all the wild] animals'

(5)　　*raha*　[*fowani* = *njareo*　*tañy*]
　　　　thing　eat = 3SG.GEN　　PERF.there

　　　　'things [that they eat over there]'

In addition, Betsimisaraka Malagasy has a structure where a phrase is topicalized to occur in the clause-initial position (see 2.4.1).

2.2. Outline of the transitive analysis

The outline of my analysis of verbal sentence structures in Betsimisaraka Malagasy is shown in (6). Explanation follows.

(6)　　<u>Betsimisaraka Malagasy sentence structures</u>

<u>Intransitive</u>　　　　V　　NP
　　　　　　　　　　　　　　INTR　NOM
　　　　　　　　　　　　　　　　actor/undergoer

<u>Extended Intransitive</u>　V　　　NP　　　　NP
　　　　　　　　　　　　　　INTR.EX　OBL　　　　NOM
　　　　　　　　　　　　　　　　undergoer　actor

<u>Transitive</u>　　　　　V　　= NP　NP
　　　　　　　　　　　　　TR　　GEN　NOM
　　　　　　　　　　　　　　　actor　undergoer

<u>Extended Transitive</u>　V　　= NP　NP　　　　NP
　　　　　　　　　　　　　TR.EX　GEN　OBL　　　NOM
　　　　　　　　　　　　　　　actor　undergoer　instrument/beneficiary/
　　　　　　　　　　　　　　　　　　　　　　　location, etc.

Malagasy verbal sentences are classified into the following four sentence types:

i)　　intransitive
ii)　　extended intransitive
iii)　transitive
iv)　　extended transitive

The major difference between the two intransitive sentences is that (plain) intransitive sentences have only one argument (expressing either an actor or an undergoer), which is analyzed as nominative, while extended intransitive sentences have two arguments, the actor argument being expressed with a nominative noun phrase, while the undergoer is expressed with an oblique phrase. Example sentences are given in (7) and (8).

(7) *Tàpaka ka:kàzo.*   (Intransitive)
     be.cut   wood.(NOM)[2]

     'Some trees have been cut./The trees have been cut.'

(8) *Manàpaka ka:kàzo   zaho.*   (Extended Intransitive)
     cut   wood.(OBL) 1SG.IND.(NOM)

     'I cut some wood/trees.'

Transitive sentences have two arguments, the actor expressed with a genitive noun phrase, and the undergoer with a nominative, as in (9). Any of the arguments in a sentence, except for the genitive phrase in a transitive sentence, can be left out.

(9) *Nitapài =ky   ka:kàzo.*   (Transitive)
     PERF.cut = 1SG.GEN wood.(NOM)

     'I cut the wood.'

Extended transitive sentences have, in addition to the two core arguments of plain transitive sentences, an extra oblique argument, which shows properties as a core argument (for example, it cannot be foregrounded[3] to precede the clause, while adjuncts typically can). An example sentence is shown in (10), where the third argument *ka:kazo* occurs, which is identified as oblique through its potential alternation with the oblique pronominal form *anànjy*. This oblique phrase expresses the undergoer of the event, while the nominative argument *boriziny* 'bush knife' expresses the instrument. The corresponding (plain) transitive sentence is shown in (11).[4]

(10) *Nanapahaà = ko   ka:kàzo   boriziny.*   (Extended Transitive)
     PERF.cut.with = 1SG.GEN wood.(OBL) bush.knife.(NOM)

     'I cut wood with the bush knife.'

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[2] Cases that are not marked morphologically but are identifiable by their potential for substitution either by case-marked pronominal forms or by word order are indicated in parentheses.
[3] Adjunct prepositional phrases and temporal adverbial forms may occur preceding the clause, a process referred to in the literature as foregrounding. It is distinct from topicalization or left dislocation.
[4] An extended transitive structure may be analyzed also as an applicative in that the oblique phrase in a (plain) transitive sentence, such as *amina boriziny* is promoted to a core noun phrase.

(11) Nitapài   =ky   ka:kàzo   amina boriziny.   (Transitive)
      PERF.cut =1SG.GEN wood.(NOM) with   bush.knife

'I cut the wood with a bush knife.'

As can be seen in examples (7)–(11), Betsimisaraka Malagasy shows an ergative case-marking system, where the 'S' of intransitive and extended intransitive sentences and the 'O' of transitive sentences are expressed with a nominative noun phrase, while the 'A' of transitive sentences is expressed with a genitive noun phrase. Details of the case-marking system are described in 2.3.

Some intransitive sentences can be described as passive derivations of corresponding transitive sentences. Every transitive sentence (both plain and extended transitive) has a corresponding passive sentence. Sentences (12) and (13) show a passive derivation of a transitive sentence, and sentences (14) and (15) show a passive derivation of an extended transitive sentence. Details of these derivational relationships are discussed in 3.3.

(12) Nitapài   =ky   ka:kàzo.
      PERF.cut =1SG.GEN wood.(NOM)

'I cut the wood.'

(13) Nitapài   -ñ$^{(i)}$a   ka:kàzo.
      PERF.cut -PASS   wood.(NOM)

'The wood was cut.'

(14) Nanapahaà=ko   ka:kàzo   boriziny.
      PERF.cut.with=1SG.GEN wood.(OBL) bush.knife.(NOM)

'I cut wood with the bush knife.'

(15) Nanapahaà-ñ$^{(i)}$a   ka:kàzo   boriziny.
      PERF.cut.with-PASS wood.(OBL) bush.knife.(NOM)

'The bush knife was used to cut wood with.'

2.3. Case-marking on noun phrases

The case-marking system in Betsimisaraka Malagasy shows an ergative pattern, where pronouns are morphologically case-marked, while the cases of non-pronominal phrases are identified by potential alternation with pronouns. Word order also plays a role in this case-marking system.

Table 1 shows the personal pronouns of Betsimisaraka Malagasy.

Table 1: Betsimisaraka Malagasy personal pronouns

	INDEPENDENT	GENITIVE	OBLIQUE	LOCATIVE	COMITATIVE
1SG	*zàho~zà:*	*=ko, =ky*	*Anàhy*[5]	*annàhy*	*aminàhy*
2SG	*anô*	*=nô*	*annô*	*annô*	*aminô*
3SG	*izy*	*=ny*	*anànjy*[5]	*anànjy*	*aminànjy*
1PLEX	*zehè*	*=nè*	*annè*	*annè*	*aminè*
1PLIN	*atsìkʲa*	*=ntsìkʲa*	*antsìkʲa*	*antsìkʲa*	*ami(n)tsìkʲa*
2PL	*anaré*	*=naré*	*annaré*	*annaré*	*aminaré*
3PL	*zaré*	*=njaré*	*anjaré*	*anjaré*	*aminjaré*

The 'S' of intransitive sentences and the 'O' of transitive sentences are expressed with independent pronouns, as can be seen in (16) and (17), where the third person singular independent pronoun *izy* occurs.[6] The 'A' of transitive sentences is expressed with a genitive pronoun, as *=ko* in (17).

(16) *Màndry   izy.*   (Intransitive)
      asleep   3SG.IND.(NOM)

      'S/he is asleep.'

(17) *Tia=ko   izy.*   (Transitive)
      like=1SG.GEN   3SG.IND.(NOM)

      'I like him.'

The second argument of an extended intransitive sentence is commonly expressed with an oblique pronoun, as in (18). An independent pronoun may also occur in this position, as in (19).[7]

(18) *Tia   anànjy   zàho.*   (Extended Intransitive)
      like   3SG.OBL   1SG.IND.(NOM)

      'I like him.'

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[5]   The first person singular and third person singular forms *anàhy* and *anànjy* may occur also following a noun indicating respectively 'of me' and 'of him/her/it', replacing the corresponding genitive form.

[6]   Independent pronouns are not morphologically case-marked, and may occur in nominative and oblique positions. They may occur also as the predicate of a sentence and as a fronted sentence topic.

[7]   One of my language assistants commented that this sentence is a 'Standard Malagasy' sentence, rather than local. However, in Standard Malagasy, the form *azy* (which is commonly described as an 'accusative' pronoun (cf. Rasoloson 2001) or 'dative' pronoun (Rasoloson and Rubino 2005)) would be used instead of *izy*, and therefore, her comment implies that the use of an independent pronoun to express the undergoer in a structure such as this is possibly the result of influence from some other variety of the language. Other sentences with this usage of the independent pronoun were also recorded during my fieldwork.

(19)   *Tia*   *izy*   *zàho.*   (Extended Intransitive)
       like   3sg.ind   1sg.ind.(nom)

       'I like him.'

Non-pronominal arguments are not morphologically case-marked, as *àndro* 'day, weather' in (20) and *pòsy* 'cat' and *valàvo* 'rat' in (21), and their cases are identified by their potential alternation with pronominal forms, relative position to the verb, and other syntactic properties.

(20)   *Mèña*   *àndro!*   (Intransitive)
       be.dry · day.(nom)

       'A clear day today (the rain having stopped)!'

(21)   *Mañèkitra*   *pòsy*   *valàvo.*   (Extended Intransitive)
       bite   cat.(obl)   rat.(nom)

       'Rats bite cats.'

In extended intransitive sentences, the argument immediately following the verb is understood as the undergoer by its relative position to the verb, as well as its potential alternation with an oblique pronoun (*anànjy* '3sg.obl'). Because it is only the nominative phrase (expressing the actor) that can be topicalized in this sentence structure, when an argument precedes the verb, such as *valavo* in (22) and *posy* in (23), it is understood as expressing the actor, while the one following the verb, such as *posy* in (22) and *valavo* in (23), is understood as expressing the undergoer.

(22)   *Valavo,*   *mañèkitra*   *posy.*   (Extended Intransitive)
       rat.top   bite   cat.(obl)

       'As for rats, they bite cats.'

(23)   *Posy,*   *mañèkitra*   *valavo.*   (Extended Intransitive)
       cat.top   bite   rat.(obl)

       'As for cats, they bite rats.'

No argument in this sentence structure is obligatory, and when only one noun phrase occurs in the sentence following the verb, the sentence becomes ambiguous, as in (24).

(24)   *Mañèkitra*   *valàvo.*   (Extended Intransitive)
       bite   rat.(obl/nom)

       'Rats bite./(Someone/something) bites rats.'

Like the pronominal argument expressing the 'A' of a transitive sentence, a non-pronominal argument expressing the 'A' of a transitive sentence is genitively case-marked. The form of such a sentence is shown in (25), where a third person genitive pronoun serves as if it is

an agreement marker, co-referencing the immediately following noun phrase expressing the actor. An example is given in (26).

(25) Transitive sentence structure with a non-pronominal actor

V = ny   NP   NP
TR = 3.GEN   actor   undergoer

(26) Nikikeri = ny   Sakura   zaho.   (Transitive)
      n.ikikeri = ny
      PERF.bite = 3.GEN   Sakura   1SG.IND.(NOM)

      'Sakura bit me.'

In natural speech, the agreement marker = ny is commonly reduced to = n, and the following noun is also cliticized to the verb.[8] An example is given in (27).[9]

(27) Nikikerin-balàvo   posy.   (Transitive)
      n.ikikeri = ny = valavo   posy
      PERF.bite = 3.GEN = rat   cat.(NOM)

      'Rats bit the cat.'

In nominative noun phrases, common nouns are usually morphologically unmarked, as shown in the example sentence above. Personal nouns are optionally preceded by a personal determiner i. Within a single text told by a single story teller (Kikusawa 2006), identical sentences, sometimes with i (28) and sometimes without i (29), occur.

(28) Niròroña   i   zanajañahary.   (Intransitive, text 004 in Kikusawa 2006)
      PAST.descend DET son.of.God.(NOM)

      'The Son of God descended (from the sky).'

(29) Niròroña   zanajañahary.   (Intransitive, text 006 in Kikusawa 2006)
      PAST.descend son.of.God.(NOM)

      'The Son of God descended (from the sky).'

Of the nominative, oblique, and genitive phrases, only the genitive noun phrase of the transitive sentence is obligatory, while other arguments are optional and may or may not

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[8] In deliberate speech, the form = ny is used preceding the noun expressing the actor, as shown in (26) and in the second line in (27). It should be noted that in Standard Malagasy, the 'underlying form' of the verb in a phrase such as novonoin-dRabe 'Rabe killed' is typically analyzed as having the ending -(i)na, rather than = ny (for example, Keenan and Manorohanta 2001).

[9] A similar phonological process applies to the oblique phrase in extended intransitive sentences, for example, ômam-bàry < ômaña 'eat, INTR.EX' + vary 'rice'. Full discussion of the case-marking system and argument marking of Betsimisaraka Malagasy, including such morphophonemic processes, will appear in another paper.

appear in the sentence. Discussion of the optionality of the agent of transitive sentences appears in Section 3.3.

2.4. The 'subject' of the sentence

Regardless of which of the four sentence structures of Betsimisaraka Malagasy one focuses on, it is always the nominative noun phrase that shows the properties that are commonly associated with 'subjecthood,' such as topicalization and relativization. Thus, phrases that are analyzed as nominative exhibit the same syntactic properties in both intransitive and transitive sentences.

2.4.1. Topicalization

In each sentence structure, there is only one core element that can be topicalized by occurring before the verb. For example, in (30), the word *zaho* 'I' occurs preceding the predicate, while (31) is its corresponding unmarked sentence.

(30)   *Zàho,*   *nareñi = anànjy*   *an-dràño.*   (Extended Intransitive)
         1SG.IND.TOP   PAST.hear = 3SG.OBL   LOC-house

    'As for me/talking about me, I heard him (doing something) in the house.'

(31)   *Nareñi = anànjy*   *zàho*   *an-dràño.*   (Extended Intransitive)
         PAST.hear = 3SG.OBL   1SG.IND.(NOM)   LOC-house

    'I heard him in the house.' (either 'I' or 'him' may be the one 'in the house')

The noun phrase that may occur in the topic position immediately preceding the predicate is restricted to one core argument in each sentence structure, namely, the one marked as nominative. This is a syntactic restriction. Thus, with a transitive sentence, it is the nominative noun phrase expressing the undergoer that is topicalized as can be seen in (32) and (33). The word *valavo* 'rats' expressing the actor cannot occur in the topic position.

(32)   *Pòsy,*   *nikikerin-balavo.*   (Transitive)
         posy   n.ikikeri = ny = valavo
         cat.TOP PERF.bite = 3SG.GEN = rat

    'As for the cat, rats bit him.'

(33)   *Nikikerin-balavo*   *pòsy.*   (Transitive)
         n.ikikeri = ny = valavo   posy
         PERF.bite = 3SG.GEN = rat cat.(NOM)

    'Rats bit the cat.'

Extended intransitive sentences with fronted actors are commonly observed, while transitive sentences with fronted undergoers are highly marked.

2.4.2. Relativization

Betsimisaraka Malagasy uses a gap strategy for the formation of relative clauses, and it is always the nominative NP that is gapped. The head of the relative clause is always co-referential with the gapped noun phrase. For example, in (34), the antecedent of the relative clause, *oroña*, corresponds to the actor expressed by the nominative in (35), while in (36), the antecedent *ka:kàzo* corresponds to the undergoer expressed by the nominative in (37).

(34) *oroña* [*nanàpaka* *ka:kàzo*]
      person   PAST.cut.INTR.EX wood

      'the person who did wood-cutting'

(35) *Nanàpaka*   *ka:kàzo*   *oroñ.*
      PAST.cut.INTR.EX wood.(OBL) person.(NOM)

      'The person cut the/some wood.'

(36) *ka:kàzo* [*nitapài = ky*]
      wood   PERF.cut.TR = 1SG.GEN

      'the wood that I cut, wood that was cut by me'

(37) *Nitapài = ky*   *ka:kàzo.*
      PERF.cut.TR = 1SG.GEN wood.(NOM)

      'I cut the wood'

3. The relationship between various sentence structures

In the previous section, I proposed an analysis of Betsimisaraka sentence structures based on their transitivity. In this section, I examine certain details of the relationship between various sentence structures. First, I will compare extended intransitive sentences and similar transitive sentences (§3.1), then transitive sentences and extended transitive sentences with similar meanings (§3.2). Then, I will argue that a passive sentence structure exists in this language, and will discuss the derivational relationship that exists between transitive sentences and passive sentences (§3.3).

3.1. Extended intransitive and transitive sentences

In this section, I will discuss the differences that exist between extended intransitive sentences and transitive sentences that express similar meanings.

Extended intransitive and transitive sentences both express an event semantically involving (at least) two participants, and they appear to express the 'same' event with syntactically different structures. An example pair of an extended intransitive and its corresponding transitive is shown in (38) and (39).

(38) *Nanàpaka   ka:kàzo   tamìna   borìzìny   zàho.*   (Extended intransitive)
      PAST.cut   wood.(OBL) PERF.with bush.knife 1SG.IND

'I cut some/a piece of wood with a bush knife.'

(39) *Nitapài =ky   ka:kàzo tamìna   borìzìny.*   (Transitive)
      PERF.cut =1SG.GEN wood   PERF.with bush.knife

'I cut the wood with a bush knife.'

Formal differences between the two sentence structures are obvious. First, the phrases expressing the actor and the undergoer are case-marked differently. In (38) (extended intransitive), they are case-marked as nominative and oblique respectively, while in (39) (transitive), they are case-marked as genitive and nominative respectively. Second, the genitive noun phrase =*ky* expressing the actor in (39) is obligatory, while all other phrases are optional. In addition, the relationship between the two sentence types appears, to some extent, to be reflected in the verb morphology. For example, with the verb 'cut', the forms in (38) and (39) are *nanàpaka* and *nitapài*(=GEN). The root can be analyzed as *tapak*. The extended intransitive form consists of *n*- 'tense marker, past', and a set of verb formatives attached as prefixes and suffixes to the root. These are *aN*-, and -*a*. None of the verb formatives occur uniquely with intransitive verbs, they may also occur on transitive verbs. The transitive verb consists of *n*- 'perfective', and the verb formatives *i*- and -*i*. Neither of these formatives occurs uniquely with transitive verbs, they may also occur on intransitive verbs.[10] Note, however, that the intransitive verb and the transitive verb have different tense-aspect marking systems. Intransitive verbs have a system where *m*- 'present', *n*- 'past', and Ø- 'future' are contrasted, while transitive verbs have a system where only *n*- 'perfective' and Ø- 'non-perfective' are contrasted.[11] This is schematically summarized in Figure 1.

	VERB FORMS	ACTOR	UNDERGOER	OTHERS
EXTENDED INTRANSITIVE	[m/n/Ø]a(N)- [m/n/Ø]i-	Nominative	Oblique	PREP NP

	VERB FORMS	ACTOR	UNDERGOER (+DEF)	OTHERS
TRANSITIVE	[n/Ø]i-V-i	=Genitive	Nominative	PREP NP

Note: Verb forms listed are not exhaustive.

Figure 1. Correspondence between an extended intransitive
sentence and a transitive sentence[12]

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[10] The suffix -*i* occurs only on transitive verbs and their corresponding passive forms, (which are intransitive).

[11] Further investigation is necessary to confirm the analysis of the two systems as presented here, that is, one showing a tense contrast, the other showing an aspect contrast.

[12] Arrows with two heads indicate the semantic correspondence between nominal *referents of the* two sentence structures.

There are semantic differences between sentences such as (38) and (39) as well, and they are therefore not mutually replaceable. The undergoer is always definite in a transitive sentence while there is no such restriction in an extended intransitive sentence. Thus, the oblique undergoer in (38) can have either an indefinite or a partitive sense, but it can also be used in a generic sense to mean 'I did wood-cutting with a bush knife.' In (39), on the other hand, the undergoer is definite, and can only be translated as 'I cut the wood with a bush knife.' Such differences become clear when we examine the occurrence of the two sentence structures in a narrative text and also the usage of the transitive forms in everyday conversation. For example, when one wants to say, '(Leave it and) I'll carry it!', because the object to be carried is definite, the transitive sentence must be used. Thus, the utterance would be as in (40).[13] Likewise, (41) was heard when someone wondered if a cup was clean, thinking that she could smell medicine in it, and asked another person to check if she could smell it as well.

(40)   Indôsi   = ky!
        NON-PERF.take.TR = 1SG.GEN

        'I'll take it (there)!'

(41)   Reñi   = nô?
        NON-PERF.feel.TR = 2SG.GEN

        'Do you smell it?'

3.2. Transitive and extended transitive sentences

In this section I examine the relationship between the two transitive constructions. An example of a transitive sentence and its corresponding extended transitive sentence is repeated in (42) and (43).

(42)   Nitapai = ky   mòfo   tamina   kìso.
        PERF.cut.TR = 1SG.GEN bread.(NOM) PERF.with   kitchen.knife

        'I cut the bread with a/the knife.'

(43)   Nanapahaà = ko   mòfo   kìso.
        PERF.cut.with.TR = 1SG.GEN bread.(OBL) kitchen.knife.(NOM)

        'I cut the/some bread with the knife.'

In (42), the actor is expressed with a genitive pronoun = ky, and the undergoer is expressed with a nominative noun mòfo (which potentially alternates with an independent pronoun, and has the same syntactic properties as other grammatical subjects). In (42), moreover, the instrument is an adjunct. It is expressed with a prepositional phrase tamina kìso, and follows the nominative noun phrase, while in (43) the noun phrase expressing the instrument occurs as a nominative phrase, while the undergoer is now an oblique

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[13]   Text examples can be found in Kikusawa (2006).

noun phrase, potentially alternating with the oblique pronoun *anànjy*. The oblique phrase cannot be foregrounded by fronting as adjuncts can, and in this respect, it qualifies as a core noun phrase. In addition, the relationship between the two sentence types appears, to some extent, to be reflected in the verb morphology, such as *-aà*, *-àna*, *-èsa*, etc., each of which uniquely occurs on extended transitive verbs and their corresponding passives. However, the actual form of the extended transitive verb is lexically determined and not predictable.

The transitive and extended transitive correspondence is summarized in Figure 2.

	VERB FORMS	ACTOR	UNDERGOER (+def)	INSTRUMENT, BENEFICIARY, LOCATION, etc.
TRANSITIVE	[n/Ø]i-ROOT-i	=Genitive	Nominative	Prep NP

	VERB FORMS	ACTOR	INSTRUMENT, BENEFICIARY, LOCATION, etc. (+def)	UNDERGOER
EXTENDED TRANSITIVE	[n/Ø]aN-, -aà, [n/Ø]i- -àna [n/Ø]- -èsa etc.	=Genitive	Nominative	Oblique

Note: Verb forms listed are not exhaustive.

Figure 2. Correspondence between transitive and extended transitive structures

3.3. Transitive sentences and corresponding passive sentences

In Betsimisaraka Malagasy, every transitive sentence has a corresponding passive sentence. First, an example of a transitive sentence, meaning 'I cut the bread', and its corresponding passive sentence meaning 'The bread was cut', are shown in (44) and (45) respectively.

(44) *Nitapài=ky*   *mòfo.*   (Transitive)
      PERF.cut.TR = 1SG.GEN   bread.(NOM)

'I cut the bread.'

(45) *Nitapài-ñ'a*   *mòfo.*   (Passive, intransitive)
      PERF.cut-PASS   bread.(NOM)

'The bread was cut.'

Note that the genitive pronoun expressing the agent is replaced with a verb ending -ña, and an actor cannot be expressed. Sentence (45) is clearly an intransitive sentence. The sentence structures of the transitive and its corresponding passive are shown in (46).

(46)   Passive derivation

Transitive	V	=NP	NP
	TR	GEN	NOM
		actor	undergoer

Passive (Intransitive)	V	-ñ$^{(i)}$a/-ny/∅	NP[14]
	INTR	-PASS	NOM
			undergoer

In addition to the form -ñ$^{(i)}$a, there are two other passive endings in Betsimisaraka Malagasy, which are -ny and ∅ (zero). Among the three endings, the forms -n$^{(i)}$a and -ny are productive and freely alternate, as in (47), with some preferences depending on the lexical item, while the use of a zero ending is lexically determined and is found only on limited verbs.

(47)   Nitapài-ny   mòfo   (Passive, intransitive)
       PERF.cut-PASS bread.(NOM)

       'The bread was cut.'

Note that one of the passive endings -ny has the same form as the third person genitive clitic pronoun =ny. Thus, the sentence Nitàpai=nymòfo is ambiguous and two readings are possible as shown in (48) and (49).[15] In actual conversation, the sentences are disambiguated by context.

(48)   Nitapài-ny   mòfo   (Passive, intransitive)
       PERF.cut-PASS bread.(NOM)

       'The bread was cut.'

(49)   Nitapài=ny   mòfo   (Transitive)
       PERF.cut.TR=3SG.GEN bread.(NOM)

       'S/he cut the bread.'

The passivization process described above applies to extended transitive sentences as well. As can be seen in (50) and (51), it is nominative noun phrase, namely, kìso 'kitchen knife' (which semantically indicates an instrument) that becomes the subject of the derived passive sentence.

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[14] Palatalization of the velar nasal ñ is phonologically conditioned.

[15] Historically, it is possible that the passive ending -ny developed from the third person genitive pronoun. The use of a third person pronoun to indicate general, or unspecified, agent is commonly observed in Western Austronesian languages, including Uma (van den Berg 1996) and Karao (Brainard p.c.). See Kikusawa (forthcoming) for relevant discussion.

(50) *Nanapahaà=ko*   *mòfo*   <u>*kìso.*</u>   (Extended transitive)
PERF.cut.with.TR.EX=1SG.GEN bread.(OBL)· kitchen.knife.(NOM)

'I cut the/some bread with the knife.'

(51) *Nanapahaà-ñ$^{(I)}$a*   *mòfo*   <u>*kìso.*</u>   (Passive, intransitive)
PERF.cut.with-PASS bread.(OBL) kitchen.knife.(NOM)·

'The kitchen knife was used to cut the/some bread.'

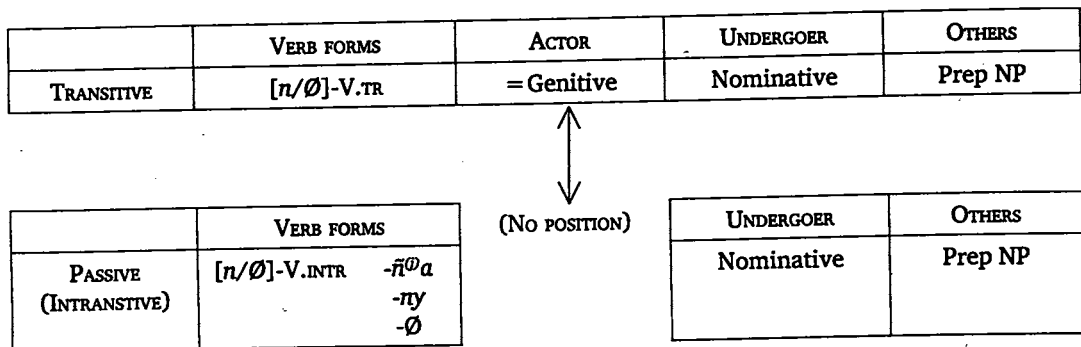The transitive-passive derivation is summarized in Figures 3 and 4.

	VERB FORMS	ACTOR	UNDERGOER	OTHERS
TRANSITIVE	[n/Ø]-V.TR	= Genitive	Nominative	Prep NP

(No position)

	VERB FORMS			UNDERGOER	OTHERS
PASSIVE (INTRANSITIVE)	[n/Ø]-V.INTR	-ñ$^{(I)}$a -ny -Ø		Nominative	Prep NP

Figure 3. Transitive sentences and their corresponding passive sentences

	VERB FORMS	ACTOR	UNDERGOER	OTHERS
EXTENDED TRANSITIVE	[n/Ø]-V.TR.EX	= Genitive	Oblique	Nominative

(No position)

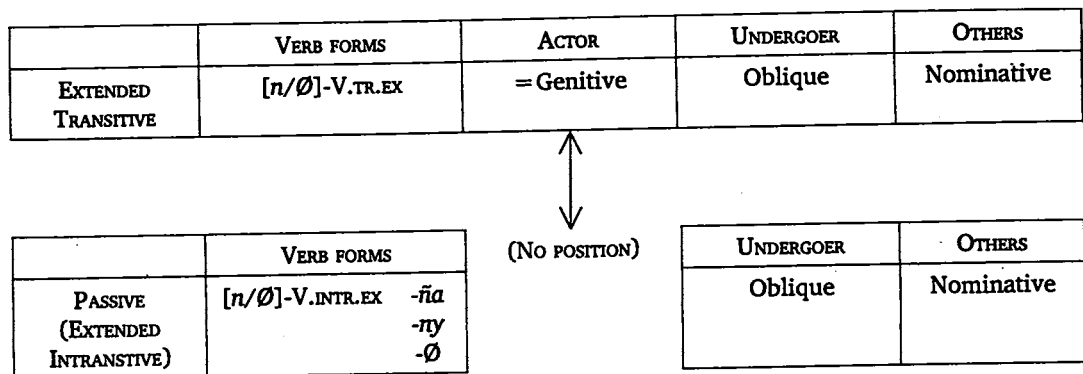|	VERB FORMS		UNDERGOER	OTHERS
PASSIVE (EXTENDED INTRANSITIVE)	[n/Ø]-V.INTR.EX	-ña -ny -Ø	Oblique	Nominative

Figure 4. Extended-transitive sentences and their corresponding passive sentences

4. Comparing the transitivity analysis with voice analyses

In the previous sections, a transitivity analysis is proposed, which is different from the 'traditional' analysis that has been commonly applied in the description of Malagasy languages. In this section, I will discuss why the traditional analysis is not considered to be appropriate.

4.1. The voice analysis

In descriptions of Malagasy in previous studies, sentence structures are commonly described as differing in 'voice.' In such analyses, three voices, namely, active, passive, and circumstantial voices are typically recognized and associated with different verb classes.[16] Thus, a section on 'voice' often appears under the section on "verb morphology" (for example, Rasoloson and Rubino 2005).

In recent work on Malagasy, verbs are typically classified into active and non-active, and the non-active (traditional 'passive') verbs are further classified into subcategories according to their morphological shape. For example, the definition of Malagasy voices given by Keenan and Manorohanta (2001:69) reads:

'Verbs that take a genitive argument will be called NONACTIVE; those that do not, ACTIVE; PASSIVES are nonactives that are roots or built by affixing roots (possibly reduplicated); CIRCUMSTANTIAL verbs are nonactive ones built by affixing active ones.'

Likewise, a definition given by Rasoloson and Rubino (2005:472) can be summarized as in (52).

(52) <u>An example of the traditional analysis</u>   (Rasoloson and Rubino 2005)

1)	Active verbs	Verbs that are not non-active (passive) verbs
2)	Non-active (or passive) verbs	Verbs that take "the agentive argument in the genitive case"
2-a)	Monomorphemic root passives	
2-b)	Suffixal passives in -ina/-ena or -ana	
2-c)	Prefixed thematic passives in a-	
2-d)	Circumstantial verbs (active prefix minus the m- and suffix -ana)	

The transitive/intransitive property is sometimes mentioned in such analyses (Beaujard 1998, Keenan and Manorohanta 2001), however, it is often not made clear what is meant by transitive and intransitive.

In a voice analysis, what are referred to as extended intransitive structures in this paper are analyzed as 'active', while those that are referred to here as transitive are analyzed as 'passive'. Examples in (53) and (54) show the same set of sentences analyzed first according to the transitivity analysis presented in this paper and secondly using the traditional voice analysis.[17] In both transitive and voice analyses, the argument analyzed as the 'subject' of the sentence is the same. However, the interpretation of the undergoer ka:kàzo in the first sentence is oblique in the transitive analysis, while accusative in the voice analysis. In the second sentence, the interpretation of the actor is different: it is genitive (ergative) in the transitive analysis, while agentive (expressing the agent of a passive) in the voice analysis.

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[16] There are some varieties found in voice analyses. For example, Fugier (1999), on the subject of 'verbal voice,' lists 'passive voice' and 'secondary voices,' the latter including destinative, benefactive, instrumental, and locative voices.

[17] The glosses in the voice analysis are by me, following the terminology commonly found in Malagasy active-passive analyses.

(53)   Transitivity analysis

    a. *Manàpaka   ka:kàzo   zàho.*   (Extended Intransitive)
       cut.INTR.EX   wood.(OBL)   1SG.IND.(NOM)

       'I cut some wood/trees.'

    b. *Nitapài   =ky   ka:kàzo.*   (Transitive)
       R.cut   =1SG.GEN   wood.(NOM)

       'I cut the wood.'

    c. *Nitapài   -ña   ka:kàzo.*   (Passive, intransitive)
       R.cut   -PASS   wood.(NOM)

       'The wood was cut.'

(54)   Voice analysis

    a. *Manàpaka   ka:kàzo   zàho.*   (Active)
       cut.TR   wood.(ACC)   1SG.IND.(NOM)

       'I cut some wood/trees.'

    b. *Nitapài   =ky   ka:kàzo.*   (Passive, with agent)
       R.cut   =1SG.AGT   wood.(NOM)

       'The wood was cut by me.'

    c. *Nitapài   -ña   ka:kàzo.*   (Passive, with no agent)
       R.cut   -PASS   wood.(NOM)

       'The wood was cut.'

The major differences between the two analyses can be summarized in the following two points: i) the interpretation of the relationship between sentence (a) and sentence (b), and; ii) whether sentence (c) is analyzed as having a different structure from sentence (b) or not. The general claim that I am making here—that the transitivity analysis better captures the syntactic characteristics of Betsimisaraka Malagasy than the voice analyses—is based on an examination of these two points.

4.2. Problems in the assumed 'active-passive derivation' in the voice analysis

Semantic differences between sentences (a) and (b) have already been discussed in 3.1, where it was pointed out that there is a difference between the definiteness of the undergoer. Thus, the undergoer in (54a) is indefinite, while the undergoer in (54b) is always definite. Thus, analyzing the relationship between sentences (a) and (b) in (53)

and (54) would be somewhat similar to considering the two English sentences in (55) as active and its corresponding passive.

(55)   English

      a. Active   I bought a book.
      b. *Passive   The book was bought by me.
      c. cf. Passive A book was bought by me.

Note also that the tense-aspect marking does not exactly match between extended intransitive and transitive, as also described in 3.1. This again, would be somewhat similar to considering the two English sentences in (56) as active and its corresponding passive.

(56)   English

      a. Active   I cut some wood.
      b. *Passive   The wood has been cut.
      c. cf. Passive Some wood was cut by me.

If we follow the usual theoretical position that passivization is a syntactic operation that affects the grammatical alignment of a transitive sentence, the pair under consideration does not qualify as an active-passive pair.

4.3. Advantages of differentiating transitive and passive structures

The structures that are analyzed in this study as transitive and corresponding passive sentences are not differentiated in the traditional analyses, both have been referred to as sentences belonging to the 'passive voice.' This is partially because of the fact that typologically, the agentive phrase in a passive sentence is typically optional and thus the genitive noun phrase is regarded as being optional in such analyses.[18] One of the reasons for differentiating the two sentence structures (that is, transitive from their corresponding passives) is the fact that the verbs of the two sentence types exhibit different morphology; the verb in sentence (b) hosts a clitic genitive form, while the verb in sentence (c) takes an ending -$\tilde{n}^{@}a$. Moreover, treating sentence (c) as the true passive is in accordance with the fact that it appears in contexts where a passive structure is expected to occur both functionally and pragmatically. The mismatch of the label 'passive' for sentence (b) and its actual meaning has been pointed out for Standard Malagasy.

'Translating Malagasy passives by English passives often seems bizarre, as the English expression is often cumbersome or pragmatically marked, whereas the Malagasy one is natural.' (Keenan and Polinsky 1998:581)

'In *Vakin'i Rina ny bòky*, ... Literally: the book is read by Rina. The usual translation into English however is the active sentence: "Rina reads the book".' (Rasoloson 2001:18)

However, such a problem does not occur in the transitive analysis.

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[18]   For example, Rasoloson and Rubino (2005) do not clearly state the optional status of the 'agent of passive', however, Rubino (p.c.), explicitly states that such agents in Standard Malagasy are optional.

4.4. Problems in analyzing sentence structures based on verb morphology

While there is some correlation between verb morphology and sentence structures, as Fugier states (1999:150), Malagasy verbal affixation is far from being completely productive. This is the reason that those who describe voice according to verb morphology need to list considerable numbers of different verb forms, the choice of which is lexically determined (cf. Beaujard 1998). The rather convoluted way Keenan and Manorohanta (2001) define circumstantial verbs ('CIRCUMSTANTIAL verbs are nonactive ones built by affixing active ones') stems from the same problem. I consider then that verb morphology cannot be effectively used as the defining feature of Malagasy sentence structures. They must be analyzed separately from verb morphology in order to get a true picture of the relationships between them.

4.5. A summary

I have argued, first, that the active-passive correspondence in traditional analyses does not meet the general definition of passive, in that the semantic property of the corresponding sentences typically does not match. Second, there is a structure that can be analyzed as a true passive, and that functions as a passive. Based on these, and the syntactic facts that have been shown in the previous sections, I propose that the transitive analysis better reflects the nature of sentence structures and their derivational relationships in Betsimisaraka Malagasy, and presumably, other Malagasy languages as well. I would like to note here that other researchers, having examined different aspects of Standard Malagasy, have reached a conclusion in line with this proposal. For example, Keenan and Manorohanta (2001:82), based on a quantitative study of Standard Malagasy texts, conclude that '1. Nonactive verbs vie with active ones in terms of frequency of occurrence, and 2. Agent phrases of nonactives are typically present or controlled,' and 'these facts suggests that passives of transitive verbs should be treated in Malagasy as transitive verbs rather than as derived intransitives with Agent phrases expressible as optional adjuncts.' Pearson 2001, which is a minimalist approach to the sentence structures of Standard Malagasy, also presents an analysis similar to that which has been proposed in this paper.

5. Conclusion

To conclude, I present the sentence structures of Betsimisaraka Malagasy in Figure 5, where the transitive analysis is applied and correspondence with the voice analysis is indicated.

Labels Used in this Study	Structures (with core arguments)			Syntactic Transitivity	Traditional Analysis
Intransitive:	V	NP.NOM *actor/undergoer*		(intransitive)	Active voice
Intransitive, extended:	V	NP.OBL *undergoer*	NP.NOM *actor*	(intransitive)	
Transitive:	V = N.GEN *actor*	NP.NOM *undergoer (+ def)*		(transitive)	Passive voice
Passive:	V-ny/ñ⁽ⁱ⁾a/Ø	NP.NOM *undergoer (+ def)*		(intransitive)	
Transitive, extended:	V = N.GEN *actor*	NP.OBL *undergoer*	NP.NOM *instrument, location, etc. (+ def)*	(transitive)	(Part of) Circumstantial voice
Passive:	V-ny/ñ⁽ⁱ⁾a/Ø	NP.OBL *undergoer*	NP.NOM *instrument, location, etc. (+ def)*	(intransitive)	

Notes: The underlined element is analyzed as 'nominatively case marked' in each structure ( ).
Forms shown with a script font (*actor, undergoer, location, etc.*) indicate semantic features.

Figure 5. An analysis of the sentence structures in the Betsimisaraka
language and corresponding traditional analyses

Abbreviations

Abbreviations conform to the Leipzig Glossing Rules (www.eva.mpg.de/lingua/pdf/
LGR08_09_12.pdf) with the exception of the following:

AGT	agent		PERF	perfective
EX	exclusive		PERS	person marking (determiner)
IN	inclusive		PREP	preposition
IND	independent (pronoun)		TOP	topicalized
INTR.EX	extended intransitive		TR.EX	extended transitive
N	noun		V	verb
NON-PERF	non-perfective		=	boundary of a clitic form
NP	noun phrase		-	boundary of an affix
PAST	past			

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