Control in Malagasy

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1. Introduction

Bresnan 1982 describes *control* as an interpretational dependency between two argument positions in which the referential properties of an overt one, the *controller*, determine the referential properties of a non-overt one, the *controllee*. For example, in the English sentence in (1), *the farmer* is the controller and the unpronounced external argument of *kill*, which we represent atheoretically as Δ, is the controllee.

(1) The farmer$_i$ tried Δ_i to kill the chicken.

Malagasy control constructions have received some discussion in the literature, most notably in Keenan 1976 and Law 1995 (see also Keenan 1995, Paul and Ranaivoson 1998, Pearson 2001, Polinsky and Potsdam 2001). This paper is a contribution towards a more comprehensive coverage and analysis of Malagasy control. Section 2 introduces two previously recognized control structures. In section 3 we suggest that these structures instantiate the distinction between obligatory control and non-obligatory control. Section 4 then introduces a third, previously undocumented control structure. We explore possible analyses of this construction in sections 5 and 6. Our partial conclusion is that the newly introduced construction represents a control structure in which the embedded clause corresponds to a thetic judgment. Section 7 summarizes our findings.

2. Control Structures in Malagasy

Malagasy is an Austronesian language spoken by approximately nine million people on the island of Madagascar. Its basic word order is VOS, (2a).[1] Malagasy has a well-known voice system which advances thematically diverse elements to subject position. Corresponding to the active sentence in (2a), the passive sentence in (2b) has the direct object as the subject and the circumstantial sentence in (2c) has an oblique element as its subject.

(2) a. n-i-vidy ny akoho (hoan-dRasoa) Rabe — ACTIVE
PAST-ACT-buy the chicken (for-Rasoa) Rabe
'Rabe bought a chicken for Rasoa.'

b. no-vidi-n-dRabe (hoan-dRasoa) ny akoho — PASSIVE
PAST-buy-PASS-Rabe for-Rasoa the chicken
'The chicken was bought (for Rasoa) by Rabe.'

c. n-i-vidi-anan-dRabe ny akoho Rasoa — CIRCUMSTANTIAL
PAST-ACT-buy-CIRC-Rabe the chicken Rasoa
'Rasoa was bought a chicken by Rabe.'

Following Guilfoyle, Hung, and Travis 1992 (GHT), we adopt the structure for VOS in (3a) with the clause-final subject occupying a right specifier of IP. The verb-initial order is compatible with verb raising, V°-to-I°, which that work also assumes.[2] Also following GHT, we assume for non-active sentences the structure in (3b) in which the subject is in the right specifier of IP and the immediately post-verbal agent is in spec,VP.

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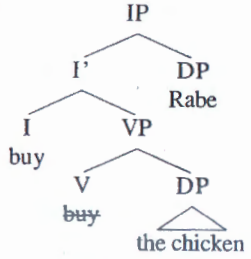
(3) a.



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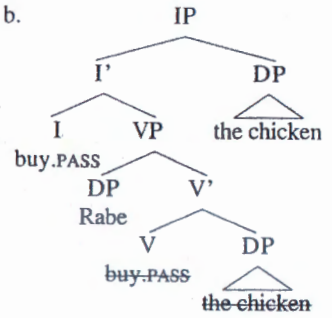


2.1. Two control structures

Keenan 1976 and Law 1995 document two control structures in Malagasy. (4) illustrates what we will call the *active control construction*.[3]

(4) a. n-an-andrana n-a-mono ny akoho Rabe
PAST-ACT-try PAST-ACT-kill the chicken Rabe
'Rabe tried to kill the chicken.'

b. m-an-aiky ho-sas-ana ny zaza
PRES-ACT-agree FUT-wash-PASS the child
'The child agrees to be washed.'

The morphosyntactic characteristics of the active control construction are that 1) the control predicate is in the active voice, 2) the voice of the embedded predicate is not restricted, and 3) the controller and controllee are both subjects. The construction is fundamentally similar to its English translation and we adopt a structure as in (6a), with the control relationship highlighted.

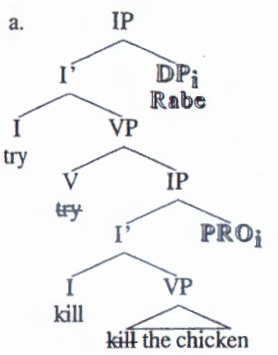
(5) illustrates the second construction, which we will call the *passive control construction*.

(5) a. n-andram-an-dRabe no-vono-ina ny akoho
PAST-try-PASS-Rabe PAST-kill-PASS the chicken
lit. The chicken was tried by Rabe to be killed
'Rabe tried to kill the chicken.'

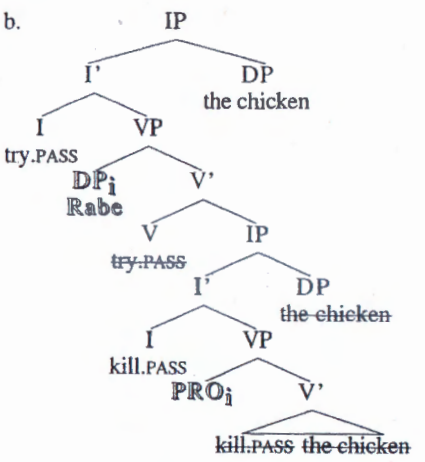
b. eke-n-dRasoa ho-sas-ana ny zaza
agree-PASS-Rasoa FUT-wash-PASS the child
lit. The child is agreed by Rasoa to be washed
'Rasoa agrees to wash the child.'

The characteristics of this control structure are that 1) the control predicate is in the passive voice, 2) the embedded predicate is non-active, and 3) the controller and controllee are both passive agents, rather than subjects as in the active construction. For such examples, we assume a structure and derivation as in (6b). The control relationship is between the two highlighted DPs in Spec,VP. In the derivation, the matrix subject arrives at its surface position through successive cyclic A-movement. It first undergoes passive in the embedded IP and then subject-to-subject raising into the matrix IP.

(6) a.



b.



Assuming these structures are on the right track, can the Malagasy data inform the current debate between base-generation and movement analyses of control? The two competing analyses are the traditional Principles and Parameters analysis (e.g. Chomsky & Lasnik 1993) in which the controllee is the null formative PRO, coindexed with the controller, (7a), and recent Minimalist analyses (Hornstein 1999) in which the controllee is a trace of movement of the controller, (7b).

(7) a. Kim_i tried PRO_i to succeed
b. Kim_i tried t_i to succeed

One relevant observation that would seem to decide between these two analyses for Malagasy is that a movement derivation of the controller-controllee relation in the passive control structure in (6b) would be illicit.[4] There is a well-known restriction on movement in Malagasy, stated in (8), according to which only subjects undergo any kind of movement (Keenan 1976 and others). Movement from the controllee to the controller position in (6b) would violate this restriction because a passive agent cannot move. The passive control construction would thus seem to argue against a movement analysis of control. In the following section, we introduce the distinction between obligatory and non-obligatory control and show that the passive construction does not provide evidence against the movement analysis of control.

(8) *Malagasy extraction restriction*
only subjects may move

3. Obligatory and Non-Obligatory Control

3.1. The OC versus NOC distinction

It is widely recognized that there are two types of control configurations, obligatory control (OC), and non-obligatory control (NOC). Hornstein 1999, building on the work of others, documents a set of systematic differences between OC and NOC PRO, in (9). These characteristics are illustrated in the English data below. In each pair, the first example illustrates OC and the second NOC.

(9)

	properties of PRO under OC versus NOC	OC	NOC
a.	no antecedent, allows PRO_{arb} reading	✘	✓
b.	permits a strict reading under ellipsis	✘	✓
c.	paraphrasable with a pronoun	✘	✓
d.	allows a non-local antecedent	✘	✓
e.	allows a non-c-commanding antecedent	✘	✓

(10) a. *It was expected PRO to shave. OC
b. It was believed that PRO shaving is important. NOC

(11) a. Joe expects PRO to win and Kim does too. OC
= Joe expects to win and Kim expects to win. SLOPPY
≠ Joe expects to win and Kim expects Joe to win. *STRICT
b. Joe thinks PRO passing the exam is important and Kim does too. NOC
= … and Kim_k thinks his_k passing the exam is important. SLOPPY
= … and Kim thinks Joe's passing the exam is important. STRICT

(12) a. *$John_i$ expects (for) him_i to win. OC
b. $John_i$ thinks his/him_i passing the exam is important. NOC

(13) a. *$John_i$ thinks that it was expected PRO_i to shave himself. OC
b. $John_i$ thinks it is believed that PRO_i shaving himself is good. NOC

(14) a. *$John_i$'s campaign expects PRO_i to shave himself. OC
b. $John_i$'s campaign thinks that PRO_i kissing babies is important. NOC

(10) illustrates that NOC but not OC allows PRO to appear without an antecedent; only NOC allows the so-called PRO_{arb} reading. In (11), NOC PRO but not OC PRO allows a strict reading under ellipsis. The NOC example in (11b) is ambiguous between the strict and sloppy readings; however, the OC example in (11a) has only the sloppy reading. (12) illustrates that NOC PRO but not OC PRO can be replaced by a pronoun. In (13), NOC PRO allows a non-local antecedent outside the immediately dominating clause; OC PRO does not permit a non-local antecedent. Finally, in (14), NOC PRO but not OC PRO can take a non-commanding antecedent.

Because of these clear differences between OC and NOC, OC structures are analyzed with movement but NOC structures involve a base-generated null pronominal, little *pro*, and no movement (see Hornstein 1999 for details).

3.2. OC versus NOC in Malagasy

Returning to Malagasy, we claim that the OC/NOC distinction is relevant and it corresponds to the two control constructions we have introduced. Our proposal is that the active control construction instantiates OC while the passive control construction is NOC:

(15) *OC/NOC Proposal for Malagasy Control constructions*
a. the active control construction is OC
b. the passive control construction is NOC

If this proposal is correct then the passive control construction would not involve movement under Hornstein's analysis and would thus provide no evidence against a movement analysis of control. The data that support the proposal in (15) are given in

(17) through (21) below. In each case, the (a) example is the active construction and the (b) example is the passive construction. The results are summarized in (16).

(16)

		active construction	passive construction
a.	no antecedent, PRO_{arb} reading	✘	✓
b.	permits strict reading under ellipsis	✘	✓
c.	paraphrasable with a pronoun	✘	✓
d.	allows a non-local antecedent	✘	✘
e.	allows a non-c-commanding antecedent	✘	✘

(17) a. mikasa hanasa ny lapa-ny ny andriana ACTIVE/OC
intend.ACT wash.ACT the castle-3SG the king
*'The king intends someone to clean his castle.'
(only 'The king intends to clean his castle.')
b. kasain'ny andriana hosasana ny lapa-ny PASSIVE/NOC
intend.PASS'the king clean.PASS the castle-3SG
'The king intends someone to clean his castle.'

(18) a. te hamono ny omby Rasoa. izaho koa. ACTIVE/OC
want.ACT kill.ACT the zebu Rasoa I also
'Rasoa wants to kill the zebu and I do too.' SLOPPY
*'Rasoa wants to kill the zebu and I want her to also.' *STRICT
b. tian-dRasoa hovonoina ny omby. izaho koa. PASSIVE/NOC
want.PASS-Rasoa kill.PASS the zebu I also
'Rasoa wants to kill the zebu and I do too.' SLOPPY
'Rasoa wants to kill the zebu and I want her to also.' STRICT

(19) a. *te handao i Tana izy Rasoa ACTIVE/OC
want.ACT leave.ACT Antananarivo 3SG Rasoa
('Rasoa wants to leave Antananarivo.')
b. tian-dRasoa hilaoza-ny i Tana PASSIVE/NOC
want.PASS-Rasoa leave.PASS-3SG Antananarivo
'Rasoa wants to leave Antananarivo.'

(20) a. mino Rasoa fa ACTIVE
think.ACT Rasoa that
mikasa handao an'i Tana ny governemanta
intend.ACT leave.ACT LOC'Antananarivo the government
'Rasoa thinks that the government intends to leave Antananarivo.'
*'Rasoa thinks that the government intends her to leave Antananarivo.'
b. mino Rasoa fa PASSIVE
think.ACT Rasoa that
kasain'ny governemanta hilaozana i Tana
intend.PASS'the government leave.PASS Antananarivo
'Rasoa thinks that the government intends to leave Antananarivo.'
*'Rasoa thinks that the government intends her to leave Antananarivo.'

(21) a. te hanambady an-dRasoa ny fianakavian-dRabe ACTIVE
want.ACT marry.ACT ACC.Rasoa the family-Rabe
'Rabe's family wants to marry Rasoa.'
*'Rabe's family wants him to marry Rasoa.'

b. tian'-ny fianakavian-dRabe hovadina Rasoa PASSIVE
want.PASS'the family-Rabe marry.PASS Rasoa
'Rabe's family wants to marry Rasoa.'
*'Rabe's family wants him to marry Rasoa.'

(17) shows that only the passive construction allows a non-controlled, PRO_{arb} reading. Both of the examples can mean 'The king intends to clean his castle' but only the passive construction has the additional meaning 'The king intends for his castle to be cleaned' in which the agent of the embedded verb is unstated. (18) shows that only the passive control construction allows a strict reading under ellipsis. Like the English translation, the active control construction is unambiguous, permitting only a sloppy reading. In (19b), PRO can be replaced by an overt pronoun. This is not possible with the active control construction.[5] Unexpectedly, the data in (20) and (21) seem to show that in neither construction can PRO pick up a non-local or non-c-commanding antecedent. This is the expected result if the active construction is OC but not if the passive construction is NOC. In (20), PRO cannot be interpreted as coreferential with the DP *Rasoa* in the matrix clause. Similarly, in (21), PRO cannot be construed as the possessor of the matrix subject, *Rabe*, despite the fact that this would be the pragmatically preferred interpretation.

In summary, the active control construction shows all the characteristics of OC. The passive control construction shows most of the characteristics of NOC. Surprisingly however, PRO in the passive construction does not allow a non-local or non-c-commanding linguistic antecedent. There are two analytical possibilities: either these characteristics are accidental to NOC or they are relevant but permit cross-linguistic variation. If this unexpected difference between English and Malagasy can ultimately be accounted for, then the passive control construction can be reduced to NOC and does not provide evidence against control as movement (recall Hornstein's assumption that NOC should not be analyzed as movement).

3.3. Analytical issues for future investigation

The Malagasy control data raise several interesting analytical questions which we would like to highlight briefly.

First, with regard to the active construction and the structure in (6a), the controllee seems to appear in a Case-marked and governed position. Further investigation is required to determine if this is in fact the case or whether there are other considerations which might avoid this conclusion. If the controllee is in a governed, Case position, we are lead to ask how this is permitted given current understanding of the controllee position as typically being syntactically deficient in some way. While there are languages documented in the literature in which the controllee seems to be governed or Case-marked, some of these have been given alternative analyses: Icelandic (Sigurðsson 1991), Irish (McCloskey and Sells 1988), Greek (Terzi 1997), Ancient Greek (Andrews 1971).

Second, the Malagasy data support the distinction between OC and NOC; nevertheless, the OC/NOC distinction is cashed out in a different way than in English. In English, NOC obtains when the controlled clause is in subject position or certain adjunct positions (Hornstein 1999, Landau 2000, and references therein). When the controlled clause is a complement, only OC seems to be possible. In Malagasy, by contrast, the controlled clause is apparently a complement in both NOC and OC. The choice depends upon the structural position of the controller and controllee. Given that the theory must ultimately capture the OC/NOC distinction, the fact that Malagasy realizes the contrast differently from English is potentially important in determining the proper analysis.

Finally, if the OC/NOC distinction is indeed valid and the passive control construction in Malagasy instantiates NOC, we need to explain why its behavior diverges in part from the established characteristics of NOC. In particular, what accounts for the antecedent locality that NOC in English does not show? We speculate that the answer to this question is related to the differing structural realization of OC versus NOC in Malagasy discussed above; however, we leave these theoretical issues for future investigation.

4. The Mixed Voice Control Construction

In the remainder of the paper, we turn to a third, previously undocumented control-like structure which we will call the *mixed voice control construction* (MVC).[6] The morphosyntactic characteristics of the MVC are a combination of the two previously discussed constructions: the control predicate is in the active voice and the embedded predicate is non-active. The subject of the active verb is not the controller however; instead, the controller appears as the agent on the embedded verb:

(22) a. nanandrana novonoin-dRasoa ny akoho
try.ACT kill.PASS-Rasoa the chicken
'Rasoa tried to kill the chicken.'
#'The chicken tried to be killed by Rasoa.'
b. mikasa hovaki-ko ity boky ity
intend.ACT read.PASS-1SG this book this
'I intend to read this book.'
#'This book intends to be read by me.'

Such sentences look like the active control construction and can indeed have the meanings that would be expected if they were active control examples; (22b) for example can have the anomalous meaning 'This book intends to be read by me'. Surprisingly however, the examples also have the indicated sensible readings. (22b) also means 'I intend to read this book'. This latter interpretation is the one which we will be concerned with.

The MVC has two interesting distributional characteristics. First, the construction is subject to dialectal variation. Some speakers get only the anomalous interpretations in (22). Second, the MVC is lexically restricted and is not possible with all control predicates. We have found it with *manandrana* 'try', *mikasa* 'intend', *te* 'want, *mijanona* 'stop', *mitsahatra* 'cease', and *manaiky* 'agree' but not, for example, with *manadino* 'forget', *mahavita* 'finish', or *manantena* 'hope'.

In addition, the MVC presents an unusual combination of syntactic and semantic features not found in the other Malagasy control constructions. With respect to VP-right edge identifiers that separate the matrix subject DP from the VP (Keenan 1976, 1995), the clause-final DP in the MVC behaves as the matrix subject—it has to follow the question particle *ve* and negative polarity items:

(23) a. nijanona novaki-nao (ve) ny boky (*ve)?
stop.ACT read.PASS-2SG Q the book Q
'Did you stop reading the book?'
b. tsy nikasa hosasan-dRasoa (intsony) ny fiara (*intsony)
NEG intend.ACT wash.PASS-Rasoa any.longer the car any.longer
'Rasoa didn't intend to wash the car (any longer).'

However, the clause-final DP does not extract, as subjects in Malagasy normally do (see (8) above). (24a,b) are ungrammatical:

(24) a. *ny boky dia nijanona novaki-ko TOPICALIZATION
the book TOPIC stop.ACT read.PASS-1SG
('This book, I stopped reading.')
b. *inona no nijanona novaki-nao? WH-QUESTION
what FOCUS stop.ACT read.PASS-2SG
('What did you stop reading?')

Another unusual property of the MVC involves the semantics of control. As in other control structures, the matrix predicate in the MVC imposes selectional restrictions on its subject, which accounts for the infelicity of (25a,b). However, unlike more familiar control structures, (26a), the MVC does not form an imperative, (26b). In the remainder of the paper we investigate possible accounts of this unusual behavior.

(25) a. #nanandrana nandrava io tanana io ny afo ACTIVE
try.ACT destroy.ACT thistown this the fire
('The fire tried to destroy this town.')
b. #nanandrana noravan'ny afo io tanana io MIXED
try.ACT destroy.PASS'the fire this town this
('The fire tried to destroy this town.')

(26) a. manandrama mamono ny akoho! ACTIVE
try.ACT.IMPER kill.ACT.INDIC the chicken
'Try to kill a chicken!'
b. *manandrama vonoina ny akoho! MIXED
try.ACT.IMPER kill.PASS.INDIC the chicken
('Try to kill the chicken!')

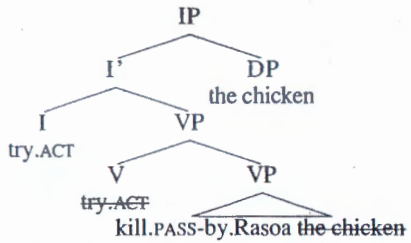
5. Towards a Structural Analysis of the Mixed Control Construction

In this section, we will consider and reject two possible analyses of the MVC.

5.1. Restructuring (Clause union)

The first analytical possibility is that the MVC is monoclausal; the active verb takes a reduced VP complement and the clause-final DP is the subject. The structural representation of the MVC in (22a) is shown in (27).

(27)



Although the restructuring analysis would account for the subject behavior of the clause-final DP with respect to right edge identifiers, it cannot explain why this DP does not extract. In addition, there is good evidence that the MVC is biclausal, contrary to the restructuring analysis. First, both verbs in the MVC can have their own negation, which is unexpected if the MVC is monoclausal:

(28) a. tsy nitsahatra hanin-dRabe ny siramamy
NEG stop.ACT eat.PASS-Rabe the sugar
'Rabe didn't stop eating sugar.'
b. nitsahatra tsy hanin-dRabe ny siramamy
stop.ACT NEG eat.PASS-Rabe the sugar
'Rabe stopped not eating sugar.'

Second, each verb can take distinct adverbial modifiers. In (29a), the temporal reference is in the future, the time when the killing will occur, and the adverbial is interpreted with the lower verb. In (29b), the temporal reference is to the past event when the farmer decided to kill the zebu, and the adverbial is interpreted with the matrix verb. Distinct adverbial modification is also incompatible with a monoclausal structure.

(29) a. nanaiky hovonoin'ny mpiompy rahoviana ny omby?
PAST.agree.ACT FUT.kill.PASS'the farmer when.FUT the zebu
'When(fut) did the farmer agree to kill the zebu?'
b. nanaiky hovonoin'ny mpiompy oviana ny omby?
PAST.agree.ACT FUT.kill.PASS'the farmer when.PAST the zebu
'When(past) did the farmer agree to kill the zebu?'

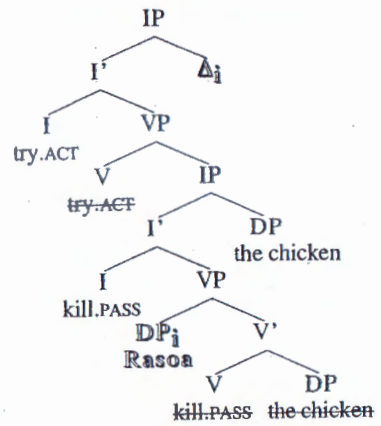
We conclude that MVC is biclausal and cannot be analyzed as restructuring.

5.2. Backward Control

The second analysis we would like to consider is Backward Control (BC) (Polinsky and Potsdam 2001, 2002). A BC structure is properly biclausal; in this construction, the overt controller is in the embedded clause and it is coindexed with a non-overt controllee in the matrix clause. Under this analysis, the MVC in (30) would have the structure shown in (31) in which the overt passive agent is the controller and there is a covert controllee in the matrix clause subject position.

(30) nanandrana novonoin-dRasoa ny akoho
try.ACT kill.PASS-Rasoa the chicken
'Rasoa tried to kill the chicken.'

(31)



The BC analysis is able to capture the observed selectional restrictions and the biclausal nature of the MVC; however, the analysis is incompatible with other facts. First, the BC analysis incorrectly claims that the clause-final DP is in the embedded clause. VP-right edge identifier diagnostics from (23) indicate that the clause-final DP is in the matrix clause. Coordination confirms this result. Under BC, the embedded predicate and the final DP form a constituent and should coordinate but this is not possible:

(32) *nanandrana novidin-dRabe ny antsy sy novonoin-dRasoa ny akoho
try.ACT kill.PASS-Rabe the knife and kill.PASS-Rasoa the chicken
('Rabe tried to buy the knife and Rasoa tried to kill the chicken.')

Second, a crucial component of the BC analysis is the presence of a null syntactic argument, the controllee, which is the subject of the matrix clause; see (31). If such an agent argument were present, it should be able to license imperative formation. As we saw above in (26b), however, imperatives are impossible with the MVC. In addition, this empty category should license a floating quantifier or reciprocal marking on the matrix verb but neither is grammatical in the MVC:

(33) *nanandrana novonoin'ny mpiompy$_i$ daholo$_i$ ny akoho Δ_i
try.ACT kill.PASS'the farmers all the chicken
('The farmers all tried to kill the chicken.')
(grammatical w/meaning 'The farmer(s) tried to kill all the chickens.')

(34) a. n-if-anaiky hividy fiara Rabe sy Rasoa ACTIVE
PAST-RECIP-agree.ACT buy.ACT car Rabe and Rasoa
'Rabe and Rasoa agreed with each other to buy a car.'
b. *n-if-anaiky hovidin-dRabe sy Rasoa ny fiara MIXED
PAST-RECIP-agree.ACT buy.PASS-Rabe and Rasoa the car
('Rabe and Rasoa agreed with each other to buy a car.')

To sum up, contrary to the BC analysis, the clause final DP is in the matrix, not embedded clause, and there is no evidence for a syntactic representation of the agent in the matrix clause. The BC analysis is therefore untenable. In the following section, we will propose a partial analysis of MVC which addresses the characteristics in (35) observed thus far.

(35) *Summary of mixed voice construction characteristics*
a. MVC is dialectally and lexically restricted
b. MVC is biclausal
c. clause-final DP is the matrix clause subject
d. clause-final DP does not undergo extraction
e. MVC predicate imposes selectional restrictions
f. there is no evidence for a syntactic representation of the controller in the matrix clause
g. MVC does not permit imperative formation

6. A Partial Analysis: The Thetic Hypothesis

Our proposal is that many of the unusual properties of the MVC follow not from its syntax but from the judgment type associated the complement clause. The contrast between THETIC and CATEGORICAL judgments is widely recognized (Kuroda 1972, 1992, Sasse 1978). A thetic judgment consists of a simple perception or recognition

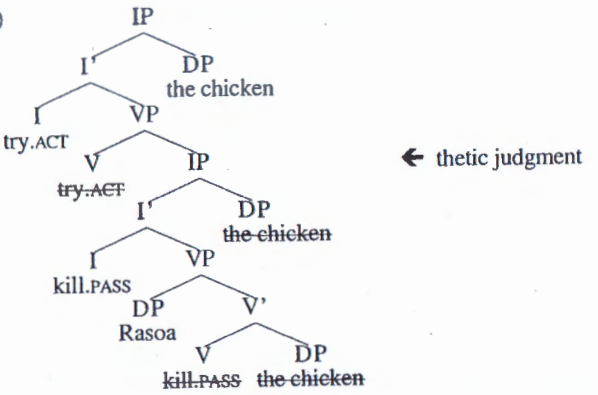
of a situation. This judgment is unitary (simple) because it does not rely on the prior recognition of an entity that would be then made into the subject of a logical predication. The singling out of an entity and the subsequent predication of a property of that entity constitutes a categorical judgment. Because it implies two separate cognitive acts (the recognition of an entity and the predication of a property), a categorical judgment is also called a double judgment. A sentence such as (36a) is ambiguous between representing a thetic and a categorical judgment. It may be interpreted as a description of an event as in (36b), or as a recognition of the entity 'three people' and subsequent predication of the arrival as in (36c). In the former case it corresponds to a thetic judgment, in the latter, to a categorical judgment.

(36) a. Three people arrived
b. [$_{EVENT}$ Three people arrived] THETIC
c. [$_{PROPOSITION}$ [$_{ENTITY}$ Three people] arrived] CATEGORICAL

Crucially, we propose that the embedded clause in the MVC represents a thetic judgment and cannot represent a categorical judgment.[7] For the familiar MVC example in (37), we suggest the structure in (38).

(37) nanandrana novonoin-dRasoa ny akoho
try.ACT kill.PASS-Rasoa the chicken
'Rasoa tried to kill the chicken.'

(38)



As (38) shows, the thetic structure is desirably biclausal. Further, the clause-final DP is the subject of the higher clause, which is compatible with the observed constituency facts from matrix VP-right edge identifiers, (23), and coordination, (32). Since the matrix clause does not contain an agent— there is no representation of the controller in the matrix clause—the ban on imperative formation is also accounted for. Thus we account for properties (35b,c,f,g). We propose that the other characteristics of the MVC follow from semantic considerations.

Many sentence forms are ambiguous with respect to the representation of judgment types but there are also correspondences between judgment types and sentence forms (Kuroda 1992, Ogihara 1987, and others). It is therefore possible to identify distinct grammatical correlates of each judgment type. For a thetic judgment, the following grammatical correlates have been proposed in the literature:

(39) *Grammatical correlates of a thetic judgment*
- a. shows strong preference for unaccusatives and passives (Diesing 1992, Lambrecht 1994)
- b. incompatible with individual-level predicates, such as *have (own), contain, be tall* (Kuroda 1972, 1992, Ladusaw 1994)
- c. cannot be partitioned into topic and comment and maps into an "all-focus" sentence (Kuroda 1972, 1992, Sasse 1978, Lambrecht 1994)
- d. incompatible with relational quantifiers, which require reference to a subset within a presupposed set, such as *most* (Ladusaw 1994)
- e. licenses event anaphora (Sasse 1978, 1995)

Using the grammatical correlates in (39) as diagnostics, let us now apply them to the embedded clause in the MVC. One defining characteristic of the MVC is that the embedded clause has a non-active predicate, consistent with (39a). Next, individual-level predicates are indeed ungrammatical in MVC, which accounts for the contrast between (40a) and (40b):

(40) a. mikasa hanana io fiara io Rasoa ACTIVE
intend.ACT have.ACT that car that Rasoa
'Rasoa intends to have that car.'
b. *mikasa hananan-dRasoa io fiara io MIXED
intend.ACT have.PASS-Rasoa that car that
('Rasoa intends to have that car.')

If a sentence form corresponds exclusively to a thetic judgment, its arguments cannot map into a previously recognized and established referent. In terms of information structure, this entails property (39c): a thetic judgment cannot be partitioned into topic and comment. Hence no part of it can be topicalized, by Topicalization or Relativization, or focused, by wh-questioning. This accounts for the impossibility of extracting the subject of the MVC that we saw earlier:

(41) a. *ny boky dia nijanona novaki-ko TOPICALIZATION
the book TOPIC stop.ACT read.PASS-1SG
('This book, I stopped reading.') (= (24a))
b. *inona no nijanona novaki-nao? WH-QUESTION
what FOCUS stop.ACT read.PASS-2SG
('What did you stop reading?') (=(24b))

Property (39d) predicts that relational quantifiers should be ungrammatical as subjects of thetic structures. Expectedly then, the Malagasy relational quantifier *ankabeazana* '(the) most of' is acceptable in the active control construction but ungrammatical in the MVC:

(42) a. mikasa hamaky boky ny ankabeazan'ny mpianatra ACTIVE
intend.ACT read.ACT book the most'the student
'Most of the students intend to read the book.'
b. *mikasa hovakin'ny ankabeazan'ny mpianatra MIXED
intend.ACT read.PASS'the most'the student
ny boky
the book
('Most of the students intend to read the book.')

Finally, of the three control constructions considered here, only the MVC permits the licensing of event anaphora by the embedded clause, (43c). This is again compatible with one of the grammatical correlates of a thetic judgment, (39e).

(43) a. *nanandrana namono ny akoho Rasoa ka vita-ny ACTIVE
try.ACT kill.ACT the chicken Rasoa and finish.PASS-3SG
b. *nandraman-dRasoa novonoina ny akoho ka vita-ny PASSIVE
try.PASS-Rasoa kill.PASS the chicken and finish.PASS-3SG
c. nanandrana novonoin-dRasoa ny akoho ka vita-ny MIXED
try.ACT kill.PASS-Rasoa the chicken and finish.PASS-3SG
'Rasoa tried to kill the chicken and she did (it).'

The Thetic Hypothesis thus accounts for a wide range of facts: the mixed voice nature of the construction and the syntactic and semantic properties in (35b,c,d,f,g). While it does not have the fatal empirical flaws of the restructuring analysis or Backward Control analysis, it leaves unexplained where the MVC receives its control interpretation from. At this point, we have no explanation for this interpretation and leave it open for future investigation.

Another theoretically important question that we would like to mention here concerns the selection of a thetic judgment by the matrix verb. All the verbs that participate in the MVC can also select for embedded clauses that either represent a categorical judgment or are ambiguous between judgment types. Moore (1997) proposes that in Spanish, the category of the complement constitutes the grammatical basis of selection for one judgment type over the other: full complements correspond to a categorical judgment, reduced, to thetic. Further research is needed to determine whether such selection principle applies cross-linguistically.

7. Conclusions

We have presented and analyzed three different control structures of Malagasy. Two of these structures, active (44a) and passive (44b) have been discussed in the literature; the mixed voice construction in (44c) has not been described previously.

(44) a. nanandrana namono ny akoho Rabe ACTIVE
try.ACT kill.ACT the chicken Rabe
b. nandraman-dRabe novonoina ny akoho PASSIVE
try.PASS-Rabe kill.PASS the chicken'
c. nanandrana novonoin-dRasoa ny akoho MIXED
try.ACT kill.PASS-Rasoa the chicken
'Rabe tried to kill the chicken.'

The active and the passive control constructions show systematic differences. The active construction instantiates obligatory control and most closely resembles the canonical control construction of English. The passive construction represents non-obligatory control and is therefore not subject to the movement analysis of control which has been proposed exclusively for obligatory control structures. The difference between the two constructions in Malagasy is similar to the difference between obligatory and non-obligatory control in English; however, unlike in English, non-local antecedents are impossible under non-obligatory control in Malagasy. Our analysis of these constructions has at least two implications for a general theory of Control: first, it contributes to our understanding of the principled

difference between obligatory and non-obligatory control, second, it suggests the possibility of the controllee appearing in a Case-marked position.

The lexically and dialectally restricted mixed voice control construction (44c) displays an unusual combination of semantic and structural properties. We have rejected restructuring and Backward Control analyses of this construction. To account for its characteristics, we propose that the embedded clause in this construction represents a thetic judgment. If this analysis of the mixed voice construction is on the right track, it contributes to our general understanding of the correspondences between judgment types and sentence forms and it establishes a new case where a judgment type is mapped into an embedded clause.

Endnotes

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[1] We use the following abbreviations in glossing: 1/2/3-person, ACC-accusative, ACT-active voice, CIRC-circumstantial voice, FUT-future tense, IMPER-imperative, INDIC-indicative, LOC-locative, NEG-negative, PASS-passive voice, PRES-present tense, Q-question marker, RECIP-reciprocal, SG/PL-number.

[2] See MacLaughlin 1995, Pensalfini 1995, and Pearson 2001 for alternative clause structures for Malagasy.

[3] Malagasy has no non-finite verb forms, so embedded verbs in Malagasy are all tensed. We briefly address the implications of this situation in section 3.3.

[4] We owe this argument to Jill Heather Flegg and Ileana Paul.

[5] These data require further investigation. The passive example with coreference was not possible with two other control verbs, *manandrana* 'try' and *mikasa* 'intend'. Further, the active example is ungrammatical on any interpretation, even the non-coreferential one, *'Rasoa wants him to leave Antananarivo'.

[6] To our knowledge the construction was first noticed in Law 1995:fn. 9.

[7] It is common to think of the judgment type contrast as pertaining to root clauses only. The idea that embedded clauses may differ in judgment type has been discussed by Mejias-Bikandi (1993), Kuroda (1992), Sasse (1995), and Moore (1997).

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