

Binary Branching and Null Subjects in Malagasy*

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Abstract

This paper explores the systematic application of the principle of Binary Branching to Malagasy following Kayne (1981) and its interaction with the distribution of null subjects in the language. It transpires that the set of features contained in the clausal head determines whether there has to be an overt grammatical subject or not. The crucial factor seems to be whether such features are strong or weak. This underlines the importance of the relationship between the clausal head and its specifier, both envisaged as bundles of atomic features. It will be seen among other things that Malagasy exploits the concept of 'missing Feature' as proposed in Haerberli (2000) and that movement of the subject to the front within the sentence helps avoid a clash of incompatible features. A number of appendices providing additional Malagasy data accompany this paper as the author is aware that the linguistic data already published in the literature may not always be reliable.

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1. Introduction

1.1 Interaction between Binary Branching and strong/weak feature of clausal head.

It will be shown that the interaction between Kayne's Binary Branching and the strong or weak nature of the element that can show up under the clausal head, i.e. Infl(ections) for tense, for example will determine whether a **null element is allowable** --iff Infl does not comprise a strong form-- or **not allowable** --iff Infl comprises a strong form-- in the external subject position or specifier (Spec for short). In this paper, which is a revision¹ of Randriamasimanana (1997) we will follow Kayne (1981) and exploit findings made in Randriamasimanana (1999c)].

1.2 Consequences.

The above account of the distribution of null subjects in Malagasy has several consequences and puts to the fore the crucial importance of the Spec(ifier)-Head relationship in the grammar of this language. The major purpose of this paper is four-fold:

- (i) to outline the specific subsystem in which the tense/aspect system of Malagasy interacts with both Binary Branching and the minimalist type of phrase structure proposed in Koizumi (1995) and shown to be relevant for Malagasy in Randriamasimanana (1999b) to yield the basic/building block structures found in this Austronesian language;
- (ii) to show specifically how more complex constructions involving for instance, motion verbs can be said to derive from 'mergers' of pre-existing, actual, surface binary structures of Malagasy, taking into account the crucial distinction between arguments and adjuncts established in Randriamasimanana (1999b) and
- (iii) where the process of incorporation, which is triggered by the positive value for the verbal atomic feature [+/- CONTROL] associated with the higher verb plays a crucial role in the formation of such complex structures in Malagasy, as outlined in Randriamasimanana (1998) and discussed in some depth in Randriamasimanana (1986: 29-74).
- (iv) As many of the issues raised above are illustrated in many of the examples found in Keenan (1999), some of this author's Malagasy sentences will be used to show precisely how Binary Branching applies to this language, forcing a Small Clause analysis of some of the complex Malagasy illustrations.

1.3 Organization of this paper.

In section 2, some justification for a Binary Branching analysis of Malagasy sentences will be proposed, based on a Small Clause analysis of predicates involving lexical causative verbs like 'kill' (2.1), motion verbs (2.2) as well as di-transitive verbs (2.3). Section 3 will initially distinguish between discourse-based null subject phenomena and linguistic utterance-based null subject phenomena before looking into the nature and

¹Initially in Randriamasimanana (1997) the feature [+/- Nominal] was used. In this paper, this feature has now been replaced with the distinction Strong vs Weak. One immediate consequence of this is that AGR(ement) is not the only element which is strong; there is also in this language a distinction between two series of tense-markers (see section 4.3 for detail): One series is strong and requires the presence within the sentence of an overt grammatical subject, while the other is weak, allowing a null subject. Furthermore there is reason to believe that the same distinction could be applied to aspectual markers along lines suggested in Randriamasimanana (2001)f and

function of Malagasy AGR(eement). Section 4 will subsequently propose an account of the distribution of linguistic utterance-based null subject phenomena in terms of the strong or weak nature of the element that shows up under Inflections for tense/aspect outlining the crucial importance of the Spec-Head relationship.

1.4 Assumptions.

As a starting point, we will assume the following type of tree diagram reproduced from Randriamasimanana (1998: 304), where a distinction is made on Figure 1 between a lexical item projection like V as opposed to a functional head projection like Infl(ections) for tense/aspect. In addition, Figure 2 gives a summary of the distribution of Empty Categories of type 2 (see 3.2, 3.3, 4.2 and 4.3 below for relevant details) in Malagasy.

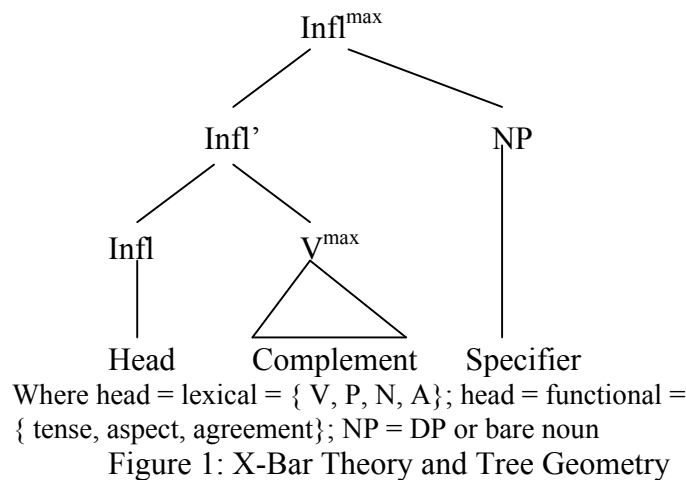
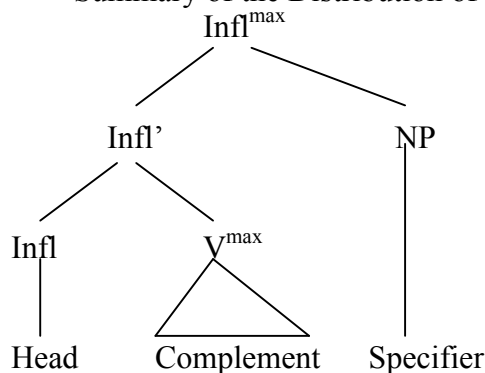


Figure 1: X-Bar Theory and Tree Geometry

Summary of the Distribution of Empty Categories



- (i) Strong Form Overt NP
- (ii) \emptyset / Weak Form Empty

Adapted from Randriamasimanana (1998: 304)

Strong Form = AGR, tense-markers like *no* (past) and *ho* (future).
 Weak Form = tense-markers like *n-* (past) and *h-* (future).

2001g) for a general outline of the problem and a potential solution. Detailed research on this topic is still ongoing at present and some of the results will be published in Randriamasimanana (in preparation).

2. Malagasy and Binary Branching.

2.1 Lexical causative verbs.

In order to understand the necessity for a Binary Branching type of analysis a la Kayne (1981) for Malagasy, we need to look at lexical causative verbs like ‘kill’ in utterances of the following kind:

- (1) N-amono tsy n-aha-faty i Paoly.
Past-kill not past-cause-dead art. Paul
Lit: ‘Paul killed but did not cause (someone) to die.’
i.e. English: ‘Paul tried to kill (someone), but did not manage to.’
Randriamasimanana (1999.b: 513)

The continuation ‘but did not cause (someone) to die’ is perfectly grammatical and acceptable in Malagasy since there is absolutely no contradiction involved in the entire sequence shown in (1). The reason for this is that the first verb *n-amono* ‘kill’ is derived from a combination of two different predicates, i.e. a higher verb *anao* ‘do’ compressed into *an* and a lower predicate *vono* ‘kill’. This lower predicate can be part of a Small Clause made up of a root *vono* and an empty subject; whereas the higher verb *an* will take a tense-marker, in this case the past tense-marker *n*, the lower predicate can often be part of a Small Clause with an empty subject as can be illustrated with the following utterance originating from a recent Malagasy newspaper:

- (2) Tsy mbola teraka hono ø!
Not yet born be-said Empty subject
Nonverbal predicate
"X is said to be not yet born!"
Randriamasimanana (1998)

Where *teraka* ‘be born’ is a root serving as a predicate in a so-called nonverbal construction, hence the label Small Clause. Such a distinction between so-called nonverbal constructions and verbal constructions was established as far back as Rajaona (1972) for Malagasy. Essentially the distinction hinges on the fact that Malagasy verbal predicates take a tense-marker, whereas nonverbal predicates can only accommodate aspectual markers to the exclusion of tense-markers.

As far as the second part of the utterance shown in (1) is concerned, the second predicate is a combination of the higher causative verb *aha* ‘cause’ and the root predicate *faty* ‘dead’. This causative predicate carries an entailment of whatever is asserted in the lower Small Clause, which can be represented thus:

- (3) Faty ø.
‘dead’ Empty subject
Nonverbal predicate

Thus the higher verbs used in (1) describe two different situations in Malagasy: While the higher *anao* for the first verb compressed into *an* refers to the inception of some activity described by the verb, the higher verb *aha* for the second verb refers to the completion of

the activity being described. In both instances, the lower predicate is a root word which can be part of a Small Clause, as defined above with reference to Rajaona (1972).

2.2 Motion verbs.

An analysis of motion verbs in Malagasy will also require utilisation of the notion Small Clause along with consideration of verbal atomic features such as CONTROL inherent in the relevant higher verb. This essentially means that all motion verbs in this language will have to be analyzed in terms of a higher and a lower verb along lines sketched above for lexical causatives like ‘kill’. Thus

(4) N-an-deha t-any Antsirabe i Paoly
past-prf-go **perf-to** Antsirabe art Paul
 [+ CONTROL] **Argument**
 'Paul went to Antsirabe.'

(5) N-an-deha i Paoly
past-prf-go art Paul
 'Paul went'

(6) T-any Antsirabe i Paoly
perf-to Antsirabe art Paul
 'Paul has been to Antsirabe.'

Randriamasimanana (1999b.)

The (complex) motion verb shown in (4) can be decomposed into a higher verb, as in (5), and a lower verb, as in (6). Note that the higher verb *n-andeha* ‘went’ takes a past tense-marker, whereas the lower verb takes an aspect-marker *t-*. The main reason why this morpheme *t-* is analyzed as an aspect-marker and not as a tense-marker² is due to the fact that the higher verb contains the atomic feature [+ CONTROL], which will trigger incorporation of the embedded Small Clause into the higher verb, thus turning the constituent *t-any Antsirabe* into an argument of the higher verb and not into a mere adjunct. This distinction between an argument of the verb and an adjunct was already noted although not accounted for in Rabenilaina (1985).

It was shown in Randriamasimanana (1999b) that when the higher verbal predicate does not take a positive value for this atomic feature, i.e. [- CONTROL], then

2.As noted in Randriamasimanana (1999)c., the *t-* morpheme that shows up in the embedded Small Clause is –if it was an independent clause on its own-- ambiguous between a tense interpretation and an aspect reading. In the tense interpretation of the morpheme *t-* ‘T-any Antsirabe i Paoly’ ‘Tense-to Antsirabe art Paul’ means ‘Paul went to Antsirabe’ and canNOT be embedded under a higher verb V.1; whereas in the aspect reading of the same morpheme, the sequence means ‘Paul has been to Antsirabe’ and can indeed be embedded under a higher verb V.1 [See end of Randriamasimanana (2001)a. as well as Appendix B in Randriamasimanana (2001)e. for the distinction between V.1 and V.2]. Also see Randriamasimanana (2001)b. for details of the distinction between tense and aspect in Malagasy.

the embedded Small Clause will simply remain an adjunct and will not become an argument of the higher verb:

(7) N-i-petraka **t-any** Antsirabe i Paoly.
 past-prf-stay **perf-at** Antsirabe art Paul
 [+/- **CONTROL**] **Argument/Adjunct**
 'Paul stayed at Antsirabe.'

(8) **T-any** Antsirabe no n-i-petraka i Paoly.
Past-at Antsirabe part past-**prf**-stay art Paul
Adjunct [- **CONTROL**]
 'It was at Antsirabe that Paul was living.'

(9) **T-any** Antsirabe no n-ipetrahan' i Paoly.
Perf-at Antsirabe part pst-i-root-**circ**-by art Paul
Argument [+ **CONTROL**]
 'It was at Antsirabe that Paul made his home.'

Adapted from Randriamasimanana (1999b.)

Thus in (7) the verb 'n-ipetraka' 'stayed' in Malagasy is ambiguous² between a + or a - CONTROL interpretation in that it could mean either that 'Paul took an active part in selecting his place of residence' or simply that 'Paul just happened to be living at this particular location'. In its [- CONTROL] interpretation, the constituent made up by *t-any Antsirabe* will remain a mere adjunct of the higher verb. The independent evidence that shows that indeed it remains an adjunct is provided in (8)—where it is to be noted that the *t-* morpheme is a past tense-marker and not an aspect-marker: When the constituent is moved to the front, nothing happens to the higher verb, it remains in the active voice. On the other hand, when the higher verb has a positive value for the same feature, as shown in (9)—where the morpheme *t-* is this time a perfective aspect-marker--then when the constituent is moved to the front, the higher verb must be passivized otherwise an ungrammatical sequence will ensue.

2.3 Di-transitive verbs.

It is not only lexical causative verbs like 'kill' and motion verbs which require a Small Clause analysis. Di-transitive verbs also do. Consider the following:

(10) N-anome *an'i Jeanne ilay boky* i Paoly
 'past-give DO art. J. the(previous mention) book art. Paul'
 'Paul gave Jeanne the (previously mentioned) book.'

(11) *An' i Jeanne ilay boky.* = Small Clause S.
 Nonverbal
 Predicate article J. article book
 'The (previously mentioned) book belongs to Jeanne.'

Where the nonverbal construction *an'i Jeanne ilay boky* shown in (11) does have an independent existence as a clause of its own: In this utterance *an* is a nonverbal predicate in that it certainly cannot accommodate a tense-marker—just like other Small Clause

predicates of Malagasy. In (10) the same word is tentatively analyzed as a case-marker. However such an analysis will not do since if we replaced the constituent *an'i Jeanne* with another constituent like *ilay olona* 'the (previous mention) person', the putative case-marker will not have to appear at all. In fact, it will now be purely optional:

- (12) N-anome (*an*) *ilay olona* *ilay boky* *i Paoly*
 'past-give (DO) art. person the(previous mention) book art. Paul'
 'Paul gave the person the (previously mentioned) book.'

If on the other hand, we analyze *an* as a nonverbal predicate, an explanation for the optionality of the nonverbal predicate *an* is readily available in Malagasy. When the word is present within the utterance, there is no particular problem since it will mean something like 'belong'. If it is absent from the utterance, then we obtain a slightly different kind of Small Clause, a subtype described in some depth in Rajaona (1972):

- (13) *Tsena* *ny olona*.
 Market the people
 'People hold market.' Rajaona (1972)

Where the word *tsena* 'market' serves as a nonverbal predicate and where the constituent *ny olona* 'the people' will be the grammatical subject so that the thematic relationship obtaining between the two elements is one involving some kind of possession.

While up to this point the difference between a case-marker analysis and a Small Clause analysis may still not be decisive with respect to the utterances shown in (10) and (12), here is a case where it does make a crucial difference. The following case of ditransitive verbs comes from Keenan (1999: 34).

- (14) *Nanolotra vary ho an'ny vahiny* *t-amin'ny lovia vaovao aho*
 Past-hand rice to the guest past-with the dish new I

The intended meaning for (14) is: 'I presented rice to the guest on the new dishes.' However, the Malagasy sentence literally means something quite different, i.e. 'I presented rice (which was destined) for the guest on the new dishes' with a relative clause kind of meaning. [For an analysis of the relevant relative clause, see Appendix B.] One major assumption inherent in (14) analyzed as meaning 'I presented rice to the guest on the new dishes' is that the particle *ho* (just like the particle *an* in sentence (10) is a case-marker. It turns out that this word *ho* is not a case-marker, but a relativizer yielding a meaning like 'which was destined for.' In this specific instance it forms the beginning of a relative clause making more precise the meaning of the headnoun *vary* 'rice' to which it is attached.

By contrast, with a Small Clause analysis of (14), we will simply leave the particle *ho* out altogether and thus obtain the following two fully grammatical possibilities, both involving Small Clauses:

- (15) *N-anolotra* [*vary ny vahiny*] [*t-amin'ny lovia vaovao* \emptyset] *aho*.
 Past-hand rice_i the guest past-prep the dish new \emptyset _i I

- (16) *N-anolotra* [*ny vahiny vary*] [*t-amin'ny lovia vaovao* \emptyset] *aho*
 Past-hand the guest rice_i past-prep the dish \emptyset_1 I

Both (15) and (16) mean: 'I presented rice to the guest on the new dishes.' In (15), we have two Small Clauses, the first with a nonverbal predicate *ny vahiny* 'the guest'; the second with a prepositional predicate comprising a past tense-marker *t-* indicating that this constituent is a mere adjunct to the higher verb. In (16), we also have the inverse word order within the first Small Clause.

3. Malagasy and Null Subjects.

3.1 Preliminary.

It is essential to distinguish between discourse context-based null subject phenomena, on the one hand and linguistic utterance-based null subject phenomena, on the other hand, in Malagasy. We will refer to the first category as type 1 null subjects and to the second category as type 2 null subjects. In what follows, we will mainly concentrate on the nature and function of the latter category.

3.2 Discourse context-based null subjects.

The relevant cases allow access to the identity of the referent from the immediate context of the given utterance. Reference could be either to the speaker/writer as in (17) or to the interlocutor as in (19). Note by contrast that foreigners tend to have an overt grammatical subject even when none is required, as in (18).

- (17) Date: Fri, 05 Mar 1999 12:19:59 -0500
 From: JR<r@magma.com>
 To: R<uzsmav@uni-bonn.de>
 CC: fbra2@bigfoot.com

M-amerina ny arahaba ho an'i Mia sy ny rehetra \emptyset [1st S]
pres-renew the greeting for art Mia and the all **Empty**
Lit. 'renew the greetings which are for Mia and all'
 '(I) renew my greetings to Mia and to everybody...'

- (18) Subject: Valin'dresaka hoan'i Rina Ralison
 Date: 1997/10/09
 Author: DD d.@math.u-strasbg.fr

Faly m-iarahaba anareo rehetra **aho.**
 Happy **pres-greet** you-plural all **I**
 'I am happy to greet you all!'

- (19) Date: Thu, 24 Dec 1998 06:52:17-0500
 From: CRab114103.442@compuserve.com
 Sender: CRab114103.442@compuserve.com
 To: Charles Randriamasimanana

M-anao *ahoana indray* *o* ? [1st S in message]
Pres-do how once-more **Empty?**
‘How are (you)?’

3.3 Linguistic utterance-based null subjects.

As will be seen in section 4, there is a direct correlation between the presence inside Infl(ections) of a strong form, i.e. Malagasy AGR(eement), for instance, and the obligatory presence of the grammatical subject ; whereas the absence of a strong form coincides with the possibility of an empty subject. In other words, with type 2 null subjects, there is a link between the structure of the linguistic utterance and the distribution of empty subjects, specifically there is a crucial relationship obtaining between the strong form of the clausal head, i.e. either AGR or the inflections for tense/aspect, and the presence of an overt grammatical subject within the utterance.

What will first be illustrated below is the crucial relationship between the specifier and its head, and in particular, Malagasy AGR (eement)³ –which is a strong form-- and the specifier, as this phenomenon has not been extensively explored and discussed in the literature. As noted in Randriamasimanana (1997), AGR imposes a singular vs plural meaning on the grammatical subject of the clause, thus highlighting the crucial importance of the spec-head relationship in this language. Relevant illustrations go as far back as the nineteenth century and include examples from Abinal & Malzac (henceforth A & M) (1888) as well as from contemporary sources:

(20) *Ireo m-iady ireo ny zanakao.*
AGR pres- fight AGR the children-of-yours
Plural verb **plural**
‘Voilà vos enfants qui se battent.’ A & M 1888: 282
From French to English: ‘Your **children** are there, fighting.’
Literally: ‘Your children are fighting --as we can see for ourselves.’

(21) *Io tamy io ny zanako.*
AGR coming AGR the child-of-mine
Singular verb **singular**
‘Voici mon enfant qui vient.’ (A & M 1888: 281)
Eng.: ‘Here is my **child** coming.’
Literally: ‘My child is coming --as you can see for yourself.’

(22) To: fbra2@bigfoot.com
Date: Mon, 18 Jan 1999 00:38:14 -0500
From: crazafi@juno.com (Carol M Razaf...)

3. We will not at this stage characterize the exact nature of this relationship between AGR and Spec except to note that a proposal made by Haerberli (2000) will go some way towards an adequate explanation in terms of a missing F(eature) associated with the specifier. The latter will then need to be put in relation with the clausal head in order to pick up the relevant feature from AGR(eement), in this particular instance the feature [+ plural]. Also see Randriamasimanana (2001)g. for more details.

Ireto manaraka ireto ny valin'ireo ohabolana 11-20...

AGR verb AGR the answers

These pres-follow these the answer-of-those proverbs 11-20

'The **answers** to proverbs 11 to 20 are following...'

First of all, note that AGR as used in the above sentences is a discontinuous element: One part of it precedes the predicate; the other comes after the predicate. Given that we have some kind of 'reduplication' of the deictic in Malagasy, i.e. *ireo*, *io* or *ireto*, we will take this to represent a strong form. By contrast as shown in Randriamasimanana (1987:194), the same deictic can also show up once—usually after the predicate, as some kind of adverb—and in this case, the form will be deemed to be weak. Thus, in (20) from (A & M. 1888: 282) and (22) from an e-mail dated January 1999, we have an illustration of a plural AGR(eement), i.e. one of a number of Malagasy deictics such as *io* 'this-singular-near the hearer', *ireo* 'these-plural-near the hearer' and *ito* 'this-singular-near the speaker' and *ireto* 'these-plural-near the speaker' which morphologically encodes the singular vs the plural, under inflections along with tense and aspect. As remarked earlier the grammatical number which appears on AGR will affect the semantic interpretation of the grammatical subject: Thus, in (20) and (22), because AGR is plural, the subject has to be interpreted as plural; whereas in (21), where AGR is singular, the subject must be interpreted as singular. By contrast if AGR was to be left out in, for instance, (20) or (22), the relevant subject could then receive either a singular or a plural interpretation, depending on the extralinguistic context of situation.

3.4 Nature and Function of Malagasy AGR.

In Malagasy, the absence of morphology corresponding to AGR or a weak tense/aspect form indicates a context-dependance of temporal location along the time axis whereas the presence of AGR or that of a strong tense/aspect form morphologically signals overt linguistic encoding of location along the time axis. In the first type of situation, location within the speaker here and now is usually assumed; in other words, 'de re' is assumed to coincide precisely with 'de dicto' and as a direct consequence, no overt indication of time location within the utterance is required since the relevant bit of information is recoverable from the immediate context; whereas in the second, a fundamental and basic distinction between 'de dicto' and 'de re' is assumed and as a result, an overt indication of time location within the utterance is absolutely indispensable since in such a case, there is no possibility of recoverability of the missing pieces of information.

In light of the system described above, the following revised meaning is proposed for the already published sentence below from Keenan (1976: 257):

- (23) *Ø-sasan-dRaso* *ny lamba*.
Øpass-be-washed-by Raso the clothes
'The clothes are washed by Raso.'

This sentence, which contains a zero tense-marker should mean 'The clothes are being washed by Raso' and not as originally claimed by the author. Some evidence pointing in that direction comes from the following electronic message:

(24) To: fbra2@bigfoot.com
 Date: Mon, 1 Feb 1999 01:10:24 -0500
 Subject: Ohabolana 21-30(V), 31-40(L), 1-10(F)
 From: Carol M Razafi... <crazafi@juno.com>

Ø-arabaina daholo indray ianareo rehetra,
 Pass-saluted all once you-plural all
 Literally: 'You **are** all **being** saluted (by me)!'

Where it is quite clear that there is a correlation between the zero-tense morpheme and location within the speaker/writer here and now. This contrasts with the presence of an overt tense-marker, as in the following sentence adapted from E. Keenan (1976: 255]:

(25) *M-anasa lamba amin'ity savony ity Raso.*
Pres-wash clothes with this soap this Raso
 Translated as 'Raso is washing clothes with this soap.'

Which can actually mean 'As a rule, Raso washes clothes with this soap' and not as originally translated. In fact, in order to convey the meaning 'Raso is washing clothes with the soap', one has to say:

(26) *Ity m-anasa lamba amin'ny savony ity Raso.*
AGR pres-wash clothes with the soap **AGR** Raso
 'Raso **is washing** clothes with the soap.'

Where the singular deictic *ity* 'this' functions as an AGR inside the inflections for tense/aspect and not accompanying the noun *savony* 'soap', as in

(27) *M-anasa lamba amin'ity savony ity Raso.*
 Pres-wash clothes with **this** soap **this** Raso

Sentence (27) is a perfect sequence except that a more natural meaning for it has nothing to do with the original translation provided under (25) but rather with something like: 'Hey, Raso, go and wash clothes with this soap!' Note that this new interpretation is in line with the kind of analysis proposed for lexical causatives in section 2.1 above, where the higher verb *an* derived from the compression of *anao* 'do' in (27) will refer to the inception of the activity described by the verb; furthermore, the overt tense-marker *m*-indicating the present tense does not strictly locate the event within the speaker here and now. See Randriamasimanana (1985) for an analysis of this phenomenon.

4. An Account of the Distribution of Null Subjects.

4.1 Distribution of type 2 null subjects.

This is linked to the presence inside Infl(ections) of a strong form, in the first instance, the distribution of AGR. In fact, the distribution of AGR coincides with the obligatory presence of the grammatical subject; whereas its absence coincides with the possibility of an empty subject. In the second instance, as far as tense projections are concerned, the weak or strong nature of the head is crucial.

4.2 AGR and Control Structures.

As outlined in Randriamasimanana (1998), AGR only shows up in a matrix clause and usually cannot show up in a structure embedded under a Control predicate:

- (28)a. N-itady [... h-anjaka ø] Ravoniarisoa ...
Past-seek [... fut-dominate EC] Ravoniarisoa
"Ravoniarisoa sought to dominate."
From Rajaona 1969, *TN*, page 50, lines 156-157.

- b. *N-itady [**ity** h-anjaka **ity** ø] Ravoniarisoa.
AGR **AGR**

- (29)a. M-angataka anao aho [h-itondra ity any amin-dRama ø]
Pres-ask you I [.. fut-take this to pre-Rama EC]
"I ask you to take this to Rama."
From Rajaona 1969, *TN*, p 65, lines 57-60.

- b. *M-angataka anao aho [**ity** h-itondra ity **ity** any amin-dR.-]
AGR **AGR**

In (28), we have a subject control verb, whereas in (29) we have an object control verb –which seems a priori to pose a problem⁴ for our Binary Branching analysis for Malagasy. The only point being made is that there is absolutely no possibility whatsoever of having AGR and an empty subject in a structure embedded under a Control predicate, as suggested by the ungrammaticality of both (28)b and (29)b.

4.3 Strong vs Weak Forms of Malagasy Tense-markers.

Malagasy has two distinct series of tense-markers for the future and the past tenses: One series represents strong forms, whereas the other lists weak forms. Thus, the morpheme *h-*, a weak⁵ form, indicates the future in a structure with an active voice verb, but another morpheme, *ho*, a strong⁵ form, will have to be used to indicate the future in a sequence with the passive voice; likewise for the past-tense, the weak morpheme *n-* indicates the past in an active voice sequence, but the relevant strong morpheme is *no-* for the passive voice. As will be seen in section 4.5, a strong form like *no* (past tense) [or alternatively *ho* (future tense)] will contain a specific set of inherent features⁶ which will eventually be passed onto the specifier.

One first contrast in behavior between the two series of strong/weak tense-markers is apparent in the following pair of utterances:

4. This only seems to be a problem since in reality the SVO word order does exist in Malagasy even though it appears to be a marked order, as pointed out in Randriamasimanana (2000b): The SVO order typically shows up in an embedded position. Furthermore, as suggested in Randriamasimanana (1997: 491) and illustrated in Randriamasimanana (2000)b. the embedded S remains downstairs, i.e. inside the subordinate clause and does not get lifted into the higher clause.

5. I am aware that a number of linguists working on Malagasy do not make this distinction of Strong vs Weak forms of the (future/past) tense-markers. See Appendix A for relevant detail.

6. Recall that particle 'ho' as in Randriamasimanana (1986: 562-563) can also serve as a complementizer when the embedded clause is nonverbal. See Appendix B for more detail.

- (30) N-ikasa ny h-andeha ø i Paoly.
 past-intend comp fut-go Empty deic Paul
 "Paul intended to leave."
 Randriamasimanana (1997: 488)

- (31) Tia-ko ho entina ilay fiara.
 be-liked-by-me fut be-driven the car
 "I would like to drive the (previous mention) car."

In (30), the embedded predicate is in the active voice; as a result, the relevant future tense-marker is the bound morpheme *h-*, a weak form; and as a further consequence, there is an empty subject in the embedded structure. By contrast, in (31) the embedded structure is in the passive voice and the relevant future tense-marker is the independent morpheme *ho*, a strong form⁵; as a consequence of this, an overt subject shows up in the subordinate clause. Indeed in (31), the constituent ‘*ho entina ilay fiara*’ is a sentential subject of the passive matrix verb and ‘*ilay fiara*’ is its overt subject.

Another kind of contrast in behavior involving the two parallel series of tense-markers may arise from a case of amalgamation⁶ with complementizer *ho* even though the principle remains the same: A projection involving a strong element comprises an inherent feature to assign, whereas with a weak element, there seems to be no presence of such a feature at all.

- (32) No-kasa-in' i Paoly ho entina ilay fiara.
 past-intend-by deic Paul future be-taken the car
 "Paul intended to take the (previous mention) car."
 From Randriamasimanana (1997: 490).

- (33) N-ikasa (ny) h-itondra ilay fiara ø i Paoly.
 Past-intend (comp) fut-drive the car EC art. Paul
 ‘Paul intended to drive the (previous mention) car.’

- (34) N-andefa entana ho azy i Paoly.
 past-send parcel part. him-DO deic Paul
 "Paul sent a parcel which is for him/her."

- (35) N-andrama-n' i Paoly no-loko-ina ny trano.
 past-try-by deic Paul past-paint-by the house.
 "Paul tried to paint the house."
 From Randriamasimanana (1997: 491).

In (34), we have a strong form, *ho* as head of construction with the meaning of something like ‘which is destined for’ and its complement, the pronoun accompanying it is in the accusative form of the third person pronoun *azy*. This contrasts with the situation in (33), where the head of construction is the weak form of the future tense-marker, i.e. *h-* in the embedded clause. On the other hand, in (32) the head of the embedded clause is the future tense-marker *ho*, which is exactly the same as the strong form found in (34). It looks therefore as though the strong form *ho* in (32) behaves almost like the one in (34);

as a consequence of this, it is legitimate to assume that it carries a ‘case’ feature with it . The only difference between the situation in (32) and that in (34) is that in (32), the crucial relationship is between the head and its specifier; whereas in (34) the crucial relationship is between the head and its complement. Finally, in (35) we have an illustration of the behavior of the independent morpheme for past tense *no*, a strong form, which is exactly the same as its future tense counterpart *ho*: Indeed *no* like *ho* requires an overt subject in the embedded structure *no-loko-ina ny trano* even though this form appears to be well on its way to becoming a clitic to the verb and acquiring the status of a verbal prefix. Given all of the above, it looks as though at least in the case of Malagasy, we should be describing the relevant situation in terms of inherent features so that Case assignment could optimally be replaced with some kind of feature-checking mechanism.

4.4 Weak Nature of Complementizer *ho*.

In essence in (34), we had a strong form and a partially lexical item projection of the particle *ho*. That contrasts with the behavior of the (apparently) same item serving as a complementizer this time, i.e. a purely functional head and a weak⁷ form, introducing an embedded equative type of clause, as argued for and illustrated in Randriamasimanana (1986: 562-563) and explained in Randriamasimanana (1997: 491):

(36) M-ihevitra azy **ho** m-ahay \emptyset i Paoly.
 pres-think him **comp** pres-intelligent **Empty** deic Paul
 "Paul considers himself intelligent."

(37) M-itady **ho** babena \emptyset i Paoly.
 pres-seek **comp** lift-pass. **Empty** deic Paul
 "Paul wants to be picked up."

From Randriamasimanana (1997: 491).

In (36), the embedded clause comprises an equative type of structure (as opposed to a nonequative type or specifically one which involves Control as defined in Randriamasimanana (1986: 29-74)). The relevant complementizer which accompanies such a clause is the function word *ho* precisely. Note that this function word does not seem to be accompanied by any apparent ‘case’ feature as an empty subject position is permissible in the subordinate clause in both (36) and (37): In (37) there is no overt noun phrase in the lower clause; whereas in (36) the pronoun *azy* ‘him/her’, which belongs in the lower clause, gets its case exceptionally from the higher verb *m-ihevitra* ‘think’.

4.5 Other Consequences of Spec-Head Relationship.

As the inflections domain within a clause covers projections corresponding to AGR, tense and aspect respectively and since there is a privileged relationship obtaining between inflections as head of the entire sentence and its specifier, it is no big surprise that the semantic interpretation of the subject is influenced by what appears under inflections. In this section, the co-variation in semantic interpretation of the grammatical

7. A weak form is to be understood as one not comprising strong inherent features of the kind displayed, for instance, by AGR(ement), which shows up as a discontinuous element. Also see Appendix C for further elaboration.

subject with the voice, tense and aspect showing up under inflections will be succinctly described. Subsequently it will be shown that Malagasy has recourse to movement to the front as a strategy to avoid an anomalous interpretation of the subject.

The relevant constructions involve a passive voice verb with different inflections for tense and aspect on them. There exist four basic cases to consider:

A. **No..in(a)** passive typically indicates a **PUNCTUAL** aspect. As a result of this, the subject is usually interpreted as an entity affected as an unanalyzed whole.

(38) **No-didi-ndRabe ny mofo. Punctual** meaning
 pst-root-pass-byRabe the bread
 ‘The (whole) bread was cut by Rabe.’

B. **∅...in(a)** passive typically describes an **ONGOING ACTIVITY**, as in (24) above. Typically no overt reference to the referent of the subject is required, which is retrievable from the extralinguistic context of situation.

C. With **an...in(a)** circumstantial voice [or its **i...in(a)** variant as shown in (45), for further detail consult Randriamasimanana (1986: 419-422)], we have a **DURATIVE** aspect, hence **partitive** reading⁸ since the subject referent is only partially affected.

(39) **N-an-didi-andRabe ny mofo. Partitive** meaning
 pst-active-root-circ-byRabe the bread
 ‘(Some of the) bread was cut by Rabe.’

D. With **a...in(a)** passive, there is the notion of **INCEPTIVE/BALLISTIC** aspect. Only referents that contain this particular feature, i.e. which only requires an initial impulse will be able to appear in the grammatical subject position.

(40) **N-a-tsipin-dRabe ny rano. Ballistic** meaning
 Past-pass-throw-by-Rabe the water
 ‘The water was thrown away by Rabe.’

What appears under section 4.5 is particularly relevant for a newly published Malagasy sentence reproduced immediately below:

(41) *N-i-vidi-an-dRabe ilay satroka Raso.*
 pst-active-root-circ-Rabe that hat Raso
 ‘Raso was bought+for by Rabe that hat.’

From I. Paul, V. Phillips and L. Travis (1999: 27-48).

According to the system outlined above, the subject *Raso* in (41) should receive a partitive reading since the circumstantial form of passive shows up under inflections

8. See Appendix D for other illustrative examples as well as relevant remarks.

along the same lines as in example (39), which also contains a circumstantial voice verb [Also see Footnotes 9 and 10 below]. However, it is not clear what it would mean to claim that ‘part of Rasoa was bought the hat by Rabe!’ However, as suggested in Randriamasimanana (in preparation) and in Footnote 8, the grammaticality of (41) could be drastically improved by dropping the definite article *ilay* ‘the-previous mention’. This means that an incremental type of derivation by phrase as proposed for example in Chomsky (2000), where there is a systematic kind of interaction between the relevant phrase and some relevant inherent features contained in the clausal head may provide the optimal derivation for Malagasy.

Presumably sentence (41) derives from something like:

- (42) N-i-vidy (an) ilay satroka ho an-dRasoa Rabe.
 Pst-prf-root (DO) the hat for DO-Rasoa Rabe
 ‘Rabe bought the (previously mentioned) hat for Rasoa.’

Instead of (41), a native speaker would say either the a or the b sequence below:

- (43)a **No-vidi-n-dRabe** ho an-dRasoa **ilay satroka.**
PUNCTUAL **SPECIFIC**
 ‘Was bought by Rabe for Rasoa the hat.’
 b. **Ø-vidi-ndRabe** ho andRasoa **ilay satroka.**
 ONGOING-buy-byR for Rasoa the hat
 ‘Is being bought by Rabe for Rasoa the hat.’

The first problem which arises with regard to sentence (41) relates to the incorporation of the constituent *ho an-dRasoa* since it is not obvious that the verb *nividy* ‘bought’ unequivocally has a [+ Control] meaning. This is important since as shown in section 2.2, the presence of a positive value for this atomic feature is a sine qua non condition for triggering incorporation of this constituent into the higher verb. And if incorporation does not take place, then the circumstantial voice passive as used in (41) is simply illegal in Malagasy since only an argument of the verb can be promoted to subject, but not an adjunct. But even assuming that such an interpretation of the verb as used in (41) was possible, we are still faced with the thorny issue posed by the partitive interpretation of the subject.

9. There are quite a few examples in the literature showing this partitive reading when the verb is in the circumstantial voice. A case in point is Edward L. Keenan (1996: 104, ex. (25)b.):

- (25)b. Namonoan-dRabe ny akoho.
 Killed(circ) + by + Rabe the chicken
 ‘Some of the chickens were killed by Rabe.’

And yet paradoxically in the same article, we see the following:

- (42)a. Nanondroako ilay toerana ianao.
 Pst+point+out(circ)+1sg(gen) that place you
 ‘You [[were bought+for by me and read] that book].’

Where the grammatical subject *ianao* ‘you’ does not get assigned a partitive reading even though the verb is still in the circumstantial voice –just as in (25)b. To the author’s ears, sentence (42)a. is irretrievably ungrammatical and sounds rather like either Foreigner Talk or some pidginized version of Malagasy.

10. On the other hand, the nonavailability of a partitive reading is responsible for the ungrammaticality of a number of Malagasy sentences also found in the literature. See Appendix E.

4.6 Obligatory Movement.

At this stage, the question that arises is the following: What happens if the inflections comprise anyone of the tense/aspect elements described above and if the resulting semantic interpretation of the subject is anomalous? Besides the strategy yielding the alternative sentences shown in (43)a and (43)b above, there is another strategy, which consists in moving the affected subject into the front position in the sequence.

- (44) **N-i-petraka** **t-any Antsirabe** i Paoly.
Past-verb **Perf-prep**
[+ CONTROL] **Argument**
 Past-stay past-Antsirabe art. Paul
 ‘Paul stayed, i.e. chose to stay at Antsirabe.’
- (45) **T-any Antsirabe** no **n-i-petraha-n’** i Paoly.
Perf-at Antsirabe part. Past-circ-live-by art. Paul
Argument
 ‘It was at Antsirabe that Paul was living, i.e.’ chose to live.’
- (46) ***N-i-petraha-n’**i Paoly **t-any Antsirabe.**
Past-circ-live-by art Paul **Perf-at Antsirabe**
[+ CONTROL] **PARTITIVE?**

Thus, in (44) the higher verb *n-i-petraka* can receive a [+ CONTROL] interpretation so that the constituent *t-any Antsirabe* can be assumed to have been incorporated into the higher verb. The evidence for this comes from the circumstantial form of the passive on the higher verb, as in (45). However, it is not possible to keep the newly derived subject *t-any Antsirabe* in the external subject position, as demonstrated by the ungrammaticality of (46): The newly derived subject will have to be compatible with a partitive reading, as is usually⁹ the case for subjects accompanying a circumstantial passive form, as illustrated in sentence (39) above. To avoid such an anomalous interpretation, the newly derived subject will have to move out of the range of the projection of inflections, ie. away from Spec and towards the front¹¹.

11. Several illustrative examples are provided in Randriamasimanana (1986), where the derived grammatical subject has to be fronted obligatorily: For instance, page 484-485, example (94)a. where the subject of a circumstantial voice verb cannot receive a PARTITIVE interpretation, fronting is mandatory.

(94)a. T-any Antsirabe no n-i-anar-an’ i Paoly t-aloha.
 Perf-at Antsiraba part past-circ-study-by artPaul past-before
 ‘It was at Antsirabe that Paul was studying before.’

On the other hand, when a PARTITIVE reading is possible, then non-fronting of the subject is allowed, as shown in Randriamasimanana (1986: 466, ex. (63)a.).

(63)a. N-an-doto-an’ ny ankizy ny akanjo-ny ny fotaka.
 Past-circ-dirt-by the child the clothes-their the mud
 ‘The mud was being used by the children to dirty their clothes.’

where presumably what is being referred to here is ‘some mud’ with a quantifier kind of reading on the grammatical subject.

5. Conclusions

The main purpose of this paper was to use the Principle of Binary Branching from Kayne (1981) in conjunction with the concept of Small Clause –initially in addition to basic principles proposed in Chomsky (1981, 1982 and 1986b)-- to account for the distribution of null subjects in Malagasy. As a starting point, we assumed a kind of tree diagram such as in Randriamasimanana (1998: 304), where there is a distinction between the projection of a lexical item and that of a function word.

Sections 2.1, 2.2 and 2.3 show that there are advantages to a Binary Branching analysis of even lexical verbs, motion verbs and di-transitive verbs in Malagasy: In section 2.1 relative to lexical causatives, it was shown that such an analysis sheds some light on the semantic interpretation of sentences like (1), where the Malagasy verb ‘kill’ simply does not entail that the patient is dead and that to account for such a reading, we need an analysis of the lexical causative into a higher and a lower verb –this will presumably necessitate a revision of the nature of the projection of lexical verbs as represented on Figure 1 along lines sketched in Koizumi (1995); section 2.2 involving motion verbs highlights the crucial importance of the positive value for the atomic feature CONTROL associated with the higher verb in the process of incorporation of the lower structure into the higher verb, as in (4); whereas section 2.3 illustrates the superiority of an analysis based on the twin notions of Binary Branching and Small Clause as opposed to a treatment of certain Malagasy particles as representing case-markings from the main verb, as proposed in (10).

Sections 3.2 and 3.3 distinguish between discourse context-based null subject phenomena, i.e. type 1 null subjects from linguistic utterance-based null subject phenomena, i.e. type 2 null subjects as tentatively summarized on Figure 2. This then paves the way for some understanding of the nature and function of Malagasy AGR, a strong element, in section 3.4 in terms of the singular or plural interpretation of the grammatical subject depending on what shows up under the inflections for voice, tense and aspect. The partial description of the distribution of type 2 null subjects in sections 4.2 and 4.3 enables us to account for the distribution of empty subjects also in terms of the strong or weak nature of the inflections for tense: This language has a series of parallel tense-markers for at least the future and for the past tense. The selection of the relevant series is dependent upon the verbal voice on the embedded structure as well as the selectional requirements of the higher verb since the latter will often dictate the voice to be utilized in the embedded position, as illustrated in sentence (31), for instance. This is of crucial importance in an Austronesian language like Malagasy since as outlined in Randriamasimanana (1999a: 37), it has a very high frequency for passive in texts. One reason why this is so –within a Case Theory type of framework-- has to do with the notion of barriers as proposed in Chomsky (1986b) and illustrated for Malagasy in Randriamasimanana (2000: 274-276).

Finally, one of the major consequences of the special relationship between the inflections or head of the clause and its specifier is that if there is a clash between inherent features of the subject and those contained in the clausal head inflections, then the subject will have to move out of the domain range of the head, i.e. to the front within the sequence, as illustrated in (45). This kind of move fits in well within a minimalist framework such as the one proposed in Radford (1997) and suggests that for an adequate description of Malagasy syntax we may need to do away with Case Theory as a module

of Universal Grammar altogether (given the crucial importance of an analysis of relatively complex Malagasy sentences based on a strict application of Binary Branching Principle¹²). We would instead use a framework based on Feature-checking, utilizing bundles of features along lines sketched in Chomsky (1998, 2000) and Haeberli (2000), having recourse to a bottom-up type of incremental derivations where relevant lexical projections will interact with relevant functional projections and in the process dispose of or retain relevant inherent features some of which will persist and ultimately become ‘interpretable’. See an outline of this process in Randriamasimanana (2001)e and Randriamasimanana (2001)g.

Inherent in the overall picture that emerges from the above is that all Malagasy verbs have to be analyzed as comprising a higher as well as a lower predicate, that the higher verb is compatible with a tense-marker, but that the lower predicate is only compatible with an aspectual marker. This suggests that the inflections projection in Malagasy should be exploded into separate projections of tense as well as aspect along lines sketched in Pollock (1989): Aspect as defined in Comrie (1976) will be the closest to the root or radical of the verb, followed by tense --also as defined in Comrie (1985)—which will have a projection of its own; sitting on top of the previous two projections, we will have an AGR(ement) projection, whose presence requires an explicit grammatical subject in Malagasy. This contrasts with the behavior of tense-markers some of which are strong in nature whereas others are weak, with direct consequences as to the possibility of a null subject.

11. Many Malagasy sentences published in the literature are ungrammatical because they simply do not observe Binary Branching. See one relevant relevant example under section 2.3.

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Appendix A

Such linguists working on Malagasy propose a ‘raising’ analysis whereby the subject of the embedded clause is raised into the matrix clause. See, for instance, Matthew Pearson (2001a: 93, ex (23)) and (2001b: ex (14)b.), following Matthew Pearson (1998) and Ileana Paul et al. (1998)a. and Ileana Paul et al. (1998)b :

- (23) a. Mikasa [hanasa ny vilia] Rakoto
NomP.intend Irr-NomP.wash Det dish Rakoto
“Rakoto intends to wash the dishes”
- b. Kasain-dRakoto [hosasana] ny vilia
AccP.intend-Rakoto Irr-DatP.wash Det dish
“The dishes, Rakoto intends to wash”
- (14) Kasain-dRaso [hosasana amin’ny savony] ny zaza.
ObjP.intend-Raso Irr-ObjP.wash with-Det soap Def child
‘The child, Raso intends [to wash (her) with the soap]’

Note that the forms *h-* and *ho* in the examples above are analyzed by M. Pearson (2001) not as tense-markers but rather as mood. On the other hand, according to the framework proposed in the present paper, we would have the following analysis based on the meaning explicitly given:

- (23) a. Mikasa [h-anasa ny vilia ---] Rakoto
NomP.intend fut-wash Det dish empty Rakoto
“Rakoto intends to wash the dishes”

- b. \emptyset -kasain-dRakoto [ho-sasana ny vilia]
 \emptyset -intend-Rakoto fut-wash Det dish
 ‘Rakoto intends to wash the dishes.’
- (14) \emptyset -kasain-dRasoa [ho-sasana amin’ny savony ny zaza].
 ObjP.intend-Rasoa fut-wash with-Det soap Def child
 ‘Rasoa intends [to wash the child with the soap].’

Where the weak tense-form *h* is accompanied by an empty subject in (23)a., whereas in both (23)b. and (14), the strong tense-form form *ho* requires an overt subject in the embedded clause. In addition, note that the verb *mikasa* ‘intend’ requires the future tense-marker on the embedded verb, contrary to Law (1995: 282-285), quoted in Huguette Fugier (1999: 157, ex. 4.29) as well as in Maria Polinsky (2001, ex. 57a.):

- (4.29) **M**ikasa **manasa** ny zaza Rasoa.
 Projeter de laver enfant Rasoa
 Actif actif c.d. suj.
 ‘Rasoa projette de laver l’enfant.’
 English: ‘Rasoa intends to wash the child.’
- (57)a. **m**ikasa [**mitondra** ny fiara] Rabe
 intend.ACTIVE drive.ACTIVE the car Rabe
 ‘Rabe intends to drive the car.’

Sentences (4.29) and (57) are irretrievably ungrammatical since they are simply not Malagasy! They should be modified as follows:

- (4.29’) **M**-ikasa **h**-anasa ny zaza Rasoa.
 Pres-projeter fut-laver l’enfant Rasoa
 Actif actif c.d. suj.
 ‘Rasoa projette de laver l’enfant.’
 English: ‘Rasoa intends to wash the child.’
- (57’) **M**-ikasa [**h**-itondra ny fiara...] Rabe
 pres-intend [**fut**-drive the car Rabe
 ‘Rabe intends to drive the car.’

Other illustrative examples making the exactly same point are available from Abinal et Malzac (1888: 315), where the embedded verb definitely has a future tense-marker on it:

N-ikasa **h**-andeha aho.
 Past-intend **fut**-go I
 ‘I intended to go.’

As well as from Rajemisa-Raolison (1995: 691), where the embedded verb definitely and once again has a future tense-marker:

N-ikasa **h**-andeha aho rahampitso.
 Past-intend **fut**-go I tomorrow
 ‘I intended to go tomorrow.’

And from Randriamasimanana (1986: 402, ex. 119), where the above phenomenon was already described explicitly in English:

(119) N-ikasa ny h-andeha i Paoly.
Past-intend comp fut-go art Paul
'Paul intended to go.'

For more details on tense/aspect in Malagasy, see Randriamasimanana (2001)b. For the relationship between tense and embedding, consult Randriamasimanana (2001)c. As to some of the reasons why Malagasy data obtained from local informants (or slightly modified by the foreign linguist on their own – see one concrete example of this relative to sentence (29)c under Footnote 8 below) may not be reliable, refer to Malagasy Syntax seminars of March 10 and April 28, 2001 illustrated in Randriamasimanana (2001)a. and Randriamasimanana (2001)h.

Appendix B

Recall that the particle *ho* as illustrated in Randriamasimanana (1986: 562-563) can also serve as a complementizer when the embedded clause involves a nonverbal predicate (but see the end of this note). Now in sentence (34), *ho* behaves like a lexical item and not just like a functional one (which would be the case for a complementizer). What is happening here is a case of amalgamation of complementizer *ho*, on the one hand and the lexical particle *ho* meaning something like 'destined for (someone)', on the other. Apparently lexical *ho* contains inherent features, which will materialize as accusative case on the accompanying complement, as illustrated in (34) and as a direct result of this, will no longer have any inherent features to pass onto a putative specifier; hence the empty position. By contrast, strong tense-marker form *ho* – i.e. the nonamalgamated variety – will only be able to pass on its relevant inherent features to the grammatical subject, as shown in (31), (32) and (35) – along lines sketched under Footnote 3 above.

The case of amalgamation discussed above was initially proposed in Rajaona (1972: 286, section 3.2.15). The analytical framework used above is one adapted from Chomsky's 'Derivation by Phrase' (2000) In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, eds. Roger Martin, David Michaels, and Juan Uriagereka. MIT Press, Cambridge and Chomsky, Noam. 1998. *Minimalist Inquiries: the Framework*. Ms., MIT.

Last but not least, it is quite unfortunate that foreign linguists have (a) confused the modality particle *ho* and complementizer *ho* (see Footnote 5 above for one important consequence) and (b) ignored the distribution of complementizer *ho*, which in principle can only allow an embedding involving a noncontrol type of predicate (See Ileana Paul et al. (1998a: 51, ex. (5)) and Ileana Paul et al. ((1998b.: 113), ex. (8)b.)) for typically ungrammatical Malagasy sentences.

Appendix C

A weak form is to be understood as one not comprising strong inherent features of the kind displayed, for instance, by AGR(ement), which shows up as a discontinuous element, i.e. capable of being re-interpreted as some form of reduplication or forms such as *ho* future tense

and *no* past tense: Both strong forms *ho* and *no* represent syllables of their own, whereas weak forms *h-* and *n-* cliticize onto the verb radical. Note that the two strong tense forms are accompanied by a PUNCTUAL interpretation of the grammatical subject as illustrated in (38) and (43)a. On the other hand, in the case of the complementizer *ho* we are dealing with a weak form since it is a purely functional element, i.e. presumably not comprising inherent lexical features. This must be so since in Colloquial Malagasy --and especially in *h*-dropping dialects of this language-- it is quite possible to have the following variant for sentence (36):

(36) M-ihevitra azy **ho** **m**-ahay **∅** i Paoly.
 pres-think him **comp** **pres**-intelligent **Empty** deic Paul
 "Paul considers himself intelligent."

(36') M-ihevitra azy **∅** **m**-ahay **∅** i Paoly.
 pres-think him **comp** **pres**-intelligent **Empty** deic Paul
 "Paul considers himself intelligent."

where the complementizer is zero instead of *ho*.

Assuming then that Infl(ections) comprises a strong element and adopting the proposal made in Eric Haeberli (2000), we would say that the missing (lexical) Feature associated with the overt Specifier has to be picked up from an element located within the clausal head, i.e. the strong tense-marker *no* or *ho* or something similar. If this relevant set of strong features element is absent from the clausal head, then the sentence becomes ungrammatical. Here are a couple of relevant examples from Matthew Pearson (2001: 106, ex. (52)):

(52) a. Namangy ny rainy_i ny mpianatra tsirairay_i omaly
 Pst-NomP.visit Det father-3 Det student each yesterday
 "Each student_i visited his_i father yesterday"

b. Novangian' ny mpianatra tsirairay_i ny rainy_i omaly
 Pst-DatP.visit-Det student each Det father-3 yesterday
 "His_i father, each student_i visited yesterday"

Both examples are only very marginally acceptable and sound rather like Foreigner Talk or some pidginized variety of Malagasy. In order for them to be fully grammatical, we should have the following sentence comprising the strong, discontinuous form *samy...avy*:

(52') a. **Samy** n-amangy ny rainy_i **avy** ny mpianatra (tsirairay_i) omaly
Part.1 pst-NomP.visit Det father-3 **Part.2** Det student each yesterday
 "Each student_i visited his_i father yesterday"

b. **Samy** no-vangian' ny mpianatra (tsirairay_i) **avy** ny rainy_i omaly
Part.1 pst-DatP.visit-Det student each **Part.2** Det father-3 yesterday
 "Each student_i visited his_i father yesterday"

where the quantifier *tsirairay* accompanying the specifier is optional --hence the use of the parentheses-- but the lexical aspectual particles *samy...avy* are obligatory inside the clausal head.

The corrected version reflects not only my own intuitions about Malagasy as a native speaker, but also those of the following other native speakers: Razanabohitra Anastasie (retired teacher), Rasolomalala Marie-Odette (Malagasy linguistics graduate from the Département de Lettres Malgaches, Université d'Antananarivo), Rafaraso Marie Yvette and Ramiandrisoa Marie. The first three persons were in New Zealand during the year 2001, on a visit from Madagascar. Also, in a Malagasy syntax seminar held at the Institute of Linguistics (Preparatory Office), Academia Sinica on April 28, 2001 Randriamasimanana (2001)h. analyzed *samy* as an element comprising the verbal aspectual feature [+ DISTRIBUTIVE].

In addition, Rajemisa-Raolison (1995: 858) has the following illustrative example:

Samy naka boky telo **avy** izy mirahavavy.
Part.1 past-take book three **Part.2** (s)he sisters
 'Each sister took three books.'

where the quantifier *tsirairay* does not show up at all and yet the sentence is fully grammatical.

Rajaona (1972: 372-374) analyzes *samy* on its own as a modal auxiliary because of the existence of the imperative mood form *samia*:

Samy m-iasa Rakoto sy Ranaivo.
Part.1 pres-work Rakoto and Ranaivo
 'Both Rakoto and Ranaivo work.'

Samia m-iasa, Rakoto sy Ranaivo.
 'Both of you, Rakoto and Ranaivo, work!'

Appendix D

We have other minimal pairs like the following involving the *i...i/ana* form of the so-called circumstantial voice:

N-ihinana mofo mamy i Paoly.
 Past- eat bread sweet art Paul
 'Paul ate cakes.'

No-hani-n' i Paoly ilay mofo mamy.
 Past-eat-passive-by art Paul the sweet bread
 'The (whole) cake was eaten by Paul.'

N-i-hinana-n' i Paoly ilay mofo mamy.
 Past-circ-eate-by art Paul the sweet bread
 '(Some of) the cake was eaten by Paul.'

Note the strong past tense *no* within the second sentence where the grammatical subject receives a PUNCTUAL interpretation. This contrasts with the situation with the third sentence, where the circumstantial voice is accompanied by a PARTITIVE reading of the subject. Furthermore, in connection with the use of the circumstantial voice, it is crucially important to note whether the

accompanying direct object is definite or not since the grammaticality of the ensuing sentence will crucially depend on this feature. For example, we see in Narivelo Rajaonarimanana & Pierre Vérin (1993: 23) the following sentence, where the direct object is NOT definite:

Amonoana akoho ny vahiny.
 Circ-kill-byø chicken the stranger
 ‘On a tué le poulet pour les visiteurs.’
 English: ‘The strangers were killed-for the chicken.’
 ‘The chicken was killed for the visitors.’

where *akoho* is an indefinite direct object of the verb in the circumstantial voice. Somehow a slightly different version of the same sentence appears in M. Pearson (2001: 33, ex. (29)c), which is totally ungrammatical:

(29) c. Namonoany ny akoho ny vahiny.
 Pst-CrcP.kill-3 Det chicken Det guest
 [+ DURATIVE] [+ PARTITIVE]???
 “She killed the chicken for the guests”

Note now the emergence of the definite article *ny* within the direct object in (29)c., which neither this author nor any of his native speaker informants introduced in Appendix C can accept. In addition, it is interesting to note that several other Malagasy sentences from page 23 of Rajaonarimanana et al. (1993) are reproduced in M. Pearson (2001: 33) and yet the names of Rajaonarimanana et al. are never mentioned either in the text of the PhD dissertation or in the bibliography. Two other examples taken almost literally from Rajaonarimanana et al. (1993: 23) are found in M. Pearson (2001: 33) without any acknowledgement whatsoever of the original author:

(30) c. Ny fitiavana no namonoany tena
 Det love Foc Pst-CrcP.kill-3 self
 “He killed himself for love”
 d. Mba ho hendry no nanasaziako azy
 so.that Irr well-behaved Foc Pst-CrcP.punish-1s 3
 “I punished them so that they’d behave”
 lit. “It is in order that [they] would be well-behaved that I punished them.”

For some justification as to why sentences (30)c and (30)d. are ungrammatical, see Randriamasimanana (2001)d & e and Randriamasimanana (1986: 454-492).

Likewise in Ileana Paul (2001, ex. (14)c), we have the following (adapted) sequence presented as grammatical even though it is undoubtedly ungrammatical:

(14)c. N-an-drahoa-n’ny lehilahy ny trondro ny vehivavy.
 Past-circ-cook-by the man the fish the woman
 ‘The woman was cooked-for fish by the man.’

Since the grammatical subject *ny vehivavy* simply canNOT receive a PARTITIVE reading. The presence of the definite article with the direct object *ny trondro* ‘the fish’ compounds the problem.

The same situation as the one just described for Ileana Paul (2001) prevails in Maria Polinsky (2001, ex. (10)c.):

- (10)c. n-i-vidianan-dRabe ny fiara Rasoa
past-circ-buy-Rabe the car Rasoa
‘Rasoa was bought-for the car by Rabe.’

The grammaticality of both (14)c. and (10)c. above could somehow be improved by simply dropping the definite article *ny* ‘the’ from the direct object of the verb! See Randriamasimanana (in preparation) for further elaboration as to why this should be the case.

Appendix E

The nonavailability of a partitive reading is partly responsible for the ungrammaticality of the following sequence proposed as ‘grammatical’ in M. Pearson (2001: 67, ex. (108)b.):

- (108) a. Rosoan’ny vehivavy ny sakafo ny vahiny
DatP.serve-Det woman Det meal Det guest
‘The woman serves the guests the meal’
b. Androsoan’ny vehivavy ny sakafo ny vahiny
CrcP.serve-Det woman Det meal Det guest
‘The woman serves the guests the meal’

On the other hand, the possibility of a partitive interpretation explains why my native speaker informants (see Footnote 7) and I find the following as relatively acceptable from M. Pearson (2001: 32, ex. (29)d and e.):

- (29) d. Anaovany trano ny birikinay
CrcP.make-3 house Det brick-1ex
‘He is building a house out of our bricks’
e. Nanasan-dRakoto telo ny lovia
Pst-CrcP.wash-Rakoto three Det dish
‘The dishes, Rakoto washed three (of them)’

Also note that in both sequences the direct object is NOT definite: Presumably in the case of (29)d. ‘He (the brick-buyer) is not the exclusive customer who buys ALL OF OUR bricks.’ Likewise for (29)e., the presence of the quantifier *telo* ‘three’ somehow retrieves the situation as it makes explicit the partitive reading of the grammatical subject *ny lovia* ‘the dish(es).’