Binary Branching and Null Subjects in Malagasy[*]

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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 Haeberli (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.

Key words: Malagasy (Austronesian), formal syntax, Binary Branching, null subject

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

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strong or weak nature of the element that can show up under the clausal head (e.g., Infl(ections) for tense) will determine whether a **null element** is **allowable**—*iff* Infl does not comprise a strong form—or **not allowable**—*iff* Infl comprises a weak form—in the external subject position or specifier (Spec for short). In this paper, which is a revision[1] 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. This paper then has four major purposes:

(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)   To show 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 examples found in Keenan (1999), some of this author's Malagasy sentences will be used to show precisely

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[1]   Initially 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(eement) is not the only element which is strong; there is also in this language a distinction between two series of tense markers (see §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 (2001f and 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).

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 §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). In §3 we shall initially distinguish between discourse-based null subject phenomena and linguistic utterance-based null subject phenomena before looking into the nature 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 shall assume the following type of tree diagram reproduced from Randriamasimanana (1998:304), where a distinction is made in FIG. 1 between a lexical item projection like V as opposed to a functional head projection like Infl(ections) for tense/aspect. In addition, FIG. 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.

FIG. 1: X-Bar theory and tree geometry
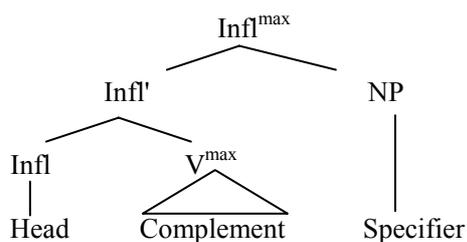
Where head = lexical = {V, P, N, A}; head = functional = {tense, aspect, agreement}; NP = DP or bare noun

FIG. 2: Summary of the distribution of empty categories

$$Infl^{max}$$

Infl'   NP

Infl V^{max}

Head   Complement   Specifier
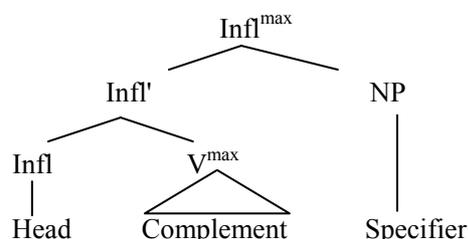
(i)   Strong Form…………………Overt NP
(ii) Ø /Weak Form………………Empty

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)

2. Malagasy and Binary Branching

2.1 Lexical causative verbs

In order to understand the necessity for a Binary Branching type of analysis *à 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 (1999b: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
    Non-verbal predicate
    '*X* is said to be not yet born!*'*

<div align="right">Randriamasimanana (1998)</div>

Where *teraka* 'be born' is a root serving as a predicate in a so-called non-verbal construction, hence the label Small Clause. Such a distinction between so-called non-verbal 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 non-verbal 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
    Non-verbal 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-an-deha* '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 marker[2] 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 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.'

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[2] As noted in Randriamasimanana (1999c), 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 ca<u>nnot</u> 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 (2001a) as well as Appendix B in Randriamasimanana (2001e) for the distinction between V.1 and V.2]. Also see Randriamasimanana (2001b) for details of the distinction between tense and aspect in Malagasy.

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

<div align="right">Adapted from Randriamasimanana (1999b)</div>

Thus in (7), the verb *n-i-petraka* 'stayed' in Malagasy is ambiguous between a plus or a minus 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 do as well. Consider the following:

(10) *N-anome an'i Jeanne ilay boky* 　　　　　　　　 *i Paoly.*
　　　'past-give DO art. J.　the (previously mentioned) book　　art. Paul'
　　　'Paul gave Jeanne the (previously mentioned) book.'
(11) *An'* 　　 *i Jeanne ilay boky.* 　　　　= Small Clause S.
　　　Non-verbal
　　　Predicate article J.　article book
　　　'The (previously mentioned) book belongs to Jeanne.'

Here the non-verbal 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 non-verbal 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 (previously mentioned) 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 (previously mentioned) book   art. Paul'
     'Paul gave the person the (previously mentioned) book.'

If on the other hand, we analyze *an* as a non-verbal predicate, an explanation for the optionality of the non-verbal 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 non-verbal 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 di-transitive 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.[3] 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

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[3] For an analysis of the relevant relative clause, see Appendix B.

specific instance it forms the beginning of a relative clause making more precise the meaning of the head noun *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 Ø*] *aho*.
        Past-hand   rice$_i$ the guest   past-prep the dish new Ø$_i$ I
(16) *N-anolotra* [*ny vahiny vary*] [*t-amin'ny lovia vaovao Ø*] *aho*.
        Past-hand   the guest rice$_i$ past-prep the dish   Ø$_i$ 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 non-verbal 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@magmacom.com>
To: R<uzsmav@uni-bonn.de>
CC: fbra2@bigfoot.com

*M-amerina ny arahaba ho an'i Mia sy ny rehetr*a Ø [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: CRab 114103.442@compuserve.com
Sender: CRab 114103.442@compuserve.com
To: Charles Randriamasimanana

M-anao *ahoana indray* *Ø ?* [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 §4, there is a direct correlation between the presence inside Infl(ections) of a strong form (e.g., Malagasy AGR(eement)), 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)[4]—which is a strong form—and

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[4] 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 Haeberli (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 (2001g) for more details.

the specifier, as this phenomenon has not been extensively explored 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 (1888)[5], as well as from contemporary sources:

(20) ***Ireo***   *m-iady*   ***ireo***   ***ny zanakao.***
     AGR   pres- fight AGR   the child**ren**-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…)
     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 the 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

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[5] Henceforth A & M 1888.

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 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 situation, 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-dRasoa*   *ny lamba.*
      Ø-pass-be-washed-byRasoa   the clothes
      'The clothes are washed by Rasoa.'

This sentence, which contains a zero-tense marker, should mean {'The clothes are being washed by Rasoa.'}, 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-araba**ina**   daholo indray ianareo   rehetra.
Pass-saluted all   once   you-plural all
Literally: 'You **are** all be**ing** saluted (by me)!'

Here 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   Rasoa.
Pres-wash clothes with this soap   this Rasoa
Translated as 'Rasoa is washing clothes with this soap.'

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

(26) **Ity**   **m**-anasa   lamba   amin'ny savony **ity**   Rasoa.
AGR   **pres**-wash clothes with the soap   AGR Rasoa
'Rasoa **is** wash**ing** 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**   Rasoa.
Pres-wash clothes with **this** soap   **this** Rasoa

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, Rasoa! 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 §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*, p.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 problem[6] 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 (28b) and (29b).

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[6] 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 (2000b), the embedded S remains downstairs, i.e., inside the subordinate clause and does not get lifted into the higher clause.

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 weak[7] form, indicates the future in a structure with an active-voice verb, but another morpheme, *ho*, a strong 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 §4.5, a strong form like *no* (past tense) [or alternatively *ho* (future tense)] will contain a specific set of inherent features[8] 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:

(30) *N-ikasa*   *ny*   ***h-**andeha* Ø   *i*   *Paoly*.
      past-intend   comp   **fut**-go   **Empty**   deic Paul
      'Paul intended to leave.'

<div align="right">Randriamasimanana (1997:488)</div>

(31) *Tia-ko*   ***ho*** *entina*   <u>***ilay fiara***</u>.
      be-liked-by-me   **fut** be-driven   **the car**
      'I would like to drive the (previously mentioned) 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 form; 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 amalgamation 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.

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[7] 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 details.

[8] Recall that particle *ho* as in Randriamasimanana (1986:562-563) can also serve as a complementizer when the embedded clause is non-verbal. See Appendix B for more detail.

(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 (previously mentioned) 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 (previously mentioned) 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 meaning 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 (*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. Considering all 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 weak[9] form, introducing an embedded equative-type clause, as argued for and illustrated in Randriamasimanana (1986:562-563) and explained in Randriamasimanana (1997:491):

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

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

<div align="right">From Randriamasimanana (1997:491)</div>

In (36) the embedded clause comprises an equative type of structure (as opposed to a non-equative type or specifically one which involves Control.[10] 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, there should be no great 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 subject with the voice, tense, and aspect showing up under inflections will be succinctly described. Subsequently it will be shown that

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

[10] As defined in Randriamasimanana (1986:29-74).

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. We shall consider four basic cases.

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. *Ø*…*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 the situation.

C. With *an*...*in(a)* circumstantial voice (or its *i*…*in(a)* variant as shown in (45))[11], we have a DURATIVE aspect, hence **partitive** reading[12] since the subject referent is only partially affected.

   (39) *N-**an**-didi-**an**dRabe*   ***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., that only requires an initial impulse) can appear in 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 §4.5 is particularly relevant to a newly published Malagasy sentence here reproduced:

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[11] For further details, cf. Randriamasimanana (1986:419-422).
[12] See Appendix D for other illustrative examples as well as relevant remarks.

(41) *N-i-vidi-an-dRabe*   *ilay satroka*   *Rasoa*.
      pst-active-root-**circ-**Rabe   that hat   Rasoa
      'Rasoa 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 *Rasoa* in (41) should receive a partitive reading, since the circumstantial form of passive shows up under inflections along the same lines as in example (39), which also contains a circumstantial-voice verb. 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 the footnote to §4.5, the grammaticality of (41) could be drastically improved by dropping the definite article *ilay* 'the (sc. previously mentioned)'. 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 and Rasoa*   ***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 §2.2, the presence of a positive value for this atomic feature is a *sine qua non* 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) were possible, we are still faced with the thorny issue posed by the partitive interpretation of the subject.

4.6 Obligatory movement

At this stage, the question that arises is the following: What happens if the inflections comprise any one 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 (43a) and (43b) above, there is another strategy, which consists in moving the affected subject to 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 usually[13] the case for subjects accompanying a circumstantial-

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[13] 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.(25b)):

(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:

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, i.e., away from Spec and towards the front.[14]

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 1986)—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 §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'

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(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 (25b). To the author's ears, sentence (42a) is irretrievably ungrammatical and sounds rather like either "foreigner talk" or some pidginized version of Malagasy.

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.

[14] Several illustrative examples are provided in Randriamasimanana (1986), where the derived grammatical subject has to be fronted obligatorily: For instance, page 484-485, example (94a), 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   art. Paul 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.(63a)).

(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.

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 in FIG. 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). 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 in FIG. 2. This then paves the way for some understanding of the nature and function of Malagasy AGR, a strong element, in §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 §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 (1986), 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 that 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 Principle[15]). 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 (2001e) and Randriamasimanana (2001g).

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(eement) 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.

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 (14b)), following Matthew Pearson (1998) and Ileana Paul et al. (1998a), and Ileana Paul et al. (1998b) :

(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-dRasoa* [*hosasana amin'ny savony*] *ny zaza.*
   ObjP.intend-Rasoa Irr-ObjP.wash with-Det soap Def child
   'The child, Rasoa intends [to wash (her) with the soap].'

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

Note that the forms *h-* and *ho* in the examples above are analyzed by M. Pearson (2001a) 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* Ø]   *Rakoto*
       NomP.intend fut-wash Det dish empty Rakoto
       'Rakoto intends to wash the dishes.'
   b. *Ø-kasain-dRakoto* [*ho-sasana ny vilia*]
       Ø-intend-Rakoto   fut-wash Det dish
       'Rakoto intends to wash the dishes.'
(14) *Ø-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 (23a), whereas in both (23b) 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) ***Mikasa***   ***m**anasa*   *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*   [***m**itondra*   *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 (2001b). For the relationship between tense and embedding, consult Randriamasimanana (2001c). As to some of the reasons why Malagasy data obtained from local informants (or slightly modified by foreign linguists on their own)[16] may not be reliable, refer to Malagasy Syntax seminars of March 10 and April 28, 2001, illustrated in Randriamasimanana (2001a) and Randriamasimanana (2001h).

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[16] See one concrete example of this relative to sentence (29c) under the footnote to C in §4.5 below.

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 non-verbal 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 materalize 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 non-amalgamated 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 the footnote to §3.3 above.

The case of amalgamation discussed above was initially proposed in Rajaona (1972:286, §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 the footnote to §4.3 above for one important consequence), and (b) ignored the distribution of complementizer *ho*, which in principle can only allow an embedding involving a non-control type of predicate (See Ileana Paul et al. (1998a:51, ex.(5)) and Ileana Paul et al. (1998b:113, ex.(8b)) 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(eement), 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 (43a). 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*　　Ø　　*i*　*Paoly.*
　　　　pres-think　him　　**comp pres**-intelligent **Empty**　deic Paul
　　　　'Paul considers himself intelligent.'

(36')　*M-ihevitra azy*　　　Ø　　***m****-ahay*　　　Ø　　　*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), Rafarasoa 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 (2001h). 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.(29c)), 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 (29c), 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 Ph.D. dissertation or in the bibliography. Two other examples taken almost verbatim 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 (30c) and (30d). are ungrammatical, see Randriamasimanana (2001d and 2001e) and Randriamasimanana (1986:454-492).

Likewise in Ileana Paul (2001, ex.(14c)), 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.(10c)):

(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 (14c) and (10c) 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 non-availability of a partitive reading is partly responsible for the ungrammaticality of the following sequence proposed as 'grammatical' in M. Pearson (2001:67, ex.(108b)):

(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 the footnote to §4.4) and I find the following as relatively acceptable from M. Pearson (2001:32, ex.(29d) and (29e)):

(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 <u>not</u> definite: Presumably in the case of (29d), 'He (the brick-buyer) is not the exclusive customer who buys <u>all</u> <u>of</u> <u>our</u> bricks.' Likewise for (29e), 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)'.

References

Abinal et Malzac. 1888. Reprinted 1987. *Dictionnaire Malgache-Français.* Ambozontany Fianarantsoa, Madagascar.

Chomsky, Noam. 1981. *Lectures on Government and Binding.* The Pisa Lectures. Dordrecht: Foris.

Chomsky, Noam. 1982. *Some Concepts and Consequences of the Theory of Government Binding.* Cambridge: MIT Press.

Chomsky, Noam. 1986. *Barriers*. Cambridge: MIT Press.

Chomsky, Noam. 1998. Minimalist inquiries: The framework. Manuscript.

Chomsky, Noam. 2000. Derivation by phrase. *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels and Juan Uriagereka. Cambridge: MIT Press.

Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.

Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.

E-mails: Date: 1997/10/09
Date: Tue, 24 Nov 1998 12:08:27 -0600
Date: Thu, 24 Dec 1998 06:52:17 -0500
Date: Mon, 18 Jan 1999 08:55:17 +0100 (MET)
Date: Fri, 05 Mar 1999 12:19:59 -0500

Fugier, Huguette. 1999. *Syntaxe Malgache*. Bibliothèque des Cahiers de l'Institut de Linguistique de Louvain. Peeter, Louvain-La-Neuve, Belgique.

Haeberli, Eric. 2000. Towards deriving the EPP and abstract case. *Generative Grammar in Geneva* 1:105-139.

Kayne, Richard. 1981. Unambiguous paths. *Levels of Syntactic Representation*, ed. by Robert May and Jan Koster. Dordrecht: Foris.

Keenan, Edward L. 1976. Remarkable subjects in Malagasy. *Subject and Topic*, ed. by Charles Li. New York: Academic Press.

Keenan, Edward L. 1999. Morphology is structure: A Malagasy test case. *Formal Issues in Austronesian Linguistics,* ed. by Ileana Paul, Vivianne Phillips and Lisa Travis, 27-48. Dordrecht: Kluwer Academic.

Koizumi, Masatoshi. 1995. *Phrase Structure in Minimalist Syntax*. MIT Working Papers in Linguistics. Cambridge: MIT.

Law, Paul. 1995. On grammatical relations in Malagasy control structures. *Grammatical Relations: Theoretical Approaches to Empirical Questions*, ed. by C. S. Burgess, K. Dziwirek and D. Gerds, 271-290. Stanford: CSLI.

Paul, Ileana. 2001. On extraction asymmetries. Paper presented at AFLA VIII. Cambridge: MIT.

Paul, I., and L. Rabaovololona. 1998a. Raising to object in Malagasy. *The Structure of Malagasy 2*, ed. by I. Paul. UCLA Occasional Papers in Linguistics 20. Los Angeles: UCLA Department of Linguistics.

Paul, I., and Jeannot Fils Ranaivoson. 1998b. Complex verbal constructions in Malagasy. *The Structure of Malagasy 2*, ed. by I. Paul. UCLA Occasional Papers in Linguistics 20. Los Angeles: UCLA Department of Linguistics.

Pearson, Matthew. 1998. Predicate raising and 'VOS' order in Malagasy. *The Structure of Malagasy 2*, ed. by I. Paul. UCLA Occasional Papers in Linguistics 20. Los Angeles: UCLA Department of Linguistics.

Pearson, Matthew. 2001a. *The Clause Structure of Malagasy: A Minimalist Approach.* UCLA Dissertations in Linguistics 21. Los Angeles: UCLA Department of Linguistics.

Pearson, Matthew. 2001b. Evidence for clausal pied-piping in Malagasy long-distance extraction. Paper presented at AFLA VIII. Cambridge: MIT.

Polinsky, Maria. 2001. Backward control: Evidence from Malagasy. Paper presented at AFLA VII. Cambridge: MIT.

Pollock, J-Y. 1989. Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* 20:365-424.

Rabenilaina, Roger-Bruno. 1985. *Lexique-grammaire du malgache*. Thèse pour le Doctorat d'État en Linguistique, Département de Recherche Linguistique, Laboratoire d'Automatique Documentaire et Linguistique, Université de Paris VII. Paris, France.

Radford, Andrew. 1997. *Syntactic Theory and the Structure of English: A Minimalist Approach*. Cambridge: Cambridge University Press.

Rajaona, Siméon. 1969. *Takelaka Notsongaina 2: Lahatsoratra Tsotra.* Ambozontany, Fianarantsoa, Madagascar.

Rajaona, Siméon. 1972. *Structure du Malgache. Études des formes prédicatives*. Fianarantsoa: Librairie Ambozontany.

Rajaonarimanana, Narivelo, and Vérin Pierre. 1993. *Dictionnaire Français-Malgache.* L'Asiathèque, Paris, France.

Rajemisa-Raoelina. 1995. *Rakibolana Malagasy*. Éditions Ambozontany, Fianarantsoa, Madagascar.

Randriamasimanana, Ch. 1985. Tense/aspect and locatability in Malagasy. *University of Melbourne Working papers in Linguistics 11*, 109-136. Melbourne: University of Melbourne.

Randriamasimanana, Ch. 1986. *The Causatives of Malagasy*. Honolulu: University of Hawaii Press.

Randriamasimanana, Ch. 1997. Malagasy and universal grammar. *Proceedings of the*

Seventh International Conference on Austronesian Linguistics, ed. by Cecilia Odé and Wim Stokhof, 483-495. Amsterdam: Rodopi Publications.

Randriamasimanana, Ch. 1998. Evidence for null subjects in Malagasy. *Papers from the Fifth Southeast Asian Linguistics Society 1995 Meeting*, ed. by Shobhana L. Chelliah and Willem J. de Reuse, 303-315. Tempe, Ariz.: Arizona State University, Program for Southeast Asian Studies.

Randriamasimanana, Ch. 1999a. The Malayo-Polynesian origins of Malagasy. *From Neanderthal to Easter Island: A Tribute to, and a Celebration of, the Work of W. Wilfried Shuhmacher Presented on the Occasion of His 60th Birthday*, ed. by Neile A. Kirk and Paul J. Sidwell. AHL Studies in the Science and History of Language 2. Melbourne: Association for the History of Language.

Randriamasimanana, Ch. 1999b. Clausal architecture and movement verbs in Malagasy. *Selected Papers from the Eighth International Conference on Austronesian Linguistics*, ed. by Elizabeth Zeitoun and Paul Jen-kuei Li, 509-527. Symposium Series of the Institute of Linguistics, Academia Sinica, Number 1. Taipei: Institute of Linguistics (Preparatory Office), Academia Sinica.

Randriamasimanana, Ch. 1999c. Malagasy and Binary Branching. Paper presented at the Linguistic Society of New Zealand. Palmerston North: Massey University.

Randriamasimanana, Ch. 2000a. Word order typology and Malayo-Polynesian languages. *Proceedings of the 12th International Conference of the New Zealand Asian Studies Society*, ed. by Ch. Randriamasimanana and R. Haddon, 266-288. Palmerston North: Massey University.

Randriamasimanana, Ch. 2000b. Malagasy clause structure. Paper presented at the Tenth Meeting of SEALS. Madison: University of Wisconsin.

Randriamasimanana, Ch. 2001a. Introduction to Malagasy syntax. Seminar handout dated March 9, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001b. Tense/aspect and predicate types in Malagasy. Seminar handout dated March 16, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001c. Complex clauses in Malagasy. Seminar handout dated March 23, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001d. Malagasy verbal voice system. Part 1. Seminar handout dated March 30, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001e. Malagasy verbal voice system. Part 2. Seminar handout dated April 6, Institute of Linguistics (Preparatory Office), Academia

Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001f. Malagasy case system in complex structures. Seminar handout dated April 14, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001g. Non-overt subjects in Malagasy in simple and complex constructions. Seminar handout dated April 20, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. 2001h. Malagasy: Concluding remarks. Seminar handout dated April 27, Institute of Linguistics (Preparatory Office), Academia Sinica, Taipei, Taiwan.

Randriamasimanana, Ch. (in preparation). Relation Tête-Spécifieur et Analyse en Traits Pertinents. *Faits de Langue*, ed. by E. Zeitoun and de la Fontinelle J. Paris, France.

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馬拉加西語中的兩權分枝與零主語

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　　本文所探討的是依照 Kayne (1981) 的方式將兩權分枝 (Binary Branching) 定律系統性地應用在馬拉加西語中，以及其與該語言中零主語 (null subject) 的分布之互動關係。研究結果發現：一個句子當中外顯的語法主語 (overt grammatical subject) 是否必要，乃取決於子句的中心成分 (clausal head) 所包含之語法屬性 (features)。其關鍵因素似乎在於這些語法屬性的強弱。這顯示出子句的中心成分 (clausal head) 與其指示語 (specifier) 這兩組原子屬性 (atomic features) 之間關係的重要性。由本文中可看出馬拉加西語利用 Haeberli (2000) 所提出的語法屬性從缺 (missing feature) 的觀念，以及主語前移至句首以避免不相容的語法屬性相互抵觸。作者深感已出版文獻中之語料不盡詳實，故於本文後另附馬拉加西語語料以供參考。

關鍵詞：馬拉加西語（南島語），形式句法，兩權分枝，零主語