Wh-Questions and Extraction Asymmetries in Malagasy[*]

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1. Introduction

The languages of the world differ with respect to argument extraction possibilities. In languages such as English, *wh*-movement is possible from Spec IP and from the complement position, whereas in languages such as Malagasy only extraction from Spec IP is possible. This difference correlates with the fact that these language types obey different island constraints and behave differently with respect to *wh*-in situ and superiority effects. The goal of this paper is to outline an analysis for these differences. The basic idea is that in contrast to languages such as English, in Malagasy-type languages every argument can be merged in the complement position of the selecting head.

2. Sentence Structure in Malagasy

Malagasy is a West Austronesian language with VOS order that is spoken on the island of Madagascar. Before I turn to the extraction facts in Malagasy, I will briefly describe the sentence structure and voice system of this language. Consider the examples in (1). In each of the sentences a different argument occurs in the subject position at the right periphery of the sentence. Verb morphology indicates which θ-role is linked to the respective underlined (nominative) element in the sentence-final <u>subject position</u>. In (1a), the agent is the grammatical subject and the verb shows agent topic marking. In (1b), the theme appears in the structural subject position and the verb indicates the theme θ-role. In (1c), the instrument is the subject. In this case the verb bears circumstantial topic morphology. Semantically, the sentences in (1) are logically equivalent in that they have the same truth conditions.

(1) a.   Manasa   ny lamba amin' ny savony <u>ny reny</u>.
             Pres-AT-wash the clothes with the soap   the mother-Nom
    b.   Sasan'   ny reny   amin' ny savony <u>ny lamba</u>.
             Pres-TT-wash the mother with the soap   the clothes-Nom

    c.   Anasan'   ny reny   ny lamba <u>ny savony</u>.
            Pres-CT-wash the mother the clothes the soap-Nom
            All three: 'The mother washes the clothes with the soap.'

Obviously, every argument can become the grammatical subject in (1), depending on the particular affix on the verb. This is basically the Malagasy voice system.[1]

Several analyses have been proposed in the literature to account for the voice phenomenon and the word order facts in (1). Guilfoyle at al. (1992) assume a passive analysis. Starting from the SVO base order $[_{IP} [_{I°}] [_{I'}$ Agent $[_{VP}$ V_x Theme Instrument]] XP] (XP = Agent, Theme, Goal, Instrument, ...), they argue that verbal morphology destroys the verb's capacity to assign case to the corresponding XP. Therefore this XP has to move to a Case position, i.e. the right peripheral subject position. Keenan (2000) base-generates the different orders in (1); whatever argument represents the grammatical subject (XP) in the structure $[_{IP} [V_x$ Theme Instrument Agent] XP] is base-generated in the Spec IP position. Another variant is the IP-fronting analysis $[_{CP} [_{IP} V_x$ Agent t_v Theme Instrument] $[_{\Sigma P}$ XP $t_{IP}]]$. The former analyses assume specifiers on the right, something that the IP-fronting analysis tries to avoid. Here VOS order is derived from an SVO base order by remnant IP movement to the left of the previously topicalized XP (cf. Pensalfini 1995, among others). A fourth analysis is based on the idea that the element in the right-peripheral position behaves like a topic in verb-second languages such as German or Icelandic (see Richards 2000, Pearson 2001).

2. Argument Extraction in Malagasy

2.1 The extracted element

For the time being, I will not adopt any of these analyses. Whatever analysis is assumed, for the following discussion it is important that only the sentence-final XP in subject position can be extracted in Malagasy, i.e. the element that corresponds to the affix on the verb. This is shown in the examples (2)-(4), derived from (1). In (2), the verb indicates that the agent is the structural subject and the agent can be extracted. However, other arguments cannot be extracted, as shown in (2b)–(2c). In (3), the verb signals that the theme argument is the grammatical subject and the theme can be extracted. Again, other elements cannot be extracted, as shown in (3b)–(3c). In (4), the same situation is illustrated for the instrument argument.

(2)   a. $[_{CP}$ *Iza* no $[_{IP}$ manasa   ny lamba amin' ny savony *t*]]?
                who Foc.   Pres-AT-wash the clothes with   the soap
                'Who washes the clothes with the soap?'

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[1] I will be using the traditional terminology for the Malagasy voice system throughout this paper. The abbreviations used in the text are the following: AT (Agent Topic Marker), TT (Theme Topic Marker), CT (Circumstantial Topic Marker), Foc (Focus Particle), Acc (Accusative), Nom (Nominative), Pres (Present), S (Singular), Pass (Passive).
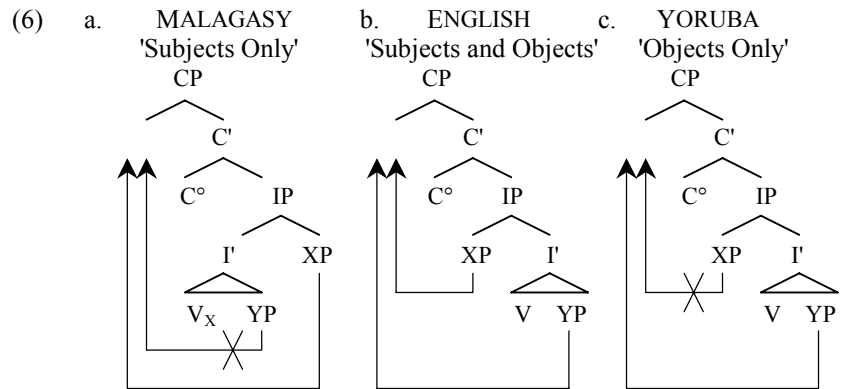
    b.   *[CP *Inona* no [IP manasa   *t* amin' ny savony <u>ny   reny</u>]]?
          what   Foc. Pres-AT-wash with the soap   the mother
          'What does the mother wash with the soap?'

    c.   *[CP *Inona*   no [IP manasa   ny lamba *t* <u>ny reny</u>]]?
          (with-) what Foc.   Pres-AT-wash the clothes the mother
          'With what does the mother wash the clothes?'

(3)   a.   [CP <u>*Inona*</u> no [IP sasan'   ny reny amin' ny savony *t*]]?
          what   Foc.   Pres-TT-wash the mother with the soap
          'What does the mother wash with the soap?'

    b.   *[CP *Iza* no [IP sasana   amin' ny savony <u>ny lamba</u>]]?
          who Foc. Pres-TT-wash with the soap   the clothes
          'Who washes the clothes with soap?'

    c.   *[CP *Inona*   no [IP sasan'   ny reny   <u>ny lamba</u>]]?
          (with-) what Foc.   Pres-TT-wash the mother the clothes
          'With what does the mother wash the clothes?'

(4)   a.   [CP <u>*Inona*</u>   no [IP anasan'   ny reny   ny lamba *t*]]?
          (with-)what Foc. Pres-CT-wash the mother the clothes
          'With what does the mother wash the clothes?'

    b.   *[CP *Iza* no [IP anasana   <u>amin' ny savony</u> ny lamba]]?
          who Foc. Pres-CT-wash with the soap   the mother
          'Who washes the clothes with the soap?'

    c.   *[CP *Inona* no [IP anasan'   ny reny   <u>amin' ny savony</u>]]?
          what Foc. Pres-CT-wash the mother with the soap
          'What does the mother wash with the soap?'

The examples (2)-(4) show that argument extraction is possible only from the structural subject position in Malagasy. Hence, Malagasy differs from languages such as English, where argument extraction may proceed from the subject *and* object position, as illustrated in (6a) vs. (6b) below. How can we explain this cross-linguistic variation with respect to argument extraction?

      The subject position is structurally closer to Spec CP (or whatever position in the left periphery represents the target of *wh*-movement) than object positions. Traditional accounts for the difference in extraction between (6a) and (6b) therefore rely on structurally defined grammatical functions (Keenan and Comrie 1977, Nakamura 1995, among others). An important step towards an explanation for the difference between (6a) and (6b) is the Accessibility Hierarchy (AH) proposed in Keenan and Comrie (1977). Assuming the universal hierarchy of grammatical functions *Subj > DO > IO > Obliques > ...* , the AH states that the highest element in the hierarchy (or the closest element to Spec CP), i.e. the grammatical subject, can be extracted in every language. In languages in which elements lower in the hierarchy may be extracted, such as direct and indirect objects, the hierachically (or structurally) higher elements (such as subjects) can be extracted as well, but the converse does not hold. The AH successfully covers the difference between (6a) and (6b). However, languages such as Yoruba (Carstens 1985, Sonaiya 1989) and Imbabura Quechua (Hermon 1984, Richards 1999) seem to be empirically problematic for

the AH because they display the unpredicted extraction paradigm in (6c). As shown in (5a-b) from Yoruba, only objects can be extracted. In sentences questioning the subject, a resumptive pronoun is obligatory:

(5) a. *Ta* ni *(o) wa?   YORUBA
         who Foc. 3S came
         'Who came?'
     b. *Ki* ni o ri *t*?
         what Foc. 2S see
         'What did you see?'   (Sonaiya 1989)

(6) a. MALAGASY   b. ENGLISH   c. YORUBA
         'Subjects Only'   'Subjects and Objects'   'Objects Only'

Furthermore, a correlation exists between the argument that is extractable in a language and the environments from which extraction may take place. This correlation remains unaccounted for by the AH.

In order to explain the typology in (6), I assume that in Malagasy-type languages, not all θ-roles are linked to specific structural positions with respect to the θ-hierarchy. Every argument can be merged in the complement position of V in Malagasy-type languages and be promoted to Spec IP. Following Guilfoyle et al. (1992), I assume that movement of the element merged in complement position to the Spec IP position is triggered for Case theoretic reasons:

(7)

(XP = Agent, Theme, Goal, Instrument, ...)
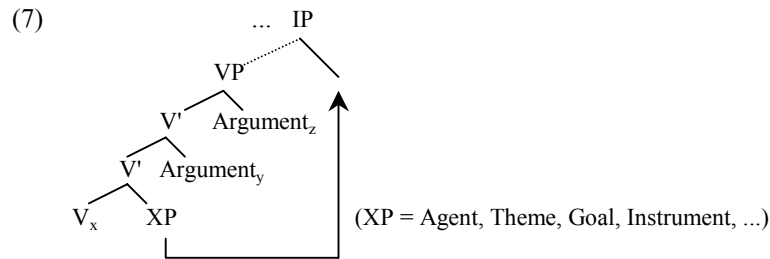
In English-type languages, all θ-roles are linked to specific structural positions in accordance with the θ-hierarchy. Thirdly, in Yoruba-type languages, only one θ-role of a verb is marked higher in the "θ-hierarchy" and is linked to a certain structural position (the subject position). All other θ-roles are not hierarchically

ordered and may be linked to complement position. Languages such as Malagasy and Yoruba, in which θ-roles are not restricted to occur in certain structural positions, encode the information about the θ-role that was merged in the complement position with verbal morphology (i.e. AT, TT or CT in Malagasy, this also provides the locus for parameterization). In English-type languages, this information is delivered by phrase structure.[2]

I assume that if the relation between θ-roles and structural positions is *not exclusively* determined by the θ-hierarchy in a language (as is the case in Yoruba and Malagasy-type languages), then extraction is possible only from the complement position. In English-type languages argument structure is completely encoded in phrase structure. Hence extraction may take place from every phrase structural position (being constrained by ECP-like constraints that are sensitive to different phrase-structural positions). (7) shows that in Malagasy, only the element that corresponds to the affix on the verb may be extracted, i.e. the element that is merged in complement position and moved to Spec IP. This restriction explains the argument extraction data in (2)-(4), and, in addition, it correctly predicts that *wh*-extraction of adjuncts (i.e. of elements not belonging to the argument structure of the verb) is possible in all three language types, and unconstrained by a certain verbal affix in Malagasy-type languages.[3]

Let us now turn to the question of how we can derive the asymmetries on argument extraction in the different languages. Recall that the head-complement structure is the most fundamental relation projected from the argument structure of the head. Furthermore, following Stowell (1981), I assume that functional and non-functional heads (for example V°, I°, C°) have a (categorial) selectional- or θ-grid into which the indices (i.e. "features") of their complement become visible after Merge. In addition, the head projects these features to its mother node. This results in making the index of the complement visible on the maximal projection of the selecting head, as in $[_{VPi}\ V^i\ XP^i]$ (as well as on IP^i and CP^i). I call VP^i, IP^i, CP^i "S(election)-projections" of V^i. Roughly, an S-projection is every projection that bears the index of the complement that

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[2] I assume that this analysis carries over to ergative languages in which only the absolute argument can be extracted. Furthermore, the order of argument$_y$ and argument$_z$ in (7) can assumed to be restricted by the θ-hierarchy in non-scrambling languages, such as Malagasy, but not in languages with free word order, such as Tagalog. In addition, it needs to be pointed out that my analysis implies that the UTAH is not universal (i.e. it does not hold in Malagasy-type languages).

[3] This is a simplification since it is not always easy to distinguish adjuncts from arguments in Malagasy. Nevertheless, I think that the point made in the text holds. The examples in (i)-(iii) illustrate that adjunct extraction in Malagasy is possible with all types of verbal forms. In this section, I am mainly concerned with argument extraction; see section 3 for some discussion on *wh*-adjuncts in Malagasy:

(i)   Aiza   no   manasa   ny lamba amin' ny savony <u>ny   reny</u>?
      where Foc. Pres-**AT**-wash the clothes with   the soap   the mother
(ii) Aiza   no   sasan'   ny reny   amin' ny savony <u>ny lamba</u>?
      where Foc. Pres-**TT**-wash the mother with the soap   the clothes
(iii) Aiza   no   anasan'   ny reny   ny lamba amin' <u>ny savony</u>?
      where Foc. Pres-**CT**-wash the mother the clothes with the soap
      All three: 'Where does the mother wash the clothes with the soap?'

was merged first in a structure; see Sabel (2001). It arises as a consequence of phrase-structure building in bottom-up theories like Merger theory in Chomsky (1994, 1995). Importantly, as has been suggested in the literature (Stowell 1981), the index procedure only applies in the case of a head-complement relation (and not in the case of an adjunct-head or specifier-head relation).

Let us further assume that a chain of movement may act as a well-formed single entity only if it is located in a *Uniform S-Domain*. In other words, given a movement chain $(a_i, ..., a_n)$, every a_i must be included in an S(election)-projection of X. I assume that in languages such as Malagasy, where θ-roles are not linked to a special position (in contrast to English), the indices of an argument movement chain and the indices of the *Uniform S-Domain* containing the argument movement chain must be identical. This excludes extraction of elements that are merged in non-complement position. Furthermore, I assume that movement that leaves a *Uniform S-Domain* is ruled out as "improper movement." This excludes, for example, extraction out of subject and adjunct islands, while allowing extraction from complements (see the discussion in the next section). Given that subjects can be merged in complement position in Malagasy, this analysis predicts that subjects should be transparent in this language. In the following section, I will argue that this prediction is borne out.

2.2 Extraction environments

I follow the standard assumption that extraction is possible only from the complement position, as shown in (8). Moreover, I assume that (8) represents a universal constraint on extraction. It can in fact be translated into (8'). (8') can be derived from the θ-theoretic considerations in the preceding section.

(8)   *Barrier* (Chomsky 1986, 2000)
        Every non-complement is a barrier.

(8')   *Barrier*
        A category A may not be extracted from a subtree T_2 (X^{max}) of T_1 if T_2
        was merged at some stage of the derivation with a complex category (i.e.
        with a non-head).

In (8'), T_1 and T_2 are constituents, and T_1 contains T_2. It follows from (8') that in a structure $[_{XP}$ ZP $[_{XP}$ YP $[_{X'}$ X WP]]] only WP is transparent for extraction. (8') correctly excludes extraction from subjects (YP) and adjuncts (ZP) and allows extraction from complements (WP) in languages such as English.

In the following, I will discuss the empirical consequences of (8') in conjunction with (7), i.e. the assumption that every θ-role can be realized in complement position in Malagasy. Let us first consider extraction from subject clauses. Subject clauses are transparent for extraction in Malagasy, since they can be merged in the complement position of the selecting head. This can be illustrated with the examples in (11)-(12), derived from (10). (11a) and (12a) represent full *wh*-movement. Note that Malagasy is an optional *wh*-in situ language (cf. Paul 1998). (11b) and (12b) show that *wh*-in situ is possible as

well, and (11c), (12c) further illustrate that Malagasy allows partial *wh*-movement:

(9)   Soa ihany [CP fa miteny   ny teny   anglisy ny mpianatra].
        good only   that Pres-AT-speak the language English the students
        'It is good that the students speak English.'

(10) a. *Iza* no soa ihany [CP fa miteny   ny teny   anglisy *t*]?
          who Foc. good only   that Pres-AT-speak the language English
          'Who is it good that speaks English?'
      b. Soa ihany [CP fa tenenin'   *iza* ny teny   anglisy]?
          good only   that Pres-TT-speak who the language English
      c. Soa ihany [CP fa *iza* no miteny   ny teny   anglisy *t*]?
          good only   that who Foc. Pres-AT-speak the language English

(11) a. *Inona* no   soa ihany [CP fa tenenin'   ny mpianatra *t*]?
          what Foc. good only   that Pres-TT-speak the students
          'What is good that the students speak?'
      b. Soa ihany [CP fa miteny   *inona* ny mpianatra]?
          good only   that Pres-AT-speak what   the students
      c. Soa ihany [CP fa *inona* no   tenenin'   ny mpianatra *t*]?
          good only   that what   Foc. Pres-TT-speak the students

Hence, the absence of subject island effects in Malagasy can be derived from the assumption that every argument can be merged in the complement position of V in this language.

Let us next turn to extraction from other argument clauses. In (12), the theme is questioned, while in (13) the agent is extracted. The interesting fact is that the embedded CP is only transparent for extraction if the affix on the matrix verb corresponds to the object clause, as is the case in (12a) and (13a). In (12b) and (13b) the matrix verb signals that the agent *Rabe* is the subject. According to my analysis, the CP is merged as a sister of V only in (12a), (13a) (and subsequently moved to Spec IP). Given (8') the CP is only transparent in the (a)-examples. In the (b)-examples the matrix agent is merged in complement position. Therefore the CP is merged with a non-head and becomes a barrier for *wh*-extraction.

(12) a. [CP *Inona* no heverin-   dRabe [CP fa novidin -dRakoto *t*]]?
          what   Foc. Pres-TT-believe R.   that Past-TT-buy R.
          'What does Rabe believe that Rakoto bought?'
      b. *[CP *Inona* no mihevitra   Rabe [CP fa novidin-dRakoto *t*]]?
          what   Foc. Pres-AT-believe R.   that Past-TT-buy R.

(13) a. [CP *Iza* no heverin-   dRabe [CP fa mividy   ny vary *t*]]?
          who Foc. Pres-TT-believe R.   that Pres-AT-buy the rice
          'Who does Rabe believe that buys the rice?'
      b. *[CP *Iza* no mihevitra   Rabe [CP fa mividy   ny vary *t*]]?
          who Foc. Pres-AT-believe R.   that Pres-AT-buy the rice

Now consider the same *wh*-questions in (14)-(15) with *wh*-in situ (14) and partial *wh*-movement (15). These examples are all grammatical, irrespective of the voice of the matrix verb. Given the grammaticality of these examples, I conclude that no covert *wh*-movement is involved in *wh*-in situ and partial *wh*-movement constructions in Malagasy. In the remainder of this paper I will discuss further arguments in favor of this conclusion.

(14) a. [CP Heverin-   dRabe [CP fa   nividy   *inona* Rakoto]]?
          Pres-TT-believe R.   that Past-AT-buy what   R.
          'What does Rabe believe that Rakoto has bought?'
      b. [CP Mihevitra   <u>Rabe</u> [CP fa   nividy   *inona* Rakoto]]?
          Pres-AT-believe R.   that Past-AT-buy what R.

(15) a. [CP Heverin-   dRabe [CP fa   *inona* no novidin- dRakoto]]?
          Pres-TT-believe R.   that what   Foc. Past-TT-buy R.
          'What does Rabe believe that Rakoto has bought?'
      b. [CP Mihevitra   <u>Rabe</u> [CP fa   *inona* no   novidin- dRakoto]]?
          Pres-AT-believe R.   that what   Foc. Past-TT-buy R.

Let us finally consider adjunct clauses. Given that they are not merged in the complement position of the selecting head, it is correctly predicted that adjunct clauses are islands for full *wh*-movement (17a). However, *wh*-in situ (17b) and partial *wh*-movement (17c) provide a grammatical result suggesting again that no covert movement applies in *wh*-questions in Malagasy.[4]

(16)   Faly <u>Rabe</u> [satria   mividy   ny vary <u>i Piera</u>].
          happy Rabe   because Pres-AT-buy the rice the P.
          'Rabe is happy because Piera buys rice.'

(17) a. *<u>*Inona*</u> no faly   Rabe [satria   vidin'   i Piera *t*]?
          what   Foc. happy R.   because Pres-TT-buys the P.
          'What is Rabe happy because Piera buys?'
      b. Faly Rabe [satria   mividy   *inona* <u>i   Piera</u>]?
          happy R.   because Pres-AT-buys what   the P.
      c. Faly Rabe [satria   *inona* no vidin'   i Piera]?
          happy R.   because what   Foc. Pres-TT-buy the P.

Let us summarize the discussion of argument extraction asymmetries in Malagasy. Only arguments merged in the complement position of V may be extracted and extraction may take place only from XPs merged in complement position. Malagasy obeys (8/8'), a universal constraint on extraction. Furthermore, *wh*-in situ and partial *wh*-movement in islands do not show any signs of ungrammaticality, suggesting that in Malagasy no covert *wh*-movement (or feature-movement) takes place. The latter conclusion receives further confirmation from the *wh*-in situ facts, discussed in section 3.

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[4] Note that an analysis of Malagasy partial movement as copy movement - where it is assumed that the highest copy of the chain is not spelled-out - wrongly predicts that (15b) and (17c) should be ungrammatical, analogous to (12b) and (17a).

3. *Wh*-in situ and Multiple Questions in Malagasy

As will be shown in this section, multiple *wh*-questions in Malagasy do not show superiority effects. This provides further evidence for the fact that restrictions on *wh*-extraction in Malagasy-type languages are different from the restrictions in English-type languages. Before turning to the discussion of multiple *wh*-questions, I summarize the conditions that determine the distribution of "simple" *wh*-in situ constructions in Malagasy.

3.1 Three constraints on *wh*-in situ in Malagasy

Wh-in situ in Malagasy is constrained by three different factors: a) the focus particle *no*, b) a specificity constraint, and c) a sensitivity for the difference between referential and non-referential adjuncts. Let us start with the first factor, the focus particle *no*. As shown in the examples already discussed, if a *wh*-phrase is moved to the left periphery of the sentence in Malagasy, the particle *no* appears immediately after the fronted element. *No* is obligatory if *wh*-movement applies, see (18b) and (19b). On the other hand, as can be seen from the (a)-examples, if the *wh*-phrase is in situ, *no* cannot be present. Hence, the *wh*-phrase is moved only if the marker *no* occurs. (20) shows that this also holds for the adjunct *aiza* 'where'.

(18) a. (*no) mividy   inona any amin' ny magazay <u>Rabe</u>?
          Foc. Pres-AT-buy what in   Prep. the shop   R.
          'What does Rabe buy in the shop?'

      b. *Inona* *(no) vidin-   dRabe any amin' ny magazay?
          what   Foc. Pres-TT-buy R.   in Prep. the shop

(19) a. (*no) vidin'   iza any amin' ny magazay <u>ny vary</u>?
          Foc. Pres-TT-buy who in Prep. the shop   the rice
          'Who buys the rice in the shop?'

      b. *Iza* *(no) mividy   ny vary any amin' ny magazay?
          who Foc. Pres-AT-buy the rice in   Prep. the shop

(20) a. (*no) mividy   ny vary aiza   <u>Rabe</u>?
          Foc. Pres-AT-buy the rice where R.
          'Where does R. buy the rice?'

      b. *Aiza* *(no) mividy   ny vary <u>Rabe</u>?
          where   Foc. Pres-AT-buy the rice R.

Keenan (1976) argues that movement in front of the particle *no* is focus-movement in Malagasy; according to Keenan, *no* represents a focus-particle. Pensalfini (1995) assumes that this particle is located in C° from where it attracts *wh*-elements (see also MacLaughlin 1995).

The second restriction for *wh*-question formation without *wh*-movement in Malagasy concerns the ban on *wh*-elements from the structural subject position of the sentence. In (21a) and (22a), the thematic object *inona* and the thematic subject *iza* are promoted to Spec IP. In this case, extraction to Spec CP must take place, as in (21b) and (22b). The only possible alternative way to form

a *wh*-question without *wh*-movement is shown in (21c) and (22c), where the *wh*-element is located in its base-generated position:

(21) a.   *Novidin- dRabe <u>inona</u>?
             <small>Past-TT</small>-buy-R.   what
     b.   <u>Inona</u> no   novidin-   dRabe *t*?
             what Foc. <small>Past-TT</small>-buy R.
     c.   Nividy   inona <u>Rabe</u>?
             <small>Past-AT</small>-buy what R.
             All three: What has Rabe bought?

(22) a.   *Nividy   ny vary <u>iza</u>?
             <small>Past-AT</small>-buy the rice who
     b.   <u>Iza</u>   no   nividy   ny vary *t*?
             who Foc. <small>Past-AT</small>-buy the rice
     c.   Novidin' iza   <u>ny vary</u>?
             <small>Past-TT</small>-buy who the   rice
             All three: Who bought the rice?

The same restriction holds in Tagalog (Richards 1996) and Javanese (Cole et al. 2001), and the following examples show that it is not limited to Austronesian languages. It is also operative in the SVO Bantu language Kinyarwanda. Kinyarwanda is an optional *wh*-in situ language, as can be seen from (23a) vs. (23b). However, *wh*-elements may not stay in Spec IP (24a), (25a).

(23) a.   Umugore jiše   *nde*?   KINYARWANDA
             woman   killed who
             'Who did the woman kill?'
     b.   *Ni-nde* umugore   jíše *t*?
             Foc.-who woman   kill

(24) a.   **Nde* jiše   umunhu? (*Wh*-in situ)
             who   killed man
             'Who killed the man?'
     b.   *Ni-nde*   *t* u- íše   umunhu? (*Wh*-ex situ)
             Foc.-who   killed man

(25) a.   **Nde* jiš-   we   na umunhu?
             who killed Pass. by man
             'Who was killed by the man?'
     b.   *Ni-nde*   *t* u-íš- we   na   umunhu?
             Foc.-who   kill Pass by   man   (Maxwell 1981)

The ungrammaticality of (21a) and (22a) is probably related to the fact that Malagasy does not allow indefinite subjects in Spec IP, as shown in (26a) vs. (26b). With indefinite subjects, an existential construction such as (27) has to be used instead (see Paul 2000 for discussion).

(26) a.   *Matory zaza.
         sleeps   child
         'A child sleeps.'
    b.   Matory ny zaza.
         sleeps   the child
         'The child sleeps.'
(27)   Misy zaza matory.
         exist child sleeping
         'A child sleeps.'

Sentences like (26a) are possible in English where the indefinite normally has two readings, a specific and a non-specific. Given that (26a) is ungrammatical, it must lack both readings in Malagasy. What could be the reason for this difference in grammar between English and Malagasy? I assume that the ungrammaticality of (26a) is due to the fact that i) something excludes that indefinite NPs in Malagasy are assigned a specific reading and ii) that nonspecific indefinites are not allowed to appear in Spec IP, a parametric property of this language. Turning back to the *wh*-questions (21a) and (22a), it is well known that *wh*-words such as *what* or *who* are difficult to be interpreted as specific in the absence of any context. Tentatively, I assume that Malagasy indefinites as well as Malagasy *wh*-words are inherently [– specific]. This rules out (21a), (22a) and (26a).

      The third restriction for *wh*-in situ in Malagasy concerns adjuncts. In English, adverbs of time, direction and place behave like complements with respect to *wh*-movement and *wh*-in situ (cf. *Who left when?/Who lives where?*). These "referential" adjuncts or "quasi-" arguments behave similarly in Malagasy. Given that there is no correspondence between adjuncts and certain kinds of affixes on the verb, and given that overt *wh*-extraction of adjuncts is possible with all types of verbal forms as was already shown (see footnote 3), one would expect that *wh*-in situ of referential adjuncts such as *aiza* 'where' and *oviana* 'when' is possible with all voices. This prediction is borne out, as can be seen from (28a-b) and (29a-b):

(28) a.   Nividy   ny vary taiza   <u>Rabe</u>?
         Past-AT-buy the rice Past-where R.
    b.   Novidin- dRabe taiza   <u>ny vary</u>?
         Past-TT-buy R.   Past-where the rice
    c.   *Taiza*   no nividy   ny vary <u>Rabe</u>?
         Past-where Foc Past-AT-buy the rice Rabe
         All three: 'Where did Rabe buy the rice?'

(29) a.   Natory   oviana <u>ny reny</u>?
         Past-AT-sleep when   the mother
         'When did mother sleep?'
    b.   Niverina   oviana <u>ny reny</u>?
         Past-AT-return when   the mother
         'When did mother return?'

    c.   *Oviana* no niverina   <u>ny reny</u>?
           when Foc. Past-AT-return the mother

       The examples in (30) show extraction of the non-referential adjuncts *manao ahoana* 'how' and *nahoana* 'why'. In contrast to referential adjuncts, non-referential adjuncts do not occur in-situ (31). This holds for all voices, cf. (31a):[5]

(30) a.   <u>*Manao ahoana*</u> no   anasan'   ny reny ny lamba?
              how   Foc. Pres-CT-wash the mother the clothes
              'How does the mother wash the clothes?'
    b.   *Nahoana* no   nanasa   ny lamba amin' ny savony <u>ny reny</u>?
              why   Foc. Past-AT-wash the clothes with the soap   the mother
              'Why did the mother wash the clothes with soap?'

(31) a. i. *Nanasa   ny lamba amin' ny savony *nahoana* <u>ny reny</u>?
              Past-AT-wash the clothes with   the soap   why   the mother
              'Why did the mother wash the clothes with soap?'
      ii. *Nosasan   ny reny   tamin'   ny savony *nahoana* <u>ny lamba</u>?
              Past-TT-wash the mother Past-Prep. the soap   why   the clothes
      iii. *Nanasan'   ny reny   ny lamba *nahoana* <u>ny savony</u>?
              Past-CT-wash the mother the clothes why   the soap
    b.   *Mahandro   ny vary *manao ahoana* <u>ny   reny</u>?
              Pres-AT-cook the rice how   the mother
              'How does the mother cook the rice?'

To sum up, *wh*-in situ in Malagasy is constrained by a) the presence of the focus particle *no*, b) the prohibition of *wh*-elements occuring in the structural subject position, and c) the referential/non-referential nature of adjuncts. In the next section, I will argue that multiple *wh*-questions in Malagasy are possible as long as these three conditions are respected. Furthermore, I have already pointed out that *wh*-in situ in Malagasy is possible in islands and therefore I concluded that it does not involve any kind of covert movement. The same conclusion is reinforced by multiple *wh*-questions in Malagasy.

3.2 Multiple questions in Malagasy

It has been pointed out in the literature that Malagasy does not allow multiple *wh*-questions. However, this is not correct. Multiple questions are possible, as long as the three restrictions, discussed in the preceding section, are respected. For example, given that a *wh*-phrase cannot stay in Spec IP, the examples in (32) with multiple *wh*-elements are ruled out. However, (32b) is perfect as a multiple question (without an echo reading) if *wh*-fronting of the *wh*-element in Spec IP *iza* 'who' takes place (33a). The examples in (33) show that in contrast to

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[5] In this respect, Malagasy conforms to a well-known cross-linguistic generalization. That non-referential *wh*-adjuncts are not licenced in situ is probably related to the fact that they lack a position for a variable, as has been pointed out by several authors (see Tsai 1994, Chomsky 1995: 386, footnote 65 among others).

languages with typical subject/object extraction asymmetries such as English, Malagasy does not show superiority effects with *wh*-arguments.

(32) a.   *Nividy   ny vary taiza   <u>iza</u>?
           Past-AT-buy the rice Past-where who
           'Who bought the rice where?'
      b.   *Nividy   inona <u>iza</u>?
           Past-AT-buy what who
           'Who bought what?'

(33) a.   *<u>Iza</u>* no nividy   inona   *t*?
           who Foc. Past-AT-buy what
      b.   *<u>Inona</u>* no novidin'   iza   *t*?
           what   Foc. Past-TT-buy who
           Both: 'Who bought what?

This provides further evidence for the analysis in (7), i.e. for analyzing *wh*-extractions in Malagasy as being subject to different constraints than *wh*-extraction in English-type languages.
       As illustrated in (34)-(35), non-referential adjuncts are possible in multiple *wh*-questions as long as they are located in Spec CP. Now consider (36). No ungrammaticality is observed in this construction, where the thematic *wh*-subject is in situ (in English, this construction is impossible).

(34) a.   *Manao ahoana* no   andrahoan- dRakoto inona   *t* ?
           how   Foc. Pres-CT-cook Rakoto   what
           'How does Rakoto cook what?'
      b.   *<u>*Inona</u>* no   andrahoina   manao ahoana Rakoto   *t*?
           what   Foc. Pres-TT-cook how   Rakoto
           'What does Rakoto cook how?'

(35) a.   *Nahoana* no   mividy   inona <u>ianao</u>?
           why   Foc. Pres-AT-buy what   you
           'Why do you buy what?'
      b.   *<u>*Inona</u>* no   vidinao   nahoana *t*?
           what   Foc. Pres-TT-buy-you why
           'What do you buy why?'

(36)   *Nahoana* no   vidin'   iza   <u>ny vary?</u>
           why   Foc. Pres-TT-buy who the rice
           'Why does who buy the rice?'

To sum up, multiple *wh*-questions in Malagasy cannot be explained in terms of constraints such as the ECP, Shortest Move or the MLC that rely on phrase structural asymmetries between different argument positions. This result is expected under the analysis of extraction asymmetries in Malagasy proposed in section 2. Furthermore, I have argued that *wh*-in situ does not involve any kind of covert movement; the reason for assuming this is mainly that *wh*-in situ in

islands is possible in Malagasy. This conclusion gains further support from the fact that *wh*-in situ in Malagasy does not show superiority effects. I named the three factors that determine *wh*-in situ in Malagasy. Due to the facts, I conclude that *wh*-in situ in Malagasy involves unselective binding, as has been assumed to be generally the case in *wh*-in situ constructions (Chomsky 1995).

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