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THE MALAGASY SUBJECT/TOPIC AS AN A′-ELEMENT*

ABSTRACT. As in other Philippine-type languages, clauses in Malagasy contain a structurally and referentially prominent DP constituent, the TRIGGER, whose grammatical function is indicated by VOICE morphology on the verb. The trigger shares functional properties with both subjects and topics in other languages. In the Principles and Parameters literature, most researchers identify the trigger as a structural subject, located in the position where nominative case is checked. In this paper, I present evidence that the trigger occupies an A′-position comparable to that of topics in verb-second languages such as Icelandic. I also consider some of the consequences of this analysis: I suggest that voice morphology in Malagasy, rather than marking relation-changing operations like passive, (indirectly) encodes the abstract case features of the A′-chain linked to the trigger, making it akin to WH-AGREEMENT in Chamorro. In addition, I argue for a non-traditional treatment of the well-known A′-extraction restrictions in Malagasy, usually captured by means of a language-specific constraint prohibiting extraction of non-subjects. Treating the trigger as a topic rather than a subject, I propose that *wh*-movement competes with topicalization for the same A′-position (as in verb-second languages), rendering the two operations mutually exclusive within a clause.

1. INTRODUCTION

Austronesian languages of the so-called Philippine type, such as Tagalog, Ilokano, and Cebuano, are well known for their elaborate voicing systems. In these languages, one of the nominal constituents in the clause is singled out as structurally and referentially prominent. Following Schachter (1987), I refer to this constituent

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pretheoretically as the TRIGGER. Generally speaking, any definite noun phrase may act as the trigger. The form of the trigger is invariant, its grammatical function being indicated on the verb by means of VOICE morphology. Consider the Tagalog examples in (1) from Schachter and Otanes (1972), where the trigger (shown in **boldface**) is introduced by the determiner *ang*:[1]

(1) a. Bumili ng libro sa tindahan **ang maestro**
AT.Prf.buy Det book Obl.Det store Det teacher
"The teacher bought a book at the store"

b. Binili ng maestro sa tindahan **ang libro**
TT.Prf.buy Det teacher Obl.Det store Det book
"A/the teacher bought the book at the store"

c. Binilhan ng maestro ng libro **ang tindahan**
LT.Prf.buy Det teacher Det book Det store
"A/the teacher bought a book at the store"

These sentences are roughly equivalent in meaning but differ in which participant is mapped to the trigger function. In (1a), the trigger is the argument bearing the external thematic role in the clause, which I will refer to as the ACTOR (underlined in the examples).[2] The corresponding verb form, *bumili*, is referred to as the AT voice (where AT stands for ACTOR-TOPIC or ACTOR-TRIGGER). In (1b), the trigger is the internal argument of a transitive predicate, here called the THEME, and the verb occurs in the TT (THEME-TOPIC/TRIGGER) form. Example

[1] The following abbreviations are used in this paper: 1ex/in = 1st plural exclusive/inclusive, 1s = 1st singular, 2s/p = 2nd singular/plural, 3 = 3rd (singular or plural), 3s = 3rd singular, Acc = accusative, AT = actor-topic/trigger, Aux = auxiliary, CT = circumstantial-topic/trigger, Dat = dative, Def = definite, Det = determiner, Emph = emphatic particle, Foc = focus/cleft marker, Fut = future, Imp = imperative, Irr = irrealis (future), Lnk = linking morpheme, LT = locative-topic/trigger, Neg = negative, Nom = nominative, Obl = oblique, Qu = yes/no question particle, Pfx = verbal prefix, Prf = perfective, Pst = past, PTT = promotion to trigger, Redup = reduplicated stem, RPrf = recent perfective, RTO = raising to object, Top = topic particle, TT = theme-topic/trigger, Wh.Obj = object wh-agreement, Wh.Obl = oblique wh-agreement, Wh.Subj = subject wh-agreement.

[2] Here I follow Schachter (1976, 1996), Kroeger (1993), etc., in using ACTOR not as the name of a thematic (proto-)role, but as a cover term for the argument to which a predicate assigns its external (highest) θ-role. The Actor is typically the agent or experiencer argument of a two- or three-place predicate, or the single core argument of a one-place predicate. Similar comments apply to THEME, used here as shorthand for "internal argument of a transitive predicate". I avoid SUBJECT and OBJECT since the applicability of the former term to the trigger constituent is at issue here.

(1c) illustrates the LT (LOCATIVE-TOPIC/TRIGGER) form, used when a noun phrase denoting a goal or location functions as the trigger. Other voice forms not illustrated here are also attested. For convenience, I will refer to the operation which maps one of the verb's dependents to the trigger function as PROMOTION TO TRIGGER, abbreviated PTT.[3]

As is well known, the choice of voice form is constrained in constructions involving A′-movement. Consider the *wh*-questions in (2)–(3): As these examples show, the AT form must be used when the Actor is extracted, while the TT form is required when the Theme is extracted. Other Philippine-type languages display comparable restrictions (cf. Bell 1983 on Cebuano, Kroeger 1988 on Kimaragang Dusun, and many others).

(2) a. *Sino* ang bumili ng libro sa tindahan?
Who Foc AT.Prf.buy Det book Obl.Det store
"Who bought a/the book at the store?"

b. **Sino* ang binili sa tindahan **ang libro**?
Who Foc TT.Prf.buy Obl.Det store Det book
"Who bought a/the book at the store?"

(3) a. *Ano* ang binili ng maestro sa tindahan?
what Foc TT.Prf.buy Det teacher Obl.Det store
"What did the teacher buy at the store?"

b. **Ano* ang bumili sa tindahan **ang maestro?**
what Foc AT.Prf.buy Obl.Det store Det teacher
"What did the teacher buy at the store?"

Philippine-style voicing systems have received a great deal of attention in the literature with regard to the question of which element—the trigger, the Actor, or both/neither—constitutes the grammatical SUBJECT of the sentence. For Tagalog, four competing proposals have been advanced:

[3] There is a great deal of terminological variation in the literature on Philippine voicing systems: The AT is sometimes referred to as the ACTIVE, ACTOR-FOCUS, or ACTOR-VOICE form; while the TT is also known as the PASSIVE, GOAL-FOCUS, or OBJECT(IVE)-VOICE form. The labels used here are based on Guilfoyle et al. (1992), except that I adopt the more usual CT (CIRCUMSTANTIAL-TOPIC/TRIGGER) for the Malagasy voice form which they label XT (X-TOPIC). Like ACTOR and THEME (see footnote 2), AT, TT, and CT are intended as informal labels, chosen for their recognizability rather than for their appropriateness to the theory of voice developed here.

[a] The trigger is the subject. This position is defended in the greatest detail by Kroeger (1993) (cf. also Bell 1983 on Cebuano).
[b] Tagalog is morpho-syntactically ergative, and the trigger is the absolutive argument (intransitive subject or transitive object). Non-trigger Actors are taken to bear ergative case. This is the approach advocated by Payne (1982), De Guzman (1988), and Aldridge (2003), among others (cf. Gerdts 1988 on Ilokano).
[c] The Actor and the trigger are, in a sense, both subjects: Schachter (1976, 1996) argues that the structural and referential properties associated with subjects in European languages are distributed between the trigger and the Actor in Tagalog. Guilfoyle et al. (1992) offer a formal implementation of this basic idea: They locate the Actor in the VP-internal subject position, Spec, VP, which they associate with the thematic and binding properties of subjects, and the trigger in the nominative case position, Spec, IP, which they associate with the case- and extraction-related properties of subjects.
[d] The Actor bears the subject role, and the trigger is a topic-like A′-element. This position is implicit in Carrier-Duncan's (1985) analysis of Tagalog voice morphology, and is explicitly argued for by Richards (2000) (cf. also Sells 2000).

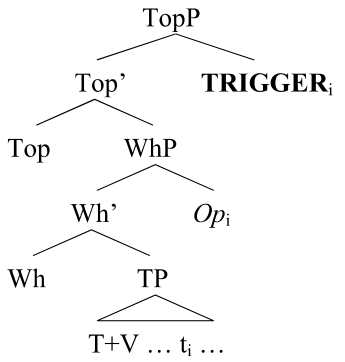
Each of these proposals entails a different approach to the PTT operation, and a different treatment of the alternations in (1). Under the analysis in [a], for example, (1a) would be regarded as an unmarked active clause, with the Actor mapped to the subject role, while (1b) represents a passive or inverse construction. Under the ergative analysis in [b], on the other hand, (1b) would be regarded as unmarked, with the Theme functioning as the absolutive argument, while in (1a) the Actor is a derived absolutive in a kind of antipassive construction (under this account, the morphology on the verb is taken to mark surface transitivity rather than voice).

In this paper, I consider the syntactic status of the trigger in Malagasy, a language of the Philippine type spoken on Madagascar. Traditionally, the Malagasy trigger has been identified as the subject of the sentence, along the lines of [a]. This is the position taken in descriptive and pedagogical grammars (Rahajarizafy 1960; Rajemisa-Raolison 1971; Dez 1980, etc.), and in much of the linguistic literature as well (Keenan 1976, 1995; Randriamasimanana 1986, Manaster-Ramer 1992, Dahl 1996, Rabenilaina 1998, etc.). A few researchers follow Guilfoyle et al. (1992) in associating the subject function with both the trigger and the Actor, as in [c] above

(MacLaughlin 1995; Nakamura 1996; Travis 1997; Paul 1999, 2002, etc.). Here, however, I will defend a version of [d] for Malagasy: The Actor is the structural subject of the clause, while the trigger is a topic-like element occupying an A′-position.

That Malagasy triggers share properties with topics in other languages has been recognized for some time (Keenan 1976; Manaster-Ramer 1992): The trigger denotes a referent which is necessarily given, and is thus required to be formally definite. As discussed in Section 2, the trigger identifies the participant of which the rest of the clause is predicated (in Prague School terms, the trigger is the THEME in a THEME-RHEME structure). Taking this observation as a starting point, I argue that the trigger originates in the specifier of a projection in the C-domain of the clause called the TOPIC PHRASE (TopP), and is coindexed with a null operator which raises from a case position into the specifier of a WH-OPERATOR PHRASE (WhP), as schematized in (4). Non-trigger arguments remain within TP (see Section 3.1 for more on the internal structure of TP).[4]

(4)



This analysis has important consequences for the treatment of PTT and voice morphology. As mentioned above, voice marking is generally taken to encode alternations in the mapping of arguments to the surface subject position, comparable to active/passive, direct/inverse, or ergative/antipassive alternations in other languages. However, if PTT in Malagasy involves A′-movement from a case position rather

[4] Since the trigger occurs at the right periphery of the clause in Malagasy, I represent Wh and Top as projecting their specifiers to the right. In fact, I believe there is evidence that these heads project their specifiers to the left, and surface word order is derived through leftward raising of TP to a position c-commanding the position of the trigger. See Pearson (2001) for discussion.

than A-movement from a θ-position, this suggests a different approach: With reference to (4), we may say that AT morphology is used when the operator raises to Spec, WhP from the nominative case position, while TT morphology is used when it raises from the accusative case position, and so on. Looked at in this way, voice marking recalls WH-AGREEMENT, a feature of certain Austronesian languages such as Chamorro (Chung 1982, 1994, 1998). Verbs in Chamorro are generally marked for person/number agreement. However, in constructions involving A′-extraction, normal agreement is replaced with special morphology indicating the grammatical function (subject, object, etc.) of the extracted element. As I discuss in Section 3.2, certain *wh*-agreement morphemes in Chamorro closely resemble voice affixes in Tagalog and Malagasy, and are arguably cognate with them. Moreover, as I show in 4.3, voice marking and *wh*-agreement function in parallel fashion in constructions involving long distance extraction. I therefore suggest that voice marking in Philippine-type languages is a sort of generalized *wh*-agreement: While in Chamorro this type of morphology is confined to *wh*-questions and other marked constructions, in Philippine-type languages it appears on all verbs due to a requirement that the Spec, WhP position be filled in every clause.

The analysis in (4) also suggests a novel explanation for the restrictions on voice marking in A′-extraction contexts, as illustrated in (2) and (3) (comparable examples from Malagasy are given in Section 3.3). Under the traditional trigger-as-subject approach, these restrictions are explained by invoking a language-specific accessibility constraint which blocks non-subject DPs from being extracted: extraction of, say, the Theme is possible only if the verb has first been passivized, as in (3a) (treating the TT as a passive form). However, if the trigger is really an A′-element whose case features are marked on the verb, we can avoid having to stipulate that only subjects extract. Given the structure in (4), the pattern in (2)–(3) falls out straightforwardly if we simply assume that *wh*-operators must be licensed in Spec, WhP, and thus block the trigger operator from raising into this position. In other words, PTT does not feed *wh*-extraction, as traditionally assumed; rather, PTT and *wh*-extraction compete for the same landing site, rendering them mutually exclusive within a clause.

Under the approach advocated here, Philippine-type languages end up sharing important features with VERB-SECOND (V2) languages such as German and Icelandic. In both language types, there is an A′-position (Spec, WhP) which must be filled in every clause, and in both types *wh*-operators compete with topic operators for this

position, such that topicalization is blocked in clauses containing *wh*-movement. I therefore propose that fronted topics in V2 languages occupy the same phrase structure position (Spec, TopP) as triggers in Malagasy (cf. Richards 2000). The numerous parallels between V2 topics and Malagasy triggers are explored in detail in Sections 3 and 4.

The remainder of this paper is organized as follows: In Section 2 I present some background information on Malagasy clause structure and voice, including evidence that the Actor in non-AT constructions is a core argument of its clause rather than a demoted argument or oblique. In Section 3 I reintroduce the analysis summarized in (4), and briefly consider the ramifications of this analysis for the treatment of extraction effects and voice morphology. Then in Section 4 I provide evidence from binding, long-distance PTT, and other domains, showing that the trigger occupies an A′-position. Finally, in Section 5 I turn to potential evidence for locating the trigger in an A-position, and show that there are alternative analyses of the phenomena in question which are consistent with the structure in (4). Section 6 summarizes the paper.

2. Background: Trigger, Voice, and the Status of the Actor

Malagasy is spoken by approximately 14 million people on the island of Madagascar. It is a member of the Western Malayo-Polynesian branch of Austronesian, most closely related to the Southeast Barito languages of Borneo, where the ancestors of the Malagasy are believed to have originated some 1500 years ago (Dahl 1951). Although its phonology and lexicon have been influenced by the Bantu languages of mainland East Africa, Malagasy retains the morpho-syntactic features distinctive of the Philippine type, including verb-initial order and a complex voicing system. For general discussion of Malagasy morphology and syntax from a generative perspective, I refer the reader to Keenan (1976, 1995), Randriamasimanana (1986), Pearson and Paul (1996), Keenan and Polinsky (1998), Paul (1998a, 1999), Pearson (2001), and references cited therein.

As in Tagalog, Malagasy clauses generally contain a referentially and syntactically prominent constituent, the TRIGGER, which appears at the right periphery of the clause, typically in final position.[5] This is

[5] Although the trigger in Malagasy is usually the final constituent in the clause, certain kinds of complement clauses, as well as sentence-level adverbials such as *omaly* 'yesterday', routinely follow it. For some discussion of post-trigger constituents, see Pearson (2001).

illustrated in (5). (Here and throughout, the trigger is **boldfaced** in the examples, while the Actor is underlined; in (5) the Actor functions as trigger.)

(5) Nametraka ny boky teo ambonin'ny latabatra
Pst.AT.put Det book Pst.there on.top-Det table
ny vehivavy
Det woman
"The woman put the books on the table"

The trigger must be a formally definite DP—that is, a pronominal, a proper name, or a common noun phrase interpreted as definite, generic, or strongly quantificational (in the sense of Milsark 1977). All formally definite DPs in Malagasy take an overt determiner; for proper names the determiner is *i* or *Ra-* (the latter is written as a prefix and often treated as part of the name). Common noun phrases may take the determiner *ny*, a discourse-anaphoric demonstrative such as *ilay* 'that [previously mentioned]', or a deictic demonstrative such as *io* 'this' or *iny* 'that' (the latter occur as two copies framing the noun phrase: *io boky io* 'this book'). Indefinite noun phrases, which lack an overt determiner, may not function as triggers, as illustrated in (6):

(6) *Nametraka ny boky teo ambonin'ny latabatra
Pst.AT.put Det book Pst.there on.top-Det table
vehivavy
woman
"A woman put the books on the table"

Malagasy lacks special determiners for trigger noun phrases comparable to *ang* in Tagalog. The trigger is distinguished from non-trigger noun phrases primarily by its position in the sentence—word order in Malagasy being quite fixed compared with the relatively free order found in many Philippine languages. Pronominals, however, have separate trigger and non-trigger forms, a fact I return to in Section 5.1.[6]

In addition to being distinguished by its position in the sentence, the trigger may be singled out through tests showing that it is external

[6] In addition, proper names and (optionally) common noun phrases headed by a demonstrative take the oblique prefix *an-* when functioning as non-trigger Themes: e.g. *Nametraka* (***an***)*'io boky io teo ambonin'ny latabatra ny vehivavy* 'The woman put this book on the table'. For more on case marking and the structure of DP in Malagasy, see Zribi-Hertz and Mbolatianavalona (1999).

to the PREDICATE PHRASE, a constituent consisting of the verb and its non-trigger dependents (Keenan 1976, 1995; Dahl 1996). For example, a number of particles, including the yes/no question particle *ve*, occur at the boundary between the predicate phrase and the trigger, as shown in (7). The trigger can thus be identified as the DP following *ve* in a yes/no question.

(7) a. Nametraka ny boky teo ambonin'ny latabatra
Pst.AT.put Det book Pst.there on.top-Det table
ve **ny vehivavy**?
Qu Det woman
"Did the woman put the books on the table?"

b. *Nametraka *ve* ny boky teo ambonin'ny latabatra
ny vehivavy?

c. *Nametraka ny boky *ve* teo ambonin'ny latabatra
ny vehivavy?

d. *Nametraka ny boky teo ambonin'ny latabatra
ny vehivavy *ve*?

As in Tagalog, the grammatical function of the trigger is encoded by voice morphology on the verb. This is illustrated in (8) for the verb root *vono* 'kill'. The AT (ACTOR-TOPIC or ACTOR-TRIGGER) form *mamono* is used when the Actor (external argument) is mapped to the trigger position (8a), while the TT (THEME-TOPIC/TRIGGER) form *vonoin(a)*, is used when the Theme (internal argument) is mapped to the trigger position (8b). Example (8c) shows a third form, *amonoana*, referred to as the CT (CIRCUMSTANTIAL-TOPIC/TRIGGER) form. The CT voice is used when the trigger is an OBLIQUE—that is, a nominal which expresses a peripheral participant role (instrument, location, manner, etc.) and which is licensed by a preposition such as *amin'* 'at/with/for' in non-CT clauses. (See 3.1 for discussion of voice morphology.)[7]

(8) a. Mamono ny akoho amin'ny antsy **ny mpamboly**
AT.kill Det chicken with-Det knife Det farmer
"The farmer is killing the chickens with the knife"

[7] In order to express the contrast between AT and non-AT constructions, I sometimes gloss the latter using a topicalization or passive construction. I do this merely to remind the reader that a non-Actor has structural and referential prominence in these sentences.

b. Vonoin' ny mpamboly amin'ny antsy **ny akoho**
TT.kill Det farmer with-Det knife Det chicken
"The chickens, the farmer is killing (them) with the knife"

c. Amonoan' ny mpamboly ny akoho **ny antsy**
CT.kill Det farmer Det chicken Det knife
"The knife, the farmer is killing the chickens (with it)"

That *ny akoho* is the trigger in (8b) is shown by the fact that it is sentence-final, and follows *ve* in yes/no questions; likewise for *ny antsy* in (8c):

(9) a. Mamono ny akoho amin'ny antsy *ve* **ny mpamboly**?
AT.kill Det chicken with-Det knife Qu Det farmer
"Is the farmer killing the chickens with the knife?"

b. Vonoin' ny mpamboly amin'ny antsy *ve* **ny akoho**?
TT.kill Det farmer with-Det knife Qu Det chicken
"Is the farmer killing the chickens with the knife?"

c. Amonoan' ny mpamboly ny akoho *ve* **ny antsy**?
CT.kill Det farmer Det chicken Qu Det knife
"Is the farmer killing the chickens with the knife?"

What determines which DP in a given sentence will appear as the trigger? Broadly speaking, the trigger picks out the participant to which the speaker wishes to assign greatest referential prominence, the argument of which the rest of the clause is predicated: in Prague School terms, the trigger expresses the THEME, while the predicate phrase constitutes the RHEME. Thus, native speakers judge the examples in (8) to be truth-conditionally equivalent, but report that they differ with regard to "what the sentence is about": sentence (8a) is about what the farmer did, (8b) is about what happened to the chickens, and (8c) is about what happened with the knife (likewise, (9a) asks for information about the farmer, (9b) for information about the chickens, and (9c) for information about the knife).[8] As in

[8] Note that in existential clauses, which lack a theme/rheme structure, the trigger position is normally empty. Such clauses consist of just a predicate phrase, as shown in (i) by the placement of the particle *ve*:

(i) Nisy olona nividy akanjo *ve*?
Pst.exist person Pst.AT.buy dress Qu
"Did anybody buy a dress?"
lit. "Is there a person who bought a dress?"

Tagalog, however, the choice of trigger is constrained in constructions involving A′-extraction, such that the voice of the verb correlates with the grammatical function of the extracted element. I return to this in Section 3.3 below.

The trigger shares distributional properties with subjects in other languages. For example, except in certain marked constructions (existentials, AT imperatives), the trigger position must be filled by overt material, and every clause contains at most one trigger. This is reminiscent of the EPP constraint in English and French, requiring that every clause contain one and only one subject. For this and other reasons (see Section 5), the trigger has generally been identified as the subject of the clause.

Treating the trigger as a subject, non-AT constructions such as (8b) and (8c) above are sometimes labeled as passives (Rajemisa-Raolison 1971, Keenan 1976). However, as various authors have pointed out (Guilfoyle et al. 1992, Kroeger 1993), these constructions differ from passives in more familiar languages in that the non-trigger Actor phrase does not behave as a demoted argument (or CHÔMEUR, to use the Relational Grammar term). For example, unlike, say, the *by*-phrase in an English passive, non-trigger Actors must be strictly adjacent to the verb. This is illustrated in (10) below, which shows that adverbials may not intervene between the verb and the Actor. In fact, there is evidence from stress assignment and other domains to show that non-trigger Actors form a prosodic constituent with the verb. This is especially evident when the latter is a pronominal or proper name, in which case the two are written together as a single word, as in (11) (morpheme-by-morpheme breakdowns of the forms are given in brackets; see 3.1 for more on verb morphology). Notice that *vonoin(a)* and *Ramatoa* combine to form *vonoin-dRamatoa*, where *n* and *r* fuse into the prenasalized retroflex plosive *ndr*, a sound change which is otherwise restricted to word-internal domains.[9]

[9] Although the Actor and the verb clearly form a phonological unit, they do not appear to constitute a word-level (X^0) unit in the syntax, since the Actor may be phrasal. For example, the Actor may consist of two coordinated DPs, as in (i), suggesting that it has not undergone head adjunction to the verb:

(i) Vonoin-dRamatoa sy Ranaivo amin'ny antsy **ny akoho**
TT.kill-Ramatoa and Ranaivo with-Det knife Det chicken
"Ramatoa and Ranaivo are killing the chickens with the knife"

(10) a. Nohanin' ny gidro *haingana* **ny voankazo** *omaly*
Pst.TT.eat Det lemur quickly Det fruit yesterday
"The lemur ate the fruit quickly yesterday"

b. *Nohanin(a) *haingana* ny gidro **ny voankazo** *omaly*

c. *Nohanin(a) *omaly* ny gidro *haingana* **ny voankazo**

(11) a. Vonoiko [< vono-in-ny + -ko] amin'ny antsy
TT.kill.1s kill-in-Lnk 1s with-Det knife
ny akoho
Det chicken
"I am killing the chickens with the knife"

b. Vonoin-dRamatoa [< vono-in-ny + Ramatoa] amin'ny
TT.kill-Ramatoa kill-in-Lnk Ramatoa with-Det
antsy **ny akoho**
knife Det chicken
"Ramatoa is killing the chickens with the knife"

I know of no language which requires demoted arguments or obliques to be right-adjacent to the verb, but there are a number of verb-initial languages which impose just such an adjacency requirement on postverbal subjects: Ouhalla (1994) cites Berber and various Semitic and Celtic languages as examples.[10] In fact, postverbal subjects in Berber are not only required to be adjacent to the verb, but form a tight prosodic unit with it, just as in Malagasy (Jamal Ouhalla, p.c.).

Non-trigger Actors in Malagasy also behave like subjects with regard to deletion in imperatives: As Keenan (1976) and Manaster-Ramer (1995) discuss, each voice has a corresponding imperative. Compare the indicative sentences in (12a-c) with their imperative counterparts in (12a'-c'):

(12) a. Mamono akoho **i** **Soa**
AT.kill chicken Det Soa
"Soa is killing (some) chickens"

[10] In Berber and Semitic, clitics may intervene between the verb and a postverbal subject, but these have presumably incorporated into the verb complex.

a′. Mamonoa akoho
AT.kill.Imp chicken
''Kill (some) chickens!''

b. Vonoin' i Soa **ny** **akoho**
TT.kill Det Soa Det chicken
''Soa is killing the chickens''

b′. Vonoy **ny** **akoho**
TT.kill.Imp Det chicken
''Kill the chickens!''

c. Amonoan' i Soa akoho **ny** **antsy**
CT.kill Det Soa chicken Det knife
''Soa is using the knife to kill chickens''

c′. Amonoy akoho **ny** **antsy**
CT.kill.Imp chicken Det knife
''Use the knife to kill chickens!''

In the AT imperative in (12a'), the trigger position is empty (or perhaps filled by a null second person pronominal). Significantly, in the non-AT imperatives in (12b'-c') it is the Actor rather than the trigger which is targeted for deletion. Deletion in imperatives being a traditional test for subjecthood, this further corroborates the identification of the non-trigger Actor as a subject.

Finally, non-trigger Actors behave as full arguments for purposes of binding. Consider (13), where the verb is in the CT form and the trigger is interpreted as a benefactee. Here we see that the non-trigger Actor may antecede a non-trigger reflexive Theme (Keenan 1993), but binding is not possible if the positions of the antecedent and anaphor are reversed.[11] Similarly, whereas a quantified Actor may bind a pronoun within the Theme (14a), sentences in which a quantified Theme binds a pronoun within the Actor are judged marginal (14b). Binding asymmetries of this sort are typical of relationships between subjects and non-subjects.

[11] Reflexive anaphors in Malagasy are built from the noun *tena* 'body' (glossed here as ''self''). In certain contexts, *tena* appears by itself with reflexive meaning, while in other contexts it takes a determiner and a possessive enclitic: *ny tenany*, 'his/her body'. *Ny tenany* is used in (13b) because of a constraint requiring Actors to have overt determiners.

I therefore take this as additional evidence for the argumenthood (and indeed subjecthood) of non-trigger Actors.[12]

(13) a. Namonoan' ny lehilahy$_i$ tena$_i$ **ny** **zanany**
Pst.CT.kill Det man self Det child-3
"The man$_i$ killed himself$_i$ for his children"

b. *Namonoan' ny tenany$_i$ ny lehilahy$_i$ **ny** **zanany**
Pst.CT.kill Det self-3 Det man Det child-3
"Himself$_i$ killed the man$_i$ for his children"

(14) a. Nampisehoan' ny lehilahy tsirairay$_i$ ny
Pst.CT.show Det man each Det
rahalahiny$_i$ **ny** **zanany**
brother-3 Det child-3
"Each man$_i$ showed his$_i$ brother to his children"

b. ??Nampisehoan' ny rahalahiny$_i$ ny lehilahy tsirairay$_i$
Pst.CT.show Det brother-3 Det man each
ny **zanany**
Det child-3
"His$_i$ brother showed each man$_i$ to his children"

[12] If we assume that A-binding requires c-command, we may interpret (13) and (14) as evidence that the non-trigger Actor occupies an A-position from which it asymmetrically c-commands all other predicate-internal arguments. I adopt this conclusion in the next section (cf. the trees in (20b) and (23)). However, as an anonymous reviewer has reminded me, Keenan (2000) argues that the non-trigger Actor forms a constituent with the preceding verb, suggesting that it is actually lower in the structure than the other predicate-internal arguments. As evidence for this, he cites sentences such as (ic) below, where a verb and the following Actor (*nividianana* and the enclitic pronoun *-ko*) are coordinated with another verb (*namaky*) to the exclusion of a the predicate-internal Theme (*ilay boky*). Since the hierarchical position of non-trigger Actors is not directly relevant to my analysis of the trigger, I will leave this issue unresolved.

(i) a. Nividianako ilay boky **ianao**
Pst.CT.buy-1s that book 2s
"I bought that book for you"
"You were bought that book by me"

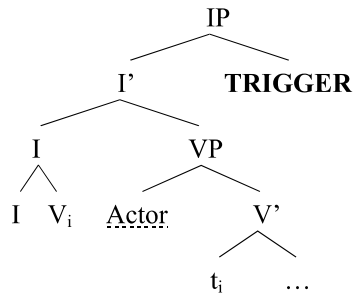
b. Namaky ilay boky **ianao**
Pst.AT.read that book 2s
"You read that book"

c. Nividianako sy namaky ilay boky **ianao**
Pst.CT.buy-1s and Pst.AT.read that book 2s
"You were bought by me, and read, that book"

3. The Trigger as a Topic

How do we account for the fact that both triggers and non-trigger Actors in Malagasy share properties in common with subjects in other languages? Guilfoyle et al. (1992) explain this by positing two subject positions, the VP-internal subject position Spec, VP and the nominative case position Spec, IP: The Actor is generated in Spec, VP, while the trigger extracts from VP and raises to Spec, IP, as in (15) (the verb raises and adjoins to INFL, winding up at the left edge of the clause, immediately preceding the Actor).

(15)



Under their analysis, promotion to trigger is motivated by the Case Filter. Guilfoyle et al. propose that the voice affixes on the verb are case assigners, which license all but one of the verb's arguments inside VP, with the remaining argument raising to Spec, IP to receive structural nominative case from INFL. For example, AT morphology assigns case *in situ* to the Theme, but leaves the Actor without case, forcing it to raise out of Spec, VP, as in English. TT morphology, on the other hand, assigns case to the Actor in Spec, VP, allowing it to remain in its base position, but leaves the Theme without case, forcing it to raise.

However, as I discuss in Section 4, there is evidence from binding and other domains to show that the trigger possesses the properties of an A′-element. I therefore propose a different structure, in which the trigger is located higher up in the tree, within the complementizer domain (C-domain) of the clause. Nominative case is assigned not to the trigger, but to the Actor, which is the structural subject of the clause.

What kind of element is the trigger, if it is not a subject? The fact that the trigger is required to be definite and is associated with "aboutness" suggests that it is a topic—but what kind of topic? As I

show below, the trigger shares important structural properties with clause-initial topics in languages like German and Icelandic, suggesting that they occupy the same phrase structure position.[13] Compare the Malagasy sentences in (16) with their German and Icelandic equivalents in (17) and (18): I claim that the clause-final boldfaced constituent in (16) occupies the same position as the clause-initial boldfaced constituent in (17) and (18), while the underlined Actor in (16b) occupies the same position as the non-fronted subject in (17b) and (18b):

(16) a. Tsy namaky ny boky **ny lehilahy**
Neg Pst.AT.read Det book Det man
"The man did not read the book"

b. Tsy novakin' ny lehilahy **ny boky**
Neg Pst.TT.read Det man Det book
"The book, the man did not read (it)"

(17) a. **Der Mann** hat das Buch nicht gelesen
the.Nom man has the.Acc book not read
"The man did not read the book"

b. **Das Buch** hat der Mann nicht gelesen
the.Acc book has the.Nom man not read
"The book, the man did not read (it)"

(18) a. **Maðurinn** hafði ekki lesið bókina
man.Def.Nom had not read book.Def.Acc
"The man had not read the book"

b. **Bókina** hafði maðurinn ekki lesið
book.Def.Acc had man.Def.Nom not read
"The book, the man had not read (it)"

Clearly there are differences between Malagasy on the one hand and German and Icelandic on the other, most obviously with regard to word order and the marking of grammatical relations. In German and Icelandic the trigger/topic occurs at the left edge of the clause while in Malagasy it occurs at the right edge. Moreover (simplifying somewhat), in German and Icelandic the grammatical function of the

[13] The idea that triggers occupy the same position as preverbal topics in Germanic has been explored for Tagalog by Richards (2000). Some of Richards's empirical arguments for this view are replicated in this paper for Malagasy.

trigger/topic is indicated by its morphological case, while in Malagasy the form of the trigger/topic is invariant and its grammatical function is instead identified by the voice marking on the verb. I nevertheless conclude that there is sufficient evidence for locating Malagasy triggers and V2 topics in the same phrase structure position. This evidence is reviewed in Section 4.

What phrase structure position do V2 topics and Malagasy triggers occupy? Following Rizzi (1997) and many others, I assume that the C-domain consists not of a single projection, CP, but a hierarchy of projections associated with distinct functional heads. For purposes of this paper, I posit two such heads: The lower head selects TP and projects a WH PHRASE (WhP), which is in turn selected by the higher head projecting a TOPIC PHRASE (TopP). Topics in V2 languages are base-generated in the specifier of TopP, and are case- and θ-licensed through coindexation with a null operator *Op* (or optionally, in some Germanic languages, a *d*-pronoun) which raises out of TP to check a scope-related feature in the specifier of WhP.[14] Consider the German object topicalization example in (19a), from Rizzi (1997), to which I assign the structure in (19b). (For evidence that topics are base-generated in Spec, TopP, rather than raising into this position, see 4.2.)[15]

[14] For similar (though not identical) assumptions concerning the left periphery in Germanic, see Müller and Sternefeld (1993), Rizzi (1997), and especially Zwart (1993).

[15] There is some controversy concerning the status of SVO sentences in verb-second languages. According to the traditional account, going back at least to den Besten (1977), subjects, like objects, raise to the fronted topic position, triggering verb raising into the C-domain. However, Travis (1991b) and Zwart (1993) argue that the subject is in its case position in SVO sentences, while the topic position remains empty (under this theory, verb movement to the C-domain is triggered only when there is a fronted constituent which needs to be licensed; otherwise the verb remains in T).

With regard to Malagasy, we might wonder whether the Actor trigger in AT clauses such as (16a) is occupying Spec, TopP, or whether it is in Spec, TP (or Spec, *v*P) with the Spec, TopP position empty. I will assume that it is in Spec, TopP, for the following reasons (thanks to an anonymous reviewer for pointing these out to me): (a) if the Actor trigger were in Spec, TP or Spec, *v*P, we might expect that AT clauses would have VSO or SVO order instead of the VOS order we in fact find; and (b) if there were no operator movement to Spec, WhP in AT clauses, then (for reasons discussed in Section 3.2 below) we would expect to find an asymmetry between AT and non-AT clauses with regard to restrictions on extraction in clefts and other constructions, but no such asymmetry exists. In general, there seems to be no evidence to suggest that Actor and non-Actor triggers occupy different positions in Malagasy (cf. (9)), showing that Actor and non-Actor triggers both immediately follow *ve* in yes/no questions).

(19) a. **Den Hans** (den) kenne ich seit langem
the.Acc Hans him know I since long
"Hans, I have known for a long time"

b. [$_{\text{TopP}}$ **den Hans**$_i$ [$_{\text{WhP}}$ *Op*$_i$/den$_i$ kenne$_k$ [$_{\text{TP}}$ ich t_k t_i seit langem]]]

Promotion to trigger in Malagasy involves the same basic derivation, modulo differences in constituent order and verb movement. Take (20a): The trigger *ny akoho* is base-generated in Spec, TopP, and coindexed with a null operator, which has raised into the specifier of WhP from the accusative case position, as in (20b). The Actor *ny mpamboly* remains within TP, where its nominative case feature is checked by the verb complex (the verb raises to T *via* successive head adjunction, and is spelled out at the left edge of the clause, Top and Wh being empty; see 3.1 for discussion of EP and other projections below TP).[16]

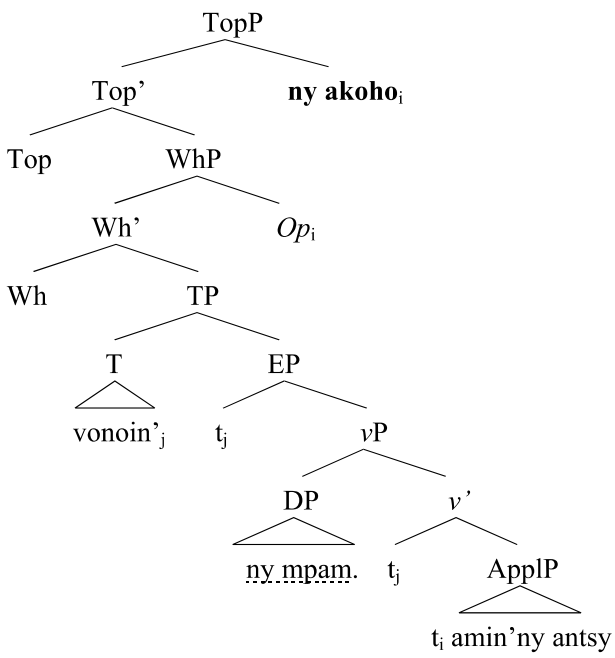
(20) a. Vonoin' ny mpamboly amin'ny antsy **ny akoho**
TT.kill Det farmer with-Det knife Det chicken
"The chicken, the farmer kills (it) with the knife"

[16] The C-domain may contain other projections besides WhP and TopP—e.g. a FORCE PHRASE, associated with force-related features of the clause such as [+Q] (Rizzi 1997). I also leave open the possibility of a higher TopP projection, located above the one containing the trigger, to host the fronted constituent in the so-called *dia*-construction (ib). The *dia*-construction is used to foreground a topic as new to the discourse, or to contrast one previously mentioned topic with another (see Keenan 1976; Flegg 2003 for discussion). (Cf. Aissen 1992: Rizzi 1997 on the coexistence of two topic positions in the same language, one higher and the other lower. See also chapter 4 of Paul 1999 for a very different proposal concerning the C-domain of Malagasy, based more closely on Rizzi 1997).

(i) a. Nihinana ny voankazo **ny gidro**
Pst.AT.eat Det fruit Det lemur
"The lemur ate the fruit"

b. *Ny gidro* dia nihinana ny voankazo
Det lemur Top Pst.AT.eat Det fruit
"As for the lemur, (it) ate the fruit"

b.



This proposal has important ramifications for the treatment of the Malagasy voicing system and extraction restrictions. I discuss these in the following subsections before turning to evidence in favor of the structure in (20b).

3.1. *Voice Morphology and Case Licensing*

Under theories which treat the trigger as the subject of the clause, voice morphology in Malagasy is taken to encode the mapping of different semantic roles or deep structure arguments to the surface subject position. However, the proposal argued for here suggests a different approach, whereby voice morphology is taken to indicate the case position from which the operator in Spec, WhP has raised. Here I outline a particular proposal along these lines. I argue that AT morphology is inserted on the verb when the operator with which the trigger is coindexed raises to Spec, WhP from the nominative case position, while TT morphology is inserted when the operator raises from the accusative case position, and so on. For reasons of space, I present a simplified version of

the proposal here (for a somewhat more detailed version, see Pearson to appear).

Examples of voice morphology are given in (21) and (22) below, with morpheme-by-morpheme breakdowns of the verbs given in brackets (for an overview of the phonological rules that derive the surface forms, see Keenan and Polinsky 1998, Erwin 1996, and Paul 1996a,b). When the trigger is the Actor, i.e. the sole argument of an intransitive verb (21a) or the external argument of a transitive verb (22a), the verb takes the prefix *m-*.[17] When the trigger is the Theme, i.e. the internal argument of a transitive verb (22b), the verb carries one of three TT affixes, *-in*, *-an*, or *a-*, where *-in* and *-an* are generally regarded as lexically conditioned allomorphs of a single morpheme *-Vn* (for the sake of simplicity I treat all three affixes as allomorphs, but see Pearson to appear, where it is argued that they are in fact three distinct morphemes). Finally, when the trigger bears an oblique relation, such as location (21b) or instrument (22c), the verb is suffixed with *-an*. Notice that in addition to *m-*, the AT form includes one of a small set of VERBAL PREFIXES (glossed ''Pfx''), of which *i-* and *aN-* are the most common. This same prefix is also found on the CT form, but absent in the TT form. Note also that the TT and CT forms are suffixed with the so-called LINKING MORPHEME *-ny* (glossed ''Lnk''), which is absent in the AT form.[18]

(21) a. Mipetraka [< *m*-i-petrak] eo ambonin'ny vato
AT.sit *m*-Pfx-sit there on.top-Det rock
ny vehivavy
Det woman
''The woman is sitting on the rock''

[17] The *m-* prefix is deleted by a low-level morphophonological rule after the past tense prefix *n-* and the irrealis/future prefix *h-*: *mandihy* 'dances', *nandihy* (< *n-* + *mandihy*) 'danced', *handihy* (< *h-* + *mandihy*) 'will/would dance'.

[18] Travis (1994) give the underlying form of the linking morpheme as *-na* rather than *-ny*. The vowel of this morpheme is generally deleted, while the *n* merges with the final consonant of *-in* and *-an*. Hence *-ny* is detectable in the surface form only on verbs which take the prefix *a-*, where it is realized as *-n'* (e.g. *a-taov-ny* > *ataon'* 'TT.do/make') unless the verb root ends in *k*, *r*, or *t*, in which case it is realized as *-y* (e.g. *a-tosek-ny* > *atosiky* 'TT.push'). Nevertheless I assume that the linking morpheme is present on all non-AT verbs (cf. Travis 1994).

b. Ipetrahan' [< i-petrak-*an*-ny] ny vehivavy **ny vato**
CT.sit Pfx-sit-*an*-Lnk Det woman Det rock
"The woman is sitting on the rock"

(22) a. Mamono [< *m*-aN-vono] akoho amin'ny antsy
AT.kill *m*-Pfx-kill chicken with-Det knife
ny mpamboly
Det farmer
"The farmer is killing chickens with the knife"

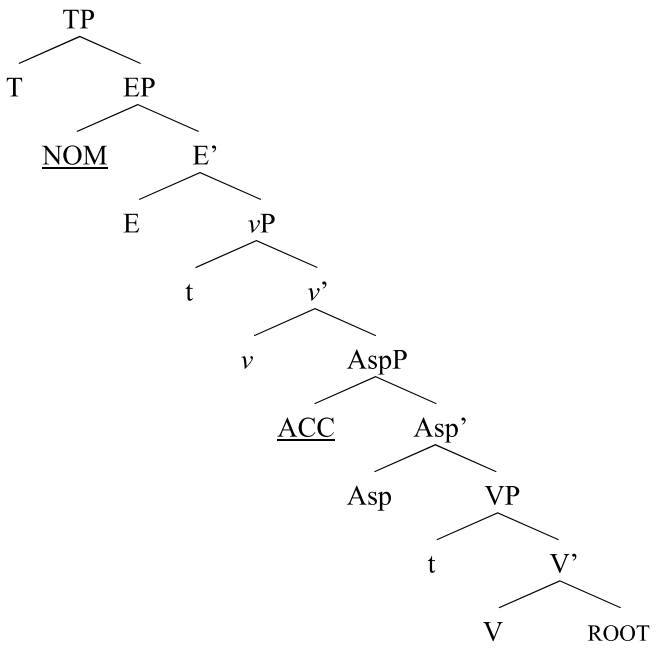
b. Vonoin' [< vono-*in*-ny] ny mpamboly amin'ny
TT.kill kill-*Vn*-Lnk Det farmer with-Det
antsy **ny akoho**
knife Det chicken
"The farmer is killing the chickens with the knife"

c. Amonoan' [< aN-vono-*an*-ny] ny mpamboly akoho
CT.kill Pfx-kill-*an*-Lnk Det farmer chicken
ny antsy
Det knife
"The farmer is killing chickens with the knife"

I propose that the AT prefix *m-* and the TT affixes *-Vn* and *a-* are realizations of case-licensing functional heads within TP. (Here I am in general agreement with Guilfoyle et al. (1992), who also associate the voice affixes with case licensing; cf. the discussion of (15) above.) When the operator which raises to Spec, WhP has a nominative case feature to check, the head which checks it is spelled out on the verb as *m-*, and when the operator has an accusative case feature, the head which checks that feature is spelled out as *-Vn* or *a-*. As for the CT suffix *-an*, I treat this as an applicative morpheme which introduces an oblique participant in its specifier. In accordance with a generalized version of the DOUBLY-FILLED COMP filter (cf. Sportiche 1992), *-an* is spelled out only when its specifier is empty, the oblique having raised to Spec, WhP.

Before presenting the details of this analysis, let me outline my assumptions concerning case licensing and the internal structure of TP in Malagasy. The tree in (23) shows the structure for the TP extended projection of a (mono)transitive predicate:

(23)



The verb's internal argument merges in the specifier of VP, while its external argument merges in the specifier of a higher VP shell headed by the light verb *v* (cf. Chomsky 1995). Following work by Lisa Travis (especially 1991a, 1994, 1996), I assume that *v*P and VP are each dominated by a functional projection associated with the event structure of the clause. The lower projection, AspP (ASPECT PHRASE), is associated with the telicity features of the event; while the higher projection, EP (EVENT PHRASE), introduces or licenses the event argument of the verb, converting the predicate into an event-denoting constituent (EP is similar to the ZP, or ZEIT PHRASE, proposed by Stowell 1996). EP is in turn selected by the tense head T, which orders the event denoted by EP relative to some reference time, typically the moment of speaking (cf. Stowell 1996). AspP and EP check the structural case features of the verb's arguments. In the course of the derivation, the internal argument of the verb is attracted—either overtly or covertly (see below)—to the specifier of AspP, where its accusative case features are checked, while the external argument is attracted—again, either overtly or covertly—to the specifier of EP, where its nominative case features are checked. Meanwhile the verb raises via successive head adjunction as far as T, so that the verb complex, consisting

of the verb root and associated bound morphology, is spelled out at the left edge of TP. (I assume that the extended projection of an intransitive predicate differs from (23) in that the Asp head lacks an accusative case feature, and hence fails to project a specifier; unaccusative intransitives also lack a *v*P projection between EP and AspP.)

I will treat the verbal affixes illustrated in (21)–(22) as spell-outs of heads in (23), which combine with the verb root through adjunction as it raises to T (cf. Baker 1988). Consider first the linking morpheme *-ny*, found on the non-AT forms. As shown in (24) below, this morpheme is suffixed to the verb only if the Actor is overt; if the Actor is covert, and the event is construed as having an unknown or arbitrary agent, then *-ny* is also absent. Given my assumption that the Actor is the nominative case-marked subject of the clause, the fact that *-ny* is required to license an overt Actor in non-AT clauses suggests that it plays a role in nominative case checking. I therefore assume that *-ny* is located in the E head. An examination of the forms in (21)–(22) shows that *-ny* is in complementary distribution with the AT prefix *m-*. Interpreting this as evidence that the two morphemes instantiate the same structural position, I conclude (following Travis 1994) that *m-* is also located in E.

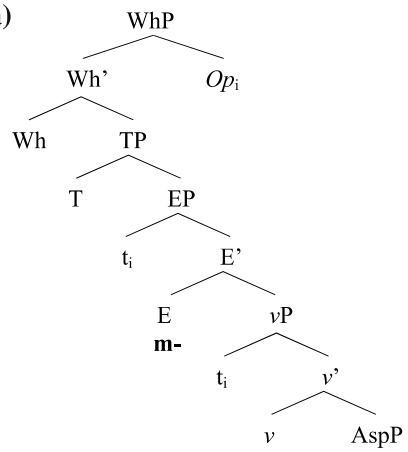
(24) a. Nataon' [< n-a-taov-*ny*] ny vehivavy **ny**
Pst.TT.make Pst-a-make-Lnk Det woman Det
fiomanana **rehetra**
preparation all
"The women made all the preparations"

b. Natao [< n-a-taov] **ny** **fiomanana** **rehetra**
Pst.TT.make Pst-a-make Det preparation all
"All the preparations were made"

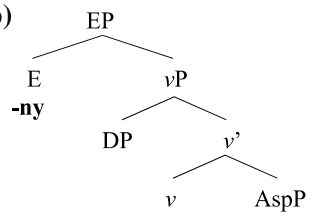
M- and *-ny*, then, are alternate realizations of the head which checks the nominative case feature of the Actor. What determines whether this head will be realized as *m-* (in AT clauses) or as *-ny* (in non-AT clauses)? Given my theory, this choice correlates with whether the Actor undergoes A′-movement or not: When the Actor is an operator which raises to Spec, WhP (where it is coindexed with the trigger in Spec, TopP), *m-* is inserted in E, and when the Actor remains inside TP, *-ny* is inserted in E. To capture this

pattern, I propose that the case feature of E may be either STRONG or WEAK (in the sense of Chomsky 1995). When E's case feature is strong, attracting the Actor to its specifier in the overt syntax, it is realized as *m-*; when E's case feature is weak, and checks the case feature of the Actor in the covert syntax, it is realized as *-ny*. In the latter case, the Actor is spelled out in its base position, Spec, *v*P (Spec, VP if the predicate is unaccusative). When the Actor is an operator which raises to Spec, WhP to check a (strong) feature of Wh, it must pass through Spec, EP in the overt syntax; thus the strong version of E is required, and the verb carries the *m-* prefix. When the Actor does not raise to Spec, WhP, it does not need to pass through Spec, EP in the overt syntax. In principle the case feature of E could be strong or weak in such cases, but economy considerations (viz. some form of Procrastinate) dictate in favor of the weak form, and so the verb carries the suffix *-ny* and the Actor remains *in situ*. These two options are shown schematically in (25a) and (25b) respectively (note that here, and in (27)–(29) below, voice affixes are shown in their base positions, though of course they adjoin to the verb as it undergoes successive head movement, winding up under T at Spell Out).

(25) **(a)**



(b)



My analysis of the TT marker (*-Vn* or *a-*) takes essentially the same form as my analysis of the AT marker *m-*. Consider first the verbal prefix (usually *aN-* or *i-*), which appears only in the AT and CT forms, and is thus mutually exclusive with *-Vn* and *a-*. Although the choice of which prefix a verb will take is partly

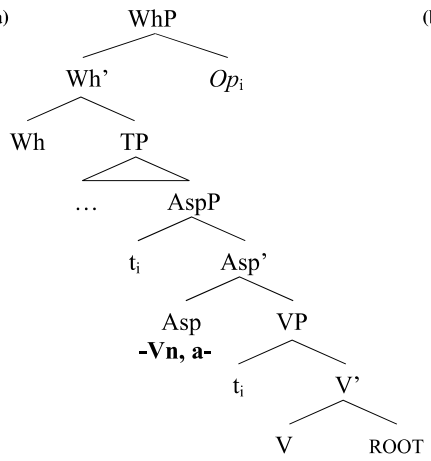
idiosyncratic, it correlates to a certain degree with the valency of that verb: Verbs taking *aN-* are almost always transitive, while verbs taking *i-* tend to be intransitive. In fact, there are a large number of verb roots in Malagasy which can take either *aN-* or *i-*, with *aN-* forming a transitive stem and *i-* forming its intransitive counterpart. Some examples are given in (26) (in the AT voice):

(26) a.	m-aN-haja	>	manaja	'respect (tr.)'
	m-i-haja	>	mihaja	'be respected'
b.	m-aN-janon	>	manjanona	'stop (tr.)'
	m-i-janon	>	mijanona	'stop (intr.), stay'
c.	m-aN-sasa	>	manasa	'wash (tr.)'
	m-i-sasa	>	misasa	'wash oneself'
d.	m-aN-voha	>	mamoha	'open (tr.)'
	m-i-voha	>	mivoha	'be open'

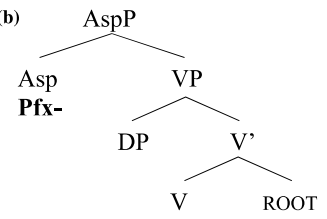
Transitivity correlates with the availability of structural accusative case: In transitive clauses, by assumption, the head of AspP has a case feature to check, which licenses the presence of an internal argument, while in intransitive clauses the head of AspP lacks a case feature. Since the choice of verbal prefix, *aN-* vs. *i-*, seems to be tied to transitivity, I tentatively locate these prefixes in Asp. Plausibly, then, the TT affixes *-Vn* and *a-* are also located in Asp, since they are mutually exclusive with the verbal prefixes.

As with *m-* and *-ny* in E, whether the Asp head is spelled out as a verbal prefix or as a TT marker depends on whether its case feature is weak or strong. When it is strong, Asp is realized as a TT marker, and when it is weak (or absent, in the case of intransitive clauses), Asp is realized as the verbal prefix. Normally the weak variant of Asp is selected, and the Theme (if any) remains in Spec, VP, checking its case without overt movement (27b). However, when the Theme is an operator attracted to Spec, WhP, its case is checked via overt movement to Spec, AspP; in such cases the checking feature of Asp must be strong, and so the verb will be marked with *-in* instead of the verbal prefix (27a).

(27) (a)



(b)

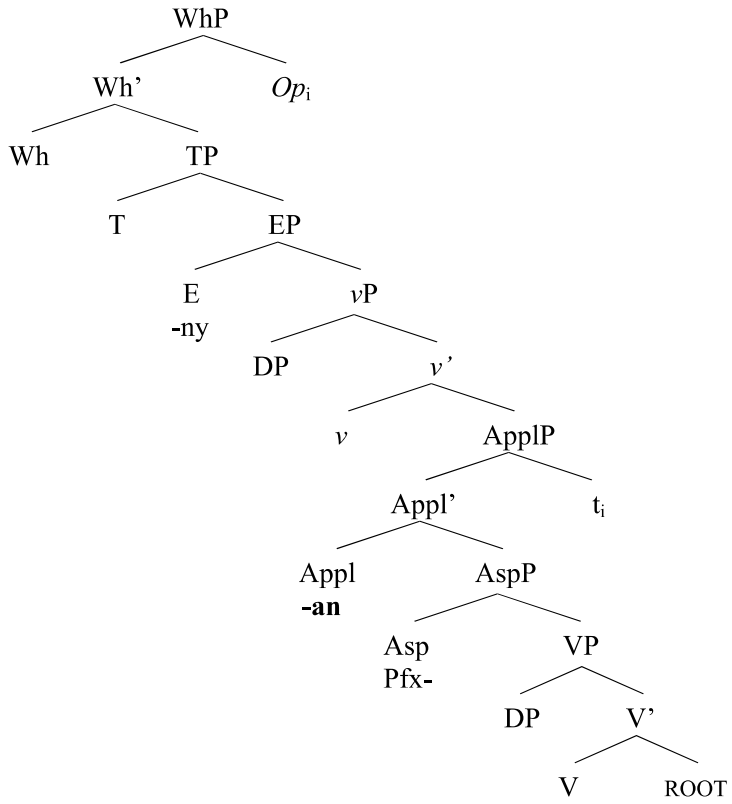


Turning finally to the CT voice, which encodes the promotion of an oblique to the trigger function: Like the TT form, the CT form includes the linking morpheme *-ny* (when the Actor is overt), indicating that E has a weak nominative case feature; and like the AT form, the CT form includes a verbal prefix, indicating that Asp has a weak (or no) accusative case feature. It follows that in CT clauses nominative and accusative case are both checked in the covert syntax—viz. the nominative case-marked Actor and the accusative case-marked Theme (if any) remain *in situ*. In addition to *-ny* and the verbal prefix, the CT form includes the suffix *-an*. I analyze this suffix as an applicative morpheme, on the grounds that its presence on the verb correlates with the suppression of the preposition (e.g. *amin'* 'with') which licenses the oblique in non-CT clauses (cf. Aldridge 2003, who treats the Tagalog counterpart of *-an* as an applicative marker).

A full treatment of the CT form and the syntax of applicative constructions in Malagasy is beyond the scope of this paper (see Pearson to appear, for more discussion of these issues). In the interests of simplicity, I represent the applicative morpheme here as a predicate head projecting a phrase of category ApplP, which takes the oblique phrase as its specifier and AspP as its complement. This head is spelled out as *-an* when the oblique phrase is an operator which raises to Spec, WhP. The Actor is licensed by the weak nominative case-checking E head *-ny*, and is spelled out in Spec, *v*P, while the Theme is licensed by the weak accusative case-checking Asp head

(the verbal prefix) and surfaces in Spec, VP. This is shown schematically in (28):[19]

(28)

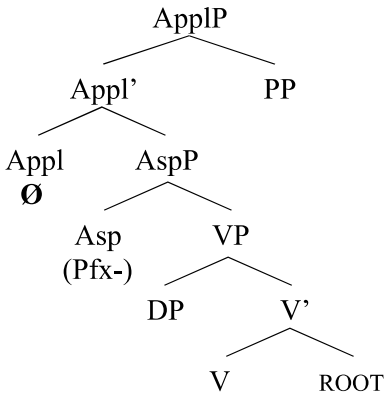


In non-CT clauses, the oblique remains in Spec, ApplP and some other phrase (the Actor or Theme) raises to Spec, WhP, as described above. When it is *in situ*, the oblique must be licensed by a preposition, presumably because neither E nor Asp is available to check its

[19] Since a clause may contain more than one oblique phrase, I must assume that ApplP is recursive. Note also that because non-trigger obliques normally follow the Actor and Theme within TP, I show the applicative head in (28) projecting its specifier to the right. However, this is merely to keep the representation easy to read. As with TopP and WhP (cf. footnote 4), I actually assume that the specifier is projected to the left of the head, and the surface word order is derived through leftward movement of AspP over the oblique.

case feature.[20] Moreover, *-an* is not spelled out on the verb: the head of ApplP is empty, as is shown in (29):

(29)



To account for the fact that *-an* is spelled out only if the oblique raises out of Spec, ApplP to Spec, WhP, I follow Sportiche (1992) and Koopman and Szabolcsi (2000) (cf. also Travis 1996) in adopting a generalized version of the DOUBLY-FILLED COMP filter, as in (30). In accordance with this filter, *-an* is spelled out when its specifier contains a trace of the operator; otherwise it is suppressed. (An examination of the tree diagrams above will show that (30) applies generally: Each of the projections posited here—TopP, WhP, TP, EP, *v*P, AspP, VP—has an empty head, an empty specifier, or both, at Spell Out.)

(30) If H is a category containing some feature F, * [$_{HP}$ XP [$_{H'}$ H^0 ...]] when XP and H^0 both overtly encode F.

[20] To explain why the preposition is absent in CT clauses, I must stipulate either that oblique operators do not have case features, or that oblique operators have their case checked by a null preposition. Both stipulations raise problems, but for reasons of space I set these aside here.

Note that Malagasy possesses double object constructions, showing that applicative objects in Malagasy sometimes bear structural case. However, this happens only when the applicative object is interpreted as affected by the action (e.g. when it is a recipient or benefactee; cf. Marantz (1993) on the role of affectedness in the mapping of arguments in applicative constructions). In Pearson (to appear) I argue that double object applicatives in Malagasy have a somewhat different structure from (28), such that the applicative object is generated within AspP and bears an accusative case feature which is checked by Asp.

To summarize, I have argued that structural nominative case is checked by the event head E, while structural accusative case is checked by the aspectual head Asp. The case checking features of E and Asp may be either strong or weak. Economy considerations require them to be weak; however, this requirement is overridden just in case an operator bearing a nominative or accusative feature is attracted to Spec, WhP: Since the operator raises to Spec, WhP in the overt syntax, it must first raise to check its case in the overt syntax, requiring the checking feature of E or Asp, respectively, to be strong instead of weak. The distribution of the morphemes involved in the various voice forms is explained in terms of this analysis: The AT prefix *m-* realizes a strong nominative checking feature in E, while the linking morpheme *-ny* (found on TT and CT verbs with overt Actors) realizes a weak nominative feature on E. Similarly, the TT affixes *-Vn* and *a-* realize a strong accusative feature on Asp, while the verbal prefixes *aN-* and *i-* (found on AT and CT verbs) realize a weak (or no) accusative feature on Asp. This leaves the CT suffix *-an*, which I analyze as an applicative morpheme taking an oblique phrase as its specifier. This applicative morpheme is spelled out only if the oblique phrase raises to Spec, WhP, leaving a trace behind—viz. only in CT clauses—in accordance with a generalized version of the DOUBLY-FILLED COMP filter.

3.2. *Voice and* wh-*Agreement*

By treating voice marking as the (indirect) manifestation of the case features of an A′-chain, I am equating the Malagasy voicing system with WH-AGREEMENT, a type of verb morphology found in a variety of Austronesian languages related to those of the Philippine type, including Chamorro (Chung 1982, 1994, 1998), Palauan (Georgopoulos 1991), and Tukang Besi (Donohue 1999). I illustrate below with examples from Chamorro (taken from Chung 1998, slightly reglossed).

The Chamorro system is somewhat complex, with the form of *wh*-agreement depending on the transitivity and mood (realis vs. irrealis) of the verb. Here I focus on transitive realis clauses. Normally in such clauses, the verb carries a prefix agreeing in person/number features with the subject. This is illustrated in (31), where the verb takes the third person singular marker *ha-* in agreement with *si Juan*. However, when extraction has taken place, this person/number agreement morpheme is absent, and the verb instead bears special

wh-agreement morphology. When the subject is extracted, the infix *-um-* (or its allomorph *mu-*) is added to the verb. This is illustrated with a constituent question in (32a) and a relative clause in (32b). When an object is extracted, subject agreement is optionally marked with a POSSESSOR AGREEMENT suffix, and *-in-* is infixed to the verb stem (33).[21] Finally, when an oblique is extracted, the subject agreement prefix is again replaced with possessor agreement, but *-in-* is absent (34). Chung argues that *wh*-agreement involves agreement in abstract case features between the verb (in INFL) and the trace of the A′-extracted element, much as I have argued here for voice in Malagasy (although the formal mechanisms which Chung invokes are rather different).

(31) *Ha*-fa'gasi si Juan i kareta
3s-wash Det Juan Det car
"Juan washed the car"

(32) a. Hayi f*um*a'gasi i kareta?
who **Wh.Subj**.wash Det car
"Who washed the car?"

b. Hu-apasi i taotao [*Op* ni f*um*a'gasi
1s-pay Det person that **Wh.Subj**.wash
i kareta-hu]
Det car-1s
"I paid the person who washed my car"

(33) Hafa f*in*a'gasése-nña si Henry pära hagu?
what **Wh.Obj**.wash.Redup-3s Det Henry for you
"What is Henry washing for you?"

(34) Hafa pära fa'gase-mmu i kareta?
what Fut **Wh.Obl**.wash-2s Det car
"What are you going to wash the car with?"

Evidence for a connection between *wh*-agreement and voice comes from the *wh*-agreement morphology itself: Various authors, including Topping (1973) and Donohue and Maclachlan (2000), have suggested that the Chamorro subject wh-agreement marker *-um-*/

[21] The possessor agreement suffixes have a similar distribution to the Malagasy clitic pronouns discussed in 5.1 (and are in some cases clearly cognate with them).

mu- is cognate with the Tagalog AT marker *-um-/m-* (35a); while the object wh-agreement marker *-in-* is cognate with the TT marker *-in-* (35b):

(35) a. B*um*ili ng libro sa tindahan **ang maestro**
AT.Prf.buy Det book Obl.Det store Det teacher
"The teacher bought a book at the store"

b. B*in*ili ng maestro sa tindahan **ang libro**
TT.Prf.buy Det teacher Obl.Det store Det book
"The teacher bought the book at the store"

Given the close genetic relationship between Tagalog and Malagasy, it is not implausible that *-um-/mu-* and *-in-* are also cognate with the Malagasy AT prefix *m-* and TT suffix *-in*, respectively.[22] If my analysis of voice in Malagasy is correct, it is plausible that these morphemes are not only historically related, but in fact fulfill the same function synchronically: *-um-/mu-* and *m-* are inserted on the verb when a DP undergoes A′-movement from the nominative case position, while *-in-* and *-in* are inserted (optionally, in the case of Chamorro) when a DP undergoes A′-movement from the accusative case position.

Of course, voice marking is a ubiquitous feature of verbs in Malagasy and Tagalog, whereas verbs in Chamorro carry *wh*-agreement only in particular constructions, such as *wh*-questions and relative clauses. If voice and *wh*-agreement are really one and the same, why does their distribution differ in this way? This follows, I suggest, from the fact that Philippine-type languages are TOPIC PROMINENT while Chamorro is not: In Malagasy and Tagalog, every clause must contain either a topic operator (coindexed with the trigger) or a *wh*-operator—just as in verb-second languages like Icelandic every clause must have a fronted topic or *wh*-phrase. Therefore, every clause will contain an A′-chain with its head in Spec, WhP. If *wh*-agreement/voice (indirectly) encodes the abstract case of an A′-chain, and if

[22] That a suffix in Malagasy should be related to an infix in Chamorro may seem unexpected; however, there is language-internal and comparative evidence for a historical alternation between *-in* and *-in-* in Western Malayo-Polynesian. For Malagasy, Abinal and Malzac (1963) give a large number of verbs which may form the TT voice either by suffixing *-in* to the root or by infixing *-in-* after the first consonant of the root (e.g. *vaky* 'break' > *vakina*, *vinaky* 'TT.break'). Though the suffixed variants are by far the more common in contemporary Malagasy, the infixed forms were originally more widespread, and are occasionally still attested.

every clause in Malagasy and Tagalog contains such a chain, then every verb will be marked for voice. Chamorro, by contrast, lacks an obligatorily filled operator position: WhP may fail to project a specifier. In relative clauses, *wh*-questions, etc., the verb will carry *wh*-agreement, but in clauses with no operator movement, all of the verb's arguments will remain in their case positions and the verb will carry φ-feature agreement instead. In short, Malagasy and Tagalog may be thought of as Chamorro-type languages in which *wh*-agreement is fully generalized, due to the presence of an A′-specifier which must be filled in every clause.[23]

3.3. *Extraction Restrictions*

Analyzing the trigger as an A′-element, and PTT as A′-movement, has important implications for the treatment of extraction restrictions. As in Tagalog (cf. examples (2)–(3)), the choice of trigger in Malagasy is constrained in constructions involving extraction, such that the voice of the verb correlates with the grammatical function of the extracted element when the latter is a DP.

Consider relativization: Relative clauses in Malagasy follow the head noun, and are optionally introduced by the operator *izay* (relative clauses without *izay* presumably have a null operator). If the noun being relativized corresponds to the Actor participant in the relative clause, the verb in the relative clause must appear in the AT form, as shown in (36a). Other voices are incompatible with Actor relativization, as (36b–c) illustrate:

(36) a. ny mpamboly [(izay) mamono ny akoho
Det farmer AT.kill Det chicken
amin'ny antsy]
with-Det knife
"the farmer who is killing chickens with the knife"

b. *ny mpamboly [(izay) vonoina amin'ny antsy
Det farmer TT.kill with-Det knife
ny **akoho**]
Det chicken
"the farmer who is killing the chickens with the knife"

[23] Donohue and Maclachlan (2000) argue that *wh*-agreement represents a Philippine-style voice system which is in the process of being lost. I remain agnostic on the exact diachronic relationship between the Chamorro system and the Malagasy/Tagalog system.

c. *ny mpamboly [(izay) amonoana ny akoho
Det farmer CT.kill Det chicken
ny antsy]
Det knife
''the farmer who is killing the chickens with the knife''

Likewise, if the relativized noun corresponds to the Theme of the verb in the relative clause, then the TT form is required (37); and if the relativized noun corresponds to an oblique participant in the relative clause, such as an instrument, the embedded verb will appear in the CT form (38):

(37) a. *ny akoho [(izay) mamono amin'ny antsy
Det chicken AT.kill with-Det knife
ny mpamboly]
Det farmer
''the chickens which the farmer is killing with the knife''

b. ny akoho [(izay) vonoin' ny mpamboly
Det chicken TT.kill Det farmer
amin'ny antsy]
with-Det knife
''the chickens which the farmer is killing with the knife''

c. *ny akoho [(izay) amonoan' ny mpamboly
Det chicken CT.kill Det farmer
ny antsy]
Det knife
''the chickens which the farmer is killing with the knife''

(38) a. *ny antsy [(izay) mamono ny akoho (amin')
Det knife AT.kill Det chicken with
ny mpamboly]
Det farmer
''the knife that the farmer is killing the chickens with''

b. *ny antsy [(izay) vonoin' ny mpamboly (amin')
Det knife TT.kill Det farmer with
ny akoho]
Det chicken
''the knife that the farmer is killing the chickens with''

c. ny antsy [(izay) amonoan' ny mpamboly
Det knife CT.kill Det farmer

ny akoho]
Det chicken
"the knife that the farmer is killing the chickens with"

Essentially the same pattern is found when a constituent is focused. As shown in (39b) below, focused constituents appear at the left edge of the clause, followed by the particle *no* (here glossed "Foc"). Paul (1999, 2001) presents extensive evidence showing that (39b) has a cleft-like structure: As schematized in (39d), the fronted constituent (possibly introduced by a null copula) is the main predicate of the sentence, of which the constituent consisting of *no* and the following predicate phrase is the trigger (cf. the non-focus structure in (39c)). The *no*-phrase, like a free relative, contains an operator-variable chain which shares its index with the constituent as a whole, and is interpreted as an expression ranging over the set of entities that bear the property named by the predicate it contains.

(39) a. Nihinana ny voankazo **ny gidro**
Pst.AT.eat Det fruit Det lemur
"The lemur ate the fruit"

b. *Ny gidro* no nihinana ny voankazo
Det lemur Foc Pst.AT.eat Det fruit
"It's the *lemur* who ate the fruit"

c. [$_{\text{Predicate}}$ nihinana ny voankazo] [$_{\text{Trigger}}$ ny gidro]

d. [$_{\text{Predicate}}$ ny gidro] [$_{\text{Trigger}}$ Op_i no nihinana ny voankazo t_i]$_i$

If the Actor is clefted, then the verb appears in the AT form (40); if the Theme is clefted, the TT form must be used (41), and if an oblique DP is clefted, the CT form is required (42):[24]

(40) a. *Ny mpamboly* no mamono ny akoho
Det farmer Foc AT.kill Det chicken
amin'ny antsy
with-Det knife
"It's the *farmer* who is killing the chickens with the knife"

[24] These restrictions only apply when a DP is clefted. When a PP or adverbial is clefted, the verb may appear in any voice. For reasons of space I will set this complication aside, but see Paul (1999) and Pearson (2001) for discussion.

b. **Ny mpamboly* no vonoina amin'ny antsy **ny akoho**
c. **Ny mpamboly* no amonoana ny akoho **ny antsy**

(41) a. *Ny akoho* no vonoin' ny mpamboly
Det chicken Foc TT.kill Det farmer
amin'ny antsy
with-Det knife
"It's the *chickens* that the farmer is killing with the knife"
b. **Ny akoho* no mamono amin'ny antsy **ny mpamboly**
c. **Ny akoho* no amonoan' ny mpamboly **ny antsy**

(42) a. *Ny antsy* no amonoan' ny mpamboly
Det knife Foc CT.kill Det farmer
ny akoho
Det chicken
"It's the *knife* that the farmer is killing the chickens (with)"
b. **Ny antsy* no namono ny akoho **ny mpamboly**
c. **Ny antsy* no novonoin' ny mpamboly **ny akoho**

In *wh*-questions in Malagasy, the *wh*-phrase is typically clefted (Paul 1998b, 2001), resulting in the same pattern: When an Actor is questioned, the verb appears in the AT form; when a Theme is questioned, the verb bears TT morphology; and when an oblique is questioned, the verb is in the CT form:[25]

(43) a. *Iza* no mamono ny akoho amin'ny antsy?
who Foc AT.kill Det chicken with-Det knife
"Who is killing the chickens with the knife?"
b. *Inona* no vonoin' ny mpamboly amin'ny antsy?
what Foc TT.kill Det farmer with-Det knife
"What is the farmer killing with the knife?"
c. *Inona* no amonoan' ny mpamboly ny akoho?
what Foc CT.kill Det farmer Det chicken
"What is the farmer killing the chickens with?"

[25] *Wh*-questions have a cleft structure in many Western Austronesian languages: Cf. Kroeger (1993) and Richards (1998) on Tagalog, Georgopoulos (1991) on Palauan, and Davies (2000a) on Madurese.

Under the traditional theory of Malagasy clause structure, which treats the trigger as the subject and voice alternations as analogous to active/passive alternations in English, the above patterns are captured by means of a language-specific constraint on movement—viz. ONLY SURFACE SUBJECTS MAY EXTRACT. According to this approach, the voicing system is taken to feed extraction by allowing different constituents in the clause to become the subject: In AT clauses, the Actor bears the subject role, and is thus accessible for extraction in a cleft construction while non-Actors are not (40). In order to cleft, say, the Theme, it must first be made the derived subject by passivizing the verb (41). The idea that PTT feeds extraction goes back to Keenan (1972, 1976), and has been developed in recent work by MacLaughlin (1995), Nakamura (1996), Law (1997), and Paul (2002), among others.

But if PTT actually involves A′-movement to an operator position rather than A-movement to a subject position, we can avoid having to stipulate that only subjects in Malagasy extract. I propose that the operator found in relative clauses and cleft constructions is licensed in the specifier of WhP, thereby preventing movement of the topic operator into this position. The apparent restrictions on extraction then follow as a consequence of treating voice morphology as *wh*-agreement, as discussed in 3.1–3.2. Consider (43a), where the Actor is questioned: Within the *no*-phrase, a *wh*-operator (coindexed with the clefted constituent *iza* 'who'[26]) raises from Spec, *v*P to Spec, WhP by way of the nominative case position Spec, EP, causing the AT marker *m-* to be spelled out on the verb. Likewise, insertion of the TT marker *-in* is triggered by movement of a *wh*-operator through the accusative case position Spec, AspP, as in (43b). A sentence such as (44) would be ruled out because it contains two operators vying for the same position: the *wh*-operator coindexed with *inona* and the topic operator coindexed with *ny mpamboly*.

(44) **Inona* no mamono amin'ny antsy **ny** **mpamboly**?
what Foc AT.kill with-Det knife Det farmer
"What is the farmer killing with the knife?"

[26] The *no*-phrase in (43a) presumably lacks a TopP projection.

In short, relativization and clefting are not fed by PTT, as previous researchers have assumed. Rather, *wh*/relative operator movement and PTT compete for the same landing site, and are thus mutually exclusive within a single clause.[27]

Looked at in this way, the Malagasy situation is comparable to what we find in languages such as German (45), where topicalization is blocked by the presence of a *wh*-phrase. This kind of parallel

[27] Note that the constraints on extraction in related languages are somewhat different, a fact which must be taken into account if one is to extend the current analysis—or indeed the traditional analysis, where PTT feeds extraction—to Philippine-type languages in general. Consider relative clauses in Tagalog, for example (data from Schachter 1996, who bases his discussion on McGinn 1988 and an unpublished paper by R. M. Cena): While relativization of non-trigger arguments and adjuncts is generally prohibited, it is nevertheless possible to relativize a limited class of non-triggers. For example, the possessor of a trigger may be relativized, as shown in (i) (as far as I know, this is not allowed in Malagasy):

(i) ang doktor [na mabait **ang anak**]
Det doctor Lnk kind Det child
"the doctor whose child is kind"

Moreover, Tagalog possesses a particular clause type, associated with RECENT PERFECTIVE aspectual marking on the verb, in which none of the noun phrases are selected as the trigger. This recent perfective construction is illustrated in (ii) (note the absence of *ang*). As illustrated in (iii), when there is no trigger in the clause, any of the noun phrases may be relativized (there is no equivalent of the recent perfective construction in Malagasy):

(ii) Kabibigay lang ng maestro ng libro sa bata
RPrf.give just Det teacher Det book Obl.Det child
"The teacher just gave a book to the child"

(iii) a. ang maestra[-ng kabibigay lang ng libro sa bata]
Det teacher Lnk RPrf.give just Det book Obl.Det child
"the teacher who just gave a book to the child"

b. ang libro [-ng kabibigay lang ng maestro sa bata]
Det book Lnk RPrf.give just Det teacher Obl.Det child
"the book that the teacher just gave to the child"

It is beyond the scope of this paper to account for these differences between Tagalog and Malagasy (but see footnote 39 for some thoughts on the possessor extraction construction in (i)). A comprehensive theory of extraction restrictions in Philippine-type languages remains a goal for future research.

behavior is just what we would expect if triggers in Malagasy occupy the same position as topics in Germanic, as suggested above.[28]

(45) a. **Die** **Hühnchen** hat gestern der Landwirt
the chickens has yesterday the farmer
mit dem Messer getötet
with the knife killed
"The chickens, the farmer killed yesterday with the knife"

b. *Mit* *welchem* *Messer* hat gestern
with which knife has yesterday
der Landwirt die Hühnchen getötet?
the farmer the chickens killed
"With which knife did the farmer kill the chickens yesterday?"

c. ***Die** **Hühnchen** <hat> *mit* *welchem* *Messer*
the chickens has with which knife
<hat> gestern der Landwirt getötet?
has yesterday the farmer killed
"The chickens, with which knife did the farmer kill yesterday?"

4. Evidence that the Trigger Occupies an A′-Position

Having laid out my proposal and considered some of its consequences for the treatment of voice and extraction, I turn to empirical evidence for analyzing the trigger as a topic-like A′-element rather than a subject. I begin in 4.1 by reviewing some distributional parallels between triggers in Malagasy and topics in German and Icelandic. In 4.2 I show that the binding properties of triggers are nearly identical to those of German and Icelandic topics—specifically, they exhibit reconstruction effects, but fail to show noticeable weak crossover effects. I account for these facts in terms of the structure in

[28] With regard to (45c), note that if the order of *die Hühnchen* and *mit welchem Messer* is reversed, the sentence becomes grammatical, with the auxiliary in second position (*Mit welchem Messer hat die Hühnchen gestern der Landwirt getötet?*). However, as Roland Hinterhölzl (p.c.) points out, this could be interpreted as showing that *wh*-fronting is compatible with scrambling. Following Zwart (1993) and others, I am assuming here that the topic position in Germanic languages is to the left of the *wh*-position.

(4)/(20b) above, where the trigger is base-generated in a non-argument position and linked to an operator chain inside the predicate phrase. Finally, in 4.3 I consider a more subtle piece of evidence for treating the trigger as an A′-element, involving the patterns of voice marking in sentences where the matrix trigger is linked to a gap inside an embedded clause (LONG-DISTANCE PTT). I show that these patterns—which are also attested in long-distance *wh*-movement constructions in Chamorro—can be explained straightforwardly if we assume that such sentences involve successive clausal pied-piping, of the sort found in long-distance *wh*-extraction constructions in Basque and other languages. By contrast, any attempt to capture these same patterns in terms of A-movement encounters serious conceptual and/or empirical problems. This corroborates my claim that PTT in Malagasy involves topicalization rather than raising-to-subject.

4.1. *Distributional Evidence*

Malagasy triggers share a number of distributional characteristics with topics in German and Icelandic. For example, recall from Section 2 that the Malagasy trigger must be a grammatically definite DP—viz. a pronoun or a noun phrase headed by an overt determiner. Indefinite noun phrases, which lack a determiner, may not function as triggers (46). This is reminiscent of the well-known definiteness restriction on fronted topics in Germanic, illustrated in (47) for Icelandic (Richards 2000):

(46) a. Nihinana ilay voankazo { **ny gidro** / ***gidro** }
Pst.AT.eat that fruit Det lemur lemur
"{ The lemur / a lemur } ate that fruit"

b. Nohanin' ny gidro { **ilay voankazo** / ***voankazo** }
Pst.TT.eat Det lemur that fruit fruit
"The lemur ate { that fruit / some fruit }"

(47) { **Bókina** / ?? **Bók** } keypti Jón
book.Def.Acc book bought Jón.Nom
"Jón bought { the book / a book }"

Consider also the compatibility of triggers and topics with imperative constructions: Recall from Section 2 that it is the Actor rather than the trigger which is targeted for deletion in Malagasy imperatives. If the imperative is in a voice other than the AT, the trigger position will

be filled, as shown in (48b). Similarly, the clause-initial topic position in German may be filled in imperatives, as shown in (49b) (Hilda Koopman, p.c.).

(48) a. Vonoin' i Soa **ny akoho**
TT.kill Det Soa Det chicken
"Soa is killing the chickens"

b. Vonoy **ny akoho**!
TT.kill.Imp Det chicken
"Kill the chickens!"

(49) a. **Das Buch** gab Hans schon zurück
the book gave Hans already back
"Hans already gave the book back"

b. **Das Buch** gib mal zurück!
the book give.Imp Emph back
"Give the book back!"

Another connection between Malagasy triggers and Germanic topics involves the distribution of null pronominals. As Huang (1984) discusses, German has a rule of TOPIC DROP which optionally deletes discourse-salient pronouns from matrix clauses in informal registers. This rule targets both subject and object pronouns, but crucially only those pronouns which occupy the preverbal topic position may be dropped. Compare (50a) below, where the subject is the topic, with (50b), where the object is the topic: In the former case, the subject but not the object may be deleted, while in the latter case the reverse holds.

(50) a. (**Ich**) hab' *(ihn) schon gesehen
I have him already seen
"I already saw him"

b. (**Ihn**) hab' *(ich) schon gesehen
him have I already seen
"Him, I already saw"

A comparable pattern of deletion is found in Malagasy: Referential pronouns are optionally dropped in conversation, but only if they occupy the trigger position. In AT clauses, a pronominal Actor may be freely deleted (51a), while a pronominal Theme may not (51b). In

TT clauses the reverse holds: a pronominal Theme may be deleted (52a), while a pronominal Actor may not (52b).[29] The parallel with German suggests that the pronominal deletion patterns in Malagasy are due to a rule of topic drop.

(51) a. Mamangy an'i Tenda (**izy**)
AT.visit Obl-Det Tenda 3
"He is visiting Tenda"

b. Mamangy *(azy) **i** **Naivo**
AT.visit 3 Det Naivo
"Naivo is visiting him"

(52) a. Vangian' i Naivo (**izy**)
TT.visit Det Naivo 3
"Him, Naivo is visiting"

b. Vangian-*(-ny) **i** **Tenda**
TT.visit 3 Det Tenda
"Tenda, he is visiting"

Trigger deletion is reasonably common in Malagasy texts when a particular referent persists across several sentences in a stretch of discourse—another property shared with topics in other languages. Consider the sequence in (53), excerpted from a folktale (Ravololomanga 1996): In the first sentence, the noun phrase *izy roalahy* 'the two men' (lit. "they two-male") functions as the trigger. Except for the embedded *fa* clause in (53c), all subsequent clauses are understood to be predicated of the same referent, and the trigger of each is null (indicated by Ø):

(53) a. Tamin'izay, tonga nihazakazaka **izy** **roalahy**$_i$
Pst.at-that arrived Pst.AT.run 3 two.men
"At that moment, those two men came running up"

[29] (51a) might be used to answer a question about the Actor (e.g. "What is Naivo doing?"), while (52a) would be used to answer a question about the Theme (e.g. "Where is Tenda?"). Note that (52b) is grammatical without the pronoun (*Vangiana i Tenda*), but only under the reading "Tenda is being visited", with an arbitrary, implied Actor.

b. Raiki-tahotra sy nangovitra **Ø**$_i$ . . .
struck-fear and Pst.AT.tremble
"[They] were struck with fear and began to tremble. . ."

c. . . . raha nahita **Ø**$_i$ [fa velona ihany
when Pst.AT.see that alive truly
ny rahalahiny]
Det brother-3
". . . when [they] saw that their brother was (still) alive"

d. Tsy tampotampoka toy izay, nandositra **Ø**$_i$
Neg sudden.Redup like that Pst.AT.run.away
"Just like that [lit. not a little suddenly like that], [they] ran away"

4.2. *Reconstruction and Weakest Crossover*

In Section 3 I suggested that PTT in Malagasy involves the movement of a null operator from a case position to a scopal position, an instance of A′-movement. The conventional theory treats PTT as the raising of a DP from a θ-position to the nominative case position, an instance of A-movement. These competing accounts make different predictions with regard to tests for A- vs. A′-movement, such as those involving binding. Here I show that PTT displays the array of binding properties characteristic of A′-movement—specifically, A′-movement of a null operator coindexed with an antecedent in a non-A-position—namely RECONSTRUCTION effects in combination with so-called WEAKEST CROSSOVER effects (Lasnik and Stowell 1991). These binding properties are shared by topicalization in German and Icelandic, supporting my claim that the Malagasy trigger occupies an A′-position.

As is well known, constituents which undergo A′-movement are generally interpreted in their trace positions for purposes of binding (reconstruction). The sentence in (54), for example, shows that wh-movement of a constituent containing an anaphor over its antecedent does not yield a Condition A violation. By contrast, constituents which undergo A-movement fail to reconstruct, and are necessarily interpreted in their landing sites for binding purposes. This is illustrated in (55b), where A-movement of a pronoun over

an R-expression with which it is coindexed results in a Condition C violation.[30]

(54) [Which picture of herself$_i$]$_k$ does Joan$_i$ like t$_k$ best?

(55) a. It is likely [that it appeared to Daniel$_i$ [that he$_i$ had won the race]]
b. *He$_i$ is likely [t$_i$ to have appeared to Daniel$_i$ [t$_i$ to have won the race]]

Turning first to topicalization in V2 languages: Sentence (56a) illustrates binding of the possessive pronoun in an accusative object by a quantified nominative subject in German. As (56b) shows, this binding possibility is preserved when the object is fronted over the subject. The fact that the fronted object reconstructs strongly suggests that topicalization in German involves A′-movement.

(56) a. **Jeder Student**$_i$ hat gestern seinen$_i$ Vater besucht
every.Nom student has yesterday his.Acc father visited
"Every student$_i$ visited his$_i$ father yesterday"
b. **Seinen$_i$ Vater** hat jeder Student$_i$ gestern besucht
his.Acc father has every.Nom student yesterday visited
"His$_i$ father, every student$_i$ visited yesterday"

The examples in (57) and (58) (the latter from Travis 1997) show the same reconstruction effect for Malagasy: In the (a) sentences we see that in AT clauses, a quantified Actor trigger may bind into a predicate-internal Theme. As the (b) sentences show, binding is also

[30] The generalization that A′-movement reconstructs and A-movement does not has been called into question in recent years, largely as a result of research into the properties of scrambling (cf. papers in Corver and van Riemsdijk 1994). Even abstracting away from scrambling, there are some well-known puzzles pertaining to reconstruction: For example, while A-moved pronouns do not reconstruct, a pronoun inside the complement in an A-moved constituent may be interpreted in the base position of that constituent—e.g. in *The pictures of his mother seemed to each boy to be more flattering than the pictures of his father*, *his mother* may be bound by *each boy* (see Chomsky 1995 and Sportiche 1999 for proposals to deal with cases like these). Despite these complications, it is generally agreed that reconstruction effects differentiate prototypical A-movement operations, like raising to subject, from prototypical A′-movement operations, like *wh*-movement, justifying my use of reconstruction tests here.

possible if the Actor is predicate-internal and the Theme is promoted over it in a TT clause.

(57) a. Namangy ny rainy$_i$ **ny mpianatra tsirairay$_i$** omaly
Pst.AT.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.TT.visit Det student each Det father-3 yesterday
"His$_i$ father, each student$_i$ visited yesterday"

(58) a. Nanoroka ny vadiny$_i$ **ny vehivavy rehetra$_i$**
Pst.AT.kiss Det spouse-3 Det woman all
"All the women$_i$ kissed their$_i$ spouse(s)"

b. Norohan' ny vehivavy rehetra$_i$ **ny vadiny$_i$**
Pst.TT.kiss Det woman all Det spouse-3
"Their$_i$ spouse(s), all the women$_i$ kissed"

Further evidence of reconstruction of V2 topics comes from (59), which shows that a reflexive anaphor in Icelandic may be topicalized over its antecedent without violating Condition A (or Condition C). Likewise in Malagasy, an anaphor may be promoted to trigger over its antecedent, as shown in (60) (Rackowski and Travis 2000):[31]

(59) **Sjálfan sig$_i$** elskar Jón$_i$ ekki eins heitt
himself loves Jón not as hot
"Himself Jón doesn't love as much"

(60) Novonoin' ny lehilahy$_i$ **ny tenany$_i$**
Pst.TT.kill Det man Det self-3
"The man killed himself"

Such examples provide strong evidence that PTT in Malagasy and topicalization in V2 languages both involve A′-movement. However, Paul (2002) cites (61) and (62) as potential problems for the claim that triggers in Malagasy (obligatorily) reconstruct. Sentence (61a) shows that a pronominal Theme (*azy*) may corefer with a non-c-commanding R-expression within the Actor phrase (*Rakoto*). However, in

[31] Paul (2002) argues that *ny tenany* is not a true anaphor, bound by Condition A, and hence (60) does not provide evidence for reconstruction (she does not consider quantifier binding evidence of the sort in (57)–(58)).

(61b) we see that if that pronoun is promoted to the trigger function in a TT clause, coreference is no longer possible. Paul attributes this to Condition C. But if promotion of the pronoun over the R-expression results in a Condition C violation, then reconstruction of the pronoun into the predicate-internal position it occupies in (61a) must be blocked for some reason. The inverse of this effect obtains in (62): A pronominal Actor trigger may not corefer with an R-expression within the predicate-internal Theme (62a), but if the Theme is promoted over it in a TT clause, the coreference reading becomes possible (62b).

(61) a. Nanamby azy$_i$ **ny rain-dRakoto$_i$**
Pst.AT.hire 3 Det father.Lnk-Rakoto
"Rakoto$_i$'s father hired him$_i$"

b. *Notambazan' ny rain-dRakoto$_i$ **izy$_i$**
Pst.TT.hire Det father.Lnk-Rakoto 3
"Rakoto$_i$'s father hired him$_i$"

(62) a. *Nanamby ny zana-dRakoto$_i$ ariary folo **izy$_i$**
Pst.AT.hire Det child.Lnk-Rakoto ariary ten 3
"He$_i$ hired Rakoto$_i$'s child for ten *ariary*"

b. Notambazany$_i$ ariary folo **ny zana-dRakoto$_i$**
Pst.TT.hire-3 ariary ten Det child.Lnk-Rakoto
"He$_i$ hired Rakoto$_i$'s child for ten *ariary*"

On the basis of such examples, Paul concludes that the Malagasy trigger may not reconstruct, and thus occupies an A-position. However, this conclusion is incompatible with the evidence for reconstruction in (57)–(58) and (60). I am inclined to regard the latter evidence as more informative, inasmuch as effects parallel to those in (61) and (62) are also found in constructions which clearly involve A′-movement, such as contrastive topic fronting in English, as shown in (63). It seems that the structural criteria governing coreference between pronouns and R-expressions are different from those governing anaphora and variable binding by quantifiers, such that the former fail to distinguish A-movement from A′-movement. I therefore conclude that triggers in Malagasy do indeed reconstruct.

(63) a. Rakoto$_i$'s father hired him$_i$
b. *Him$_i$, Rakoto$_i$'s father hired t$_i$

c. *He$_i$ hired Rakoto$_i$'s child for ten bucks an hour
d. ?Rakoto$_i$'s child, he$_i$ hired t$_i$ for ten bucks an hour

Although topicalization in German and Icelandic and promotion to trigger in Malagasy exhibit reconstruction effects, they fail to show another binding-related property characteristic of A′-movement, namely WEAK CROSSOVER effects. Sentence (64a) gives an example of a weak crossover configuration created by *wh*-movement: *which girl* cannot bind the pronoun *her*, despite the fact that it c-commands it, because *her* is contained within an argument which c-commands the *wh*-trace. In order for the pronoun to be interpreted as bound by the *wh*-phrase, it must be c-commanded by the *wh*-trace, as in (64b):

(64) a. ?*Which girl$_i$ did you say [her$_i$ mother loves t$_i$] ?
b. Which girl$_i$ did you say [t$_i$ loves her$_i$ mother] ?

Unlike *wh*-phrases in English, topics in German and Icelandic seem to be able to bind pronouns from their surface position, even when the trace of the topic does not c-command the pronoun. Examples of this are given in (65) and (66), where the subject contains a pronoun and the object is a quantified expression. In the (a) sentences, where the subject is topicalized, a bound variable reading of the pronoun is disallowed. However, in the (b) sentences, where the quantified object has been topicalized over the subject, the bound variable reading becomes available (at least marginally, in the case of Icelandic; examples taken from Richards 2000):

(65) a. ***Sein$_i$** **Vater** hat gestern jeden
his.Nom father has yesterday every.Acc
Studenten$_i$ besucht
student.Acc visited
"His$_i$ father visited every student$_i$ yesterday"
b. **Jeden** **Studenten$_i$** hat gestern sein$_i$ **Vater**
every.Acc student.Acc has yesterday his.Nom father
besucht
visited
"Every student$_i$, his$_i$ father visited yesterday"

(66) a. ***Foreldrar** **hans$_i$** kenna sérhverjum strák$_i$ að keyra
parents his teach every.Acc boy.Acc to drive
"His$_i$ parents teach every boy$_i$ how to drive"

b. ?**Sérhverjum strák**$_i$ kenna foreldrar hans$_i$ að keyra
every.Acc boy.Acc teach parents his to drive
''Every boy$_i$, his$_i$ parents teach how to drive''

The same anti-crossover effect has been reported for Malagasy. Consider (67) and (68) (the latter from Travis 1997), involving a quantified Theme and an Actor containing a pronoun. In the (a) sentences, where the Actor is the trigger, a bound variable reading of the pronoun is disallowed; however, when the Theme is promoted to the trigger function over the Actor, as in the (b) sentences, a bound variable reading becomes possible (at least for most speakers).[32]

(67) a. *Namangy ny mpianatra tsirairay$_i$ **ny rainy**$_i$
Pst.AT.visit Det student each Det father-3
omaly
yesterday
''His$_i$ father visited each student$_i$ yesterday''

b. %Novangian' ny rainy$_i$ **ny mpianatra tsirairay**$_i$
Pst.TT.visit Det father-3 Det student each
omaly
yesterday
''Each student$_i$, his$_i$ father visited yesterday''

(68) a. *Nanoroka ny vehivavy rehetra$_i$ **ny vadiny**$_i$
Pst.AT.kiss Det woman all Det spouse-3
''Their$_i$ spouse(s) kissed all the women$_i$''

b. Norohan' ny vadiny$_i$ **ny vehivavy rehetra**$_i$
Pst.TT.kiss Det spouse-3 Det woman all
''All the women$_i$, their$_i$ spouse(s) kissed''

The creation of new binding configurations is usually taken as a hallmark of A-movement. The evidence of anti-crossover in (65)–(68)

[32] There is some disagreement on the availability of a bound pronoun interpretation for (67b). Two of the speakers I consulted had no problem accepting the bound reading, but the third speaker (my principal informant) consistently rejects this reading—hence the %. I leave it to future research to determine the reason for this speaker variation. However, this result does not seem inconsistent with treating (67b) as a weakest crossover configuration: my sense is that speakers' binding judgements are less consistent in such cases than they are with normal weak or strong crossover.

would thus seem to contradict our conclusion based on the reconstruction data: The latter implicates an A′-movement analysis of PTT/topicalization, while the former seems to implicate an A-movement analysis. However, it turns out that while the presence of weak crossover is a reliable diagnostic for A′-movement, the absence of weak crossover cannot be taken as evidence for A-movement. Lasnik and Stowell (1991) show that whereas *wh*-movement triggers clear weak crossover effects ((64a) above), other A′-movement constructions in English do not trigger such effects—or if they do, the effects are much less robust than with *wh*-movement, hence their term WEAKEST CROSSOVER to refer to such cases.

In particular, weak crossover effects are absent or diminished in constructions which arguably involve a null operator with a c-commanding antecedent: Consider the *tough* construction in (69a), in which the subject of the *tough* predicate is coindexed with a null operator in the embedded clause (Chomsky 1981). Here, in contrast to (64a), the pronoun may be bound by the A′-moved constituent which has raised over it. Weak crossover effects are similarly absent (or nearly so) in parasitic gap constructions (69b). According to the standard analysis, the parasitic gap is a trace of a null operator coindexed with the A′-chain in the higher clause (Contreras 1984, Chomsky 1986).

(69) a. (?)Every boy$_i$ is easy [*Op*$_i$ for his$_i$ mother to talk to t$_i$]
b. (?)Which boy$_i$ did you see t$_i$ before [*Op*$_i$ his$_i$ mother had talked to t$_i$] ?

To capture the contrast between (64a) and (69), Lasnik and Stowell suggest that weak crossover effects only arise when the A′-moved element is a ''true quantifier''—that is, an expression which ranges over a set of individuals. Unlike *wh*-phrases, null operators are not truly quantificational in this sense, their reference being determined by the antecedent with which they are coindexed. Since null operators are non-quantificational, no crossover effect results when an argument containing a pronoun c-commands the trace of the operator (even if the antecedent of the operator is itself quantificational). Consequently, if Germanic topics and Malagasy triggers are generated in an A′-position and act as antecedents for a null operator, as argued here, then we predict the absence of a robust weak crossover effect.

Of course, if the trigger is base-generated outside the predicate phrase, this raises the question of how to account for the

reconstruction effects in (56)–(60): If the trigger does not form a chain with the trace inside the predicate phrase, how is it possible for it to be interpreted in the position of that trace? In fact, the co-occurrence of reconstruction effects with weakest crossover appears to be fully characteristic of null operator constructions in which the antecedent of the operator occupies an A′-position. This is illustrated in (70) for the contrastive topic fronting construction in English, which Chomsky (1977) and others argue to contain a null operator coindexed with a topic base-generated in a non-argument position:

(70) a. Herself_i, Op_i Joan_i loves t_i more than anyone
[*reconstruction*]
b. (?)Dennis_i, Op_i his_i mother loves t_i more than anyone
[*weakest crossover*]

A possible approach to these facts is suggested by Barss (1986), who proposes that when the antecedent of a null operator is not a member of an A-chain—that is, when it is a predicate, or is base-generated in an A′-position—the antecedent may form a COMPOSED A′-CHAIN with that operator and its trace(s) for purposes of computing binding possibilities. Some such mechanism is independently needed to explain reconstruction-like CONNECTIVITY effects in clefts (e.g. *It was herself$_i$ Op$_i$ that Joan$_i$ most wanted to blame t$_i$*). In (70a), then, *herself* forms a composed A′-chain with *Op* and its trace. The fact that *herself* may be bound by *Joan* is explained under Barss's reformulation of binding theory in terms of BINDING PATHS (briefly, a DP may bind an anaphor if it is the closest potential c-commanding antecedent of a member of an A′-chain containing the anaphor; *Joan* is the closest c-commanding antecedent of the trace of the operator, and may thus bind *herself*, since *herself* and the trace are part of the same composed A′-chain).

To summarize, Malagasy triggers may be interpreted in the position of the predicate-internal trace with respect to the binding conditions (reconstruction/connectivity), yet promotion of a quantified Theme to the trigger function over an Actor containing a pronoun enables the quantifier to bind the pronoun (weakest crossover). This combination of binding properties—also found with fronted topics in German and Icelandic—appears to be characteristic of constructions in which a null operator-variable chain is coindexed with an antecedent in a non-argument position. The data in this section thus support my treatment of the Malagasy trigger as a base-generated A′-topic.

4.3. *Long-distance Promotion as Clausal Pied-piping*

In this section, I consider sentences in which the constituent mapped to the trigger position is interpreted as an argument of an embedded verb, as schematized in (71) (where "CP" abbreviates the structure discussed in Section 3, and *e* is the tail of the chain with which the trigger is coindexed). I refer to such mappings as LONG-DISTANCE PROMOTION TO TRIGGER (OR LONG DISTANCE PTT).

(71) $[_{\text{Predicate}}\ V_1 \ldots [_{CP}\ V_2 \ldots e_i \ldots]\ ]\ \mathbf{DP}_i$

Below I show that the voice of the embedded verb (V_2) is determined by the grammatical function—Agent, Theme, etc.—of *e*, just as in monoclausal sentences, while the voice of the matrix verb (V_1) is determined by the grammatical function of the CP containing *e*. I analyze this pattern in terms of clause-bound operator movement combined with clausal pied-piping: *e* is the trace of a null operator which raises into the Spec, WhP of the embedded CP, triggering the appropriate voice marking on V_2; the operator then pied-pipes that CP into the Spec, WhP of the matrix clause, causing the CP to trigger the appropriate voice marking on V_1. CP pied-piping of this sort is attested in other languages in cases of long-distance A′-chain formation (I discuss a *wh*-movement example from Basque). By contrast, CP pied-piping never seems to occur in the formation of A-chains across clause boundaries. Thus we can conclude, as in the previous section, that PTT involves A′-movement.

Turning to the data, there are three types of clausal complementation which I wish to consider: The first type involves verbs of thinking and saying. As illustrated in (72) below, these verbs take complements headed by the complementizer *fa*, which are generally extraposed to the right edge of the clause. The second type involves control constructions with verbs like *mikasa* 'intend', where the Actor of the matrix verb determines the reference of the null trigger of an irrealis complement (73) (see Law 1995, Paul and Ranaivoson 1998).[33] The third type involves the selection of an irrealis purpose

[33] Notice that the embedded clause is not extraposed in this case. In addition, the complementizer *fa* is absent with complements of control verbs. I have nothing insightful to say about the distribution of complementizers in Malagasy, which turns out to be quite complex (here I follow the preferences of my principal consultant). Further research is needed to determine how this issue bears on the analysis of clausal complementation in Malagasy.

clause, often containing a null Actor, by a transitive or intransitive verb of motion (74) (cf. Paul and Ranaivoson 1998). I refer to these purpose clauses informally as GOAL COMPLEMENTS. (In terms of their internal structure, goal complements resemble regular irrealis complements like the one in (73); my reasons for treating them as distinct will be made clear below.)

(72) a. Mihevitra **Rabe** [fa mandidy ny mofo
AT.think Rabe that AT.cut Det bread
amin'ny antsy **ny** **vehivavy**]
with-Det knife Det woman
"Rabe thinks that the woman is cutting the bread with the knife"

b. Nilaza **Rabe** [fa mandeha any amin'ny
Pst.AT.say Rabe that AT.go there to-Det
tanàna **ny** **zaza**]
village Det child
"Rabe said that the child is going to the village"

(73) Mikasa [hamangy an-dRabe] **Rasoa**
AT.intend Irr.AT.visit Obl-Rabe Rasoa
"Rasoa intends to visit Rabe"

(74) a. Nivoaka [hitady ny alika] **ny** **mpamboly**
Pst.AT.go.out Irr.AT.look.for Det dog Det farmer
"The farmer went out to look for the dog"

b. Manosika anay [hiditra] **ny** **lehilahy**
AT.push 1ex Irr.AT.enter Det man
"The man is pushing/urging us to enter"

In (72)–(74), the higher verb is in the AT form, signaling that the matrix Actor functions as the trigger in the matrix clause. Notice that the *fa*-complements in (72) each have an overt trigger of their own, denoting the Actor of the embedded verb. Non-Actors may also function as embedded triggers, as shown in (75)–(76):

(75) a. Mihevitra **Rabe** [fa didian' ny vehivavy
AT.think Rabe that TT.cut Det woman
amin'ny antsy **ny** **mofo**]
with-Det knife Det bread

"Rabe thinks that the woman is cutting the bread with the knife"

b. Mihevitra **Rabe** [fa andidian' ny vehivavy
AT.think Rabe that CT.cut Det woman
ny mofo **ny** **antsy**]
Det bread Det knife
"Rabe thinks that the woman is cutting the bread with the knife"

(76) Nilaza **Rabe** [fa andehanan' ny zaza **ny** **tanàna**]
Pst.AT.say Rabe that CT.go Det child Det village
"Rabe said that the child is going to the village"

The embedded clauses in (72)–(76) may themselves function as the matrix trigger—though irrealis and goal complements must first be nominalized by adding the determiner *ny*, as shown in (78)–(79) (this is presumably due to the requirement that triggers be formally definite, with definite expressions in Malagasy requiring an overt determiner).[34] When the clausal complement acts as the trigger, the voice of the matrix verb changes accordingly: When the complement of a control verb or a verb of thinking/saying is promoted to the trigger function, the matrix verb appears in the TT form (77)–(78) (suggesting that it receives structural accusative case from Asp; cf. Section 3.1). Promotion of goal complements, on the other hand, is marked by CT morphology (79). (For reasons of space, I will not address the question of why goal complements differ from complements of

[34] Nominalization of clauses by adding *ny* is very common in Malagasy. The clausal arguments of one-place predicates often take this form, as in the following example from Keenan (1976):

(i) Sarotra **ny** **mitondra** **taxi**
difficult Det AT.drive taxi
"Driving a taxi is difficult"

Notice that *fa*-complements do not need to be nominalized before being promoted to the trigger function, as shown in (77). Perhaps this is due to the fact that these complements take an overt complementizer, determiners and complementizers patterning together in many languages. (In fact, it is not clear whether the *fa*-complements in (77) are themselves functioning as the trigger, or whether the trigger position is occupied by a null expletive and the *fa*-complement is extraposed, as it is in (72) and (75)–(76). For the sake of simplicity, I adopt the former assumption.)

control verbs in this regard. Impressionistically, control complements, which are selected by the higher verb, behave as Themes; goal complements, which are optional, pattern more with oblique DPs.)

(77) a. Heverin-dRabe **fa mandidy ny mofo amin'ny antsy ny vehivavy**
TT.think-Rabe that AT.cut Det bread with-Det knife Det woman
"Rabe thinks that the woman is cutting the bread with the knife"

b. Nolazain-dRabe **fa andehanan' ny zaza ny tanàna**
Pst.TT.say-Rabe that CT.go Det child Det village
"Rabe said that the child is going to the village"

(78) Kasain-dRasoa **ny hamangy an-dRabe**
TT.intend-Rasoa Det Irr.AT.visit Obl-Rabe
"Rasoa intends to visit Rabe"
lit. "The visit[ing of] Rabe, Rasoa intends (it)"

(79) a. Nivoahan' ny mpamboly **ny hitady ny alika**
Pst.CT.go.out Det farmer Det Irr.AT.look.for Det dog
"The farmer went out to look for the dog"
lit. "The look[ing] for the dog, the farmer went out (for it)"

b. Anosehan' ny lehilahy anay **ny hiditra**
CT.push Det man 1ex Det Irr.AT.enter
"The man is pushing us to enter"
lit. "The enter[ing], the man is pushing us (to it)"

In the above examples, the matrix trigger is an argument of the matrix verb—either the Actor or the complement clause. As the examples below illustrate, it is also possible for the matrix trigger to be interpreted as an argument or adjunct within the clausal complement, what I refer to as long distance PTT. In such cases, the following pattern obtains: the voice of the embedded verb identifies the grammatical function—Actor, Theme, oblique—of the trigger, while the matrix verb appears in the same voice form as when the embedded clause as a whole functions as the matrix trigger.

Consider first long distance PTT from the complement of a control verb or a verb of thinking/saying, as illustrated in (80)–(82): When the matrix trigger is interpreted as the Actor of the embedded verb, as

in (80a) and (81a), the embedded verb takes AT morphology while the matrix verb takes TT morphology. When the matrix trigger is interpreted as the Theme of the embedded verb, as in (80b) and (82a), both verbs are in the TT form. And when the matrix trigger is interpreted as an oblique participant (instrument, goal, etc.) within the embedded clause, as in (80c), (81b), and (82b), the lower verb is in the CT form while the higher verb is in the TT form.

(80) a. Heverin-dRabe [mandidy ny mofo amin'ny antsy]
TT.think-Rabe AT.cut Det bread with-Det knife
ny vehivavy
Det woman
"The woman, Rabe thinks (she) is cutting the bread with the knife"

b. Heverin-dRabe [didian' ny vehivavy amin'ny antsy]
TT.think-Rabe TT.cut Det woman with-Det knife
ny mofo
Det bread
"The bread, Rabe thinks the woman is cutting (it) with the knife"

c. Heverin-dRabe [andidian' ny vehivavy ny mofo]
TT.think-Rabe CT.cut Det woman Det bread
ny antsy
Det knife
"The knife, Rabe thinks the woman is cutting the bread (with it)"

(81) a. Nolazain-dRabe [mandeha any amin'ny tanàna] **ny zaza**
Pst.TT.say-Rabe AT.go there to-Det village Det child
"The child, Rabe said (she) is going to the village"

b. Nolazain-dRabe [fa nandehanan' ny zaza] **ny tanàna**
Pst.TT.say-Rabe that Pst.CT.go Det child Det village
"The village, Rabe said that the child went (to it)"

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

b. Kasain-dRasoa [hanasana ny zaza] **ny savony**
TT.intend-Rasoa Irr.CT.wash Det child Det soap
"The soap, Rasoa intends to wash the child (with it)"

Example (83) illustrates promotion of a Theme embedded in a goal complement (cf. (74a)): here, the embedded verb is in the TT form, while the matrix verb is in the CT form, just as it would be if the embedded clause as a whole were the trigger (cf. (79a)).[35]

(83) ?Nivoahan' ny mpamboly [hotadiavina] **ny alika**
Pst.CT.go.out Det farmer Irr.TT.look.for Det dog
"The dog, the farmer went out to look for (it)"

On the surface, it is not obvious that the sentences in (80)–(83) really involve long distance PTT. Take (80a), for instance: Superficially, this sentence differs from (77a) only in the presence or absence of the complementizer *fa*. On what basis do we conclude that in (77a) the entire complement clause is functioning as the matrix trigger, while in (80a) the matrix trigger is *ny vehivavy* 'the woman', which is external to the embedded clause? Evidence for this structural difference comes from the placement of the yes/no question particle *ve*. Recall from Section 2, examples (7) and (9), that *ve* immediately precedes the matrix trigger, marking the right edge of the predicate phrase.[36] Converting (77a) and (80a) into yes/no questions, we see that *ve* precedes *fa* in the former case, but *ny vehivavy* in the latter case. Likewise in (80b)–(83), *ve* is placed immediately before the boldfaced constituent when the sentence is converted to a question.

(84) a. Heverin-dRabe *ve* **fa mandidy ny mofo**
TT.think-Rabe Qu that AT.cut Det bread
amin'ny antsy ny vehivavy?
with-Det knife Det woman

[35] My principal consultant judges (83) to be grammatical but highly awkward. Interestingly, she judges the cleft counterpart of this sentence, given in (i), to be perfect (cf. 3.3 on the structure of clefts):

(i) *Ny alika* no nivoahan' ny mpamboly hotadiavina
Det dog Foc Pst.CT.go.out Det farmer Irr.TT.look.for
"It's the dog that the farmer went out to look for"

It is unclear why (83) should be degraded, but crucially this seems to have nothing to do with the choice of voice morphology. If the matrix verb is put in the TT form instead of the CT form, for example, the sentence becomes flat-out ungrammatical.

[36] Crucially, *ve* is confined to matrix yes/no questions (embedded questions are introduced by the complementizer *raha* 'if/when'). Hence *ve* always marks the right edge of the matrix predicate phrase.

"Does Rabe think that the woman is cutting the bread with the knife?"

b. Heverin-dRabe mandidy ny mofo amin'ny antsy *ve*
TT.think-Rabe AT.cut Det bread with-Det knife Qu
ny vehivavy?
Det woman
"The woman, does Rabe think (she) is cutting the bread with the knife?"

The voice patterns discussed above are summarized in the table in (85):

(85) *Voicing restrictions in biclausal sentences*

If the trigger of the matrix clause is ...	then the voice of the matrix verb is ...	and the voice of the embedded verb is ...
The matrix Actor	AT	(variable)
A fa-*complement or control complement*	TT	(variable)
An embedded Actor	TT	AT
An embedded Theme	TT	TT
An embedded oblique	TT	CT
A goal complement clause	CT	(variable)
An embedded Theme (goal complement)	CT	TT

Interestingly, a very similar pattern obtains with regard to *wh*-agreement in long distance movement constructions in Chamorro, as discussed by Chung (1998): In Chung's terms, the embedded verb agrees in case features with the extracted *wh*-phrase, while the matrix verb agrees in case features with the clause out of which extraction takes place.[37] For example, when a subject is extracted from a complement clause, the lower verb takes subject *wh*-agreement and

[37] This pattern of agreement is obligatory when the *wh*-phrase is non-referential. When the *wh*-phrase is referential, agreement on the higher verb is optional. See Chung (1994, 1998) for details and discussion.

the higher verb takes object *wh*-agreement (86a); while extraction of an oblique from a complement clause triggers oblique *wh*-agreement on the lower verb and object *wh*-agreement on the higher verb (86b):

(86) a. Hayi si Manuel hinassóso-nña
who Det Manuel **Wh**.**Obj**.think.Redup-3s
[chumuli' i salappi'] ?
Wh.**Subj**.take Det money
"Who does Manuel think has taken the money?"

b. Hayi sininte-mmu [mahalang-ña i
who **Wh**.**Obj**.feel-2s **Wh**.**Obl**.lonely-3s Det
chi'lu-mu palao'an] ?
sibling-2s female
"Who do you feel that your sister is lonely for?"

Treating voice in Malagasy and *wh*-agreement in Chamorro as the (indirect) realization of the abstract case features of an A′-operator, as detailed in 3.1–3.2, we can express the patterns in (85) in terms of the following generalization:

(87) When the matrix trigger is coindexed with a gap inside an embedded clause:
$[_{\text{Predicate}}\ V_1 \ldots [_{CP} V_2 \ldots e_i \ldots]\ ]$ $\mathbf{DP_i}$

a. The abstract case of the chain containing the gap *e* determines the form of V_2
b. The abstract case of the embedded CP determines the form of V_1.

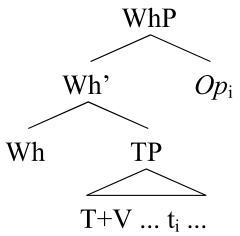
I suggest that (87) falls out if we assume that when an operator is generated in an embedded CP, it must pied-pipe that CP in order to reach the matrix Spec, WhP position. We can derive this state of affairs by assuming that [a] null operators in Malagasy are strictly clause-bound, and [b] an operator must be sufficiently local to its antecedent in order for coindexation to take place.[38]

The derivation of sentences involving long distance PTT would thus proceed as follows: As a first step, the embedded operator raises to the Spec, WhP of its own clause, as shown schematically in (88). The position from which the operator raises determines the voice

[38] For a rather different analysis of long distance extraction in Chamorro, see Chung (1998).

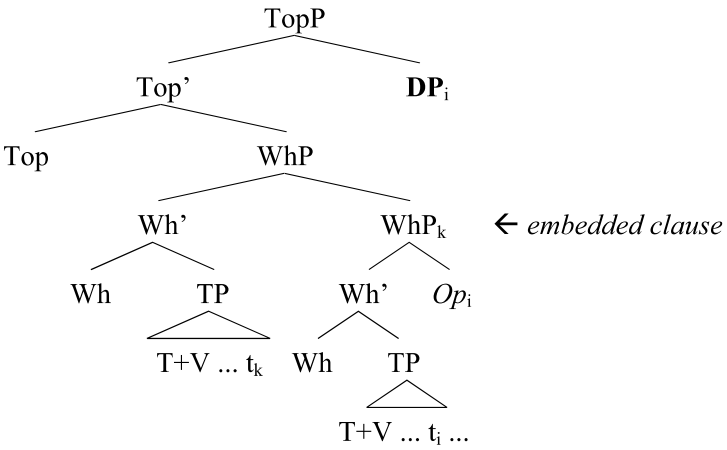
marking on the embedded verb, in accordance with the theory outlined in 3.1.

(88)



Now, the operator must form a chain with the matrix trigger, which merges as the specifier of the matrix TopP. Hence, it must raise into a position from which it will be sufficiently local to the trigger. However, the operator cannot extract from the embedded clause and move successive-cyclically, given that (by assumption) null operators in Malagasy are clause-bound, so instead it must pied-pipe the entire embedded clause to the matrix Spec, WhP, as in (89). As a result of this movement, the operator comes to occupy the specifier of the specifier of the complement of Top: I will assume that this position is sufficiently local to the trigger to allow for coindexation. The position from which the embedded clause raises to Spec, WhP determines the voice of the matrix verb: When a control complement or the complement of a verb of thinking/saying is pied-piped, the matrix verb carries TT morphology, and when a goal complement is pied-piped, it carries CT morphology.

(89)



Clausal pied-piping of this sort is found in long-distance A′-movement constructions in a number of languages, including Basque (Ortiz de Urbina 1993) and Imbabura Quechua (Cole 1982). In Basque, for example, an embedded *wh*-phrase, rather than extracting from its clause, may pied-pipe that clause into the complementizer domain of the next higher clause. Consider (90), adapted from Ortiz de Urbina, in which *nor* 'who' is interpreted as the subject of the embedded clause. According to Ortiz de Urbina's account, the *wh*-phrase first undergoes string-vacuous movement to the Spec, CP (= Spec, WhP) of its own clause, where it discharges its [wh] feature onto the CP as a whole, transforming that CP into a *wh*-operator. The CP then raises into the specifier of the matrix CP to check the [*wh*] feature on C.

(90) [Nor etorriko d-ela bihar] esan
who come 3s.Aux-that tomorrow said
diozu Mireni t_{CP} ?
3s.Aux.2s Mary.Dat
"Who did you tell Mary [*t* will come tomorrow]?"

Given the association of clausal pied-piping with A′-movement in other languages, I take the long-distance PTT facts as additional evidence for analyzing the trigger as an A′-element rather than a subject located in an A-position.[39]

[39] Given the other parallels between PTT in Malagasy and topicalization in V2 languages, as discussed in previous sections, it is worth asking whether V2 languages exhibit clausal pied-piping of the Malagasy type. I am unaware of any evidence of clausal pied-piping in the case of long-distance topicalization, although pied-piping of infinitival clauses is found in relative clause constructions in German (van Riemsdijk 1985). Moreover, Fanselow and Mahajan (2000) argue that the so-called PARTIAL WH-MOVEMENT construction in German involves covert clausal pied-piping (cf. also Horvath 1997 and Mahajan 2000 on partial *wh*-movement in Hungarian and Hindi, respectively).

Although clausal pied-piping is not attested with topicalization in V2 languages, pied-piping of other types of constituents does seem to be possible—at least if the operator licensed in the specifier of WhP is a resumptive *d*-pronoun (cf. example (19)). Zwart (1993) cites the Dutch example in (i), in which the pronoun *die*, coindexed with the topic *Jan*, has pied-piped a larger DP into Spec, WhP:

(i) a. **Jan** *die* z'n ouders ken ik niet
Jan that his parents know I not
"Jan, I don't know his parents"

In support of this conclusion, consider what an A-movement analysis of the patterns in (85) would have to look like. One possibility would be to treat long-distance PTT as successive A-movement. Consider (91a), for example, in which the matrix trigger *ny vehivavy* 'the woman' is interpreted as the Actor of *nandidy* 'cut'. Adopting Guilfoyle et al.'s (1992) structure in (15), this sentence would have the derivation schematized in (91b) (disregarding surface word order): 'Woman' raises from the specifier of the VP headed by 'cut' to become the exceptionally case-marked subject of the lower clause, triggering AT inflection on the lower verb. Inflecting the higher verb in the TT voice (treated as equivalent to passive in English) renders it unable to assign exceptional case to 'woman', causing the latter to raise further into the nominative case position of the matrix clause. Under this analysis, the structure of (91a) parallels that of the English *The woman is thought by Rabe to have cut the bread with the knife* (except that *Rabe* is a VP-internal subject rather than the complement of a preposition).

(91) a. Heverin-dRabe [nandidy ny mofo amin'ny antsy]
TT.think-Rabe Pst.AT.cut Det bread with-Det knife
ny vehivavy
Det woman
''The woman, Rabe thinks (she) cut the bread with the knife''

---

b. Jan [$_{WhP}$ [$_{DP}$ die z'n ouders]$_i$ [$_{Wh'}$ken ik t_i niet]]

Notice that *Jan* is interpreted as the possessor of the pied-piped DP. This construction is reminiscent of the Tagalog example in (ii), which shows that a non-trigger DP may be relativized if it is interpreted as the possessor of the trigger in the relative clause (cf. footnote 27):

(ii) ang doktor [na mabait **ang anak**]
Det doctor Lnk kind Det child
''the doctor whose child is kind''

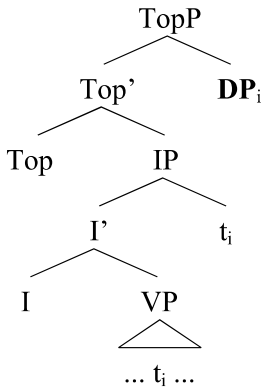
I tentatively suggest that (i) and (ii) involve a derivation parallel to that of long-distance PTT sentences in Malagasy—assuming that DP, like CP in Malagasy, is a barrier to extraction of topic operators in these languages: The operator coindexed with the relativized/topicalized possessor raises to the specifier of the DP containing it, and then pied-pipes that DP into the specifier of the WhP where the operator is licensed. In the case of Tagalog, this causes the pied-piped DP to trigger the appropriate voice marking on the verb—explaining why only the possessor of a trigger may be relativized (possessor relativization from non-trigger DPs is disallowed, according to Schachter 1996).

b. [$_{IP}$ **woman**$_i$ TT.think$_m$ [$_{VP}$ Rabe t$_m$ [$_{IP}$ t_i AT.cut$_k$ [$_{VP}$ t_i t$_k$ bread with knife]]]]

However, if long-distance PTT involved case-driven subject-to-subject raising, it is unclear why the matrix verb should appear in the TT form in some cases (80)–(82), and the CT form in other cases (83). Yet I have shown that the choice depends on the nature of the embedded clause: If PTT of the embedded clause triggers TT morphology on the matrix verb, then PTT of a constituent from inside that clause will also trigger TT morphology; likewise, if PTT of the embedded clause triggers CT morphology, then PTT of a constituent from within that clause will trigger CT morphology. This is what the CP pied-piping analysis predicts, but it is not clear how a successive-cyclic A-movement analysis would capture the pattern.

We might also consider a hybrid approach, which incorporates pied-piping but nevertheless treats PTT as involving A-movement. MacLaughlin (1995) proposes a phrase structure for Malagasy within which such an approach might be formulated. Following Guilfoyle et al. (1992), MacLaughlin assumes that the trigger raises from its θ-position to check nominative case in the specifier of IP, triggering the appropriate voice marking on the verb. However, she suggests that the trigger then raises from this position to the specifier of a higher A′-projection, TopP:[40]

(92)



[40] MacLaughlin actually places the specifier of IP on the left of INFL, and the Top head on the right of its IP complement. I modify her tree here in order to maximize the structural parallels with (4)/(20b).

Suppose we argue that in a long-distance PTT construction like (91a), the complement clause raises to the specifier of the matrix IP, triggering TT morphology on the matrix verb (in INFL), after which the embedded trigger *ny vehivavy* 'the woman' extracts from the embedded SpecIP and raises on to the specifier of the matrix TopP. This easily accounts for the voice patterns in (85). But in order to force the clause to raise to SpecIP in the first place, as a necessary precondition to topicalization of *ny vehivavy*, we must assume that complement clauses in Malagasy are islands for extraction while subject clauses are transparent. This contrasts with languages like English, where extraction from clausal subjects is strongly disallowed (Ross 1967; Chomsky 1986, and many others):

(93) a. Who_i is it obvious [that Daniel loves t_i]?
b. *Who_i is [that Daniel loves t_i] obvious?

In short, if we treat PTT as A-movement, then we are forced to conclude that subject clauses in Malagasy are transparent for extraction while complement clauses are opaque, even though the opposite situation obtains in other languages. By contrast, if we treat PTT as A′-movement, we can account for the patterns in (85) as a consequence of clause-bound operator movement combined with clausal pied-piping, a strategy for forming long-distance A′-dependencies familiar from other languages. On plausibility grounds, then, the data in this section may be taken as support for analyzing PTT as A′-movement rather than A-movement, and the Malagasy trigger as a topic rather than a subject.

5. Evaluating Arguments for Treating the Trigger as a Subject

In Section 4, I presented evidence for treating the Malagasy trigger as an A′-element comparable to fronted topics in V2 languages like German and Icelandic. I now turn my attention to potential evidence for the traditional analysis, which treats the trigger as the nominative case-marked subject of the clause. I suggest that this evidence is not compelling, inasmuch as there exist plausible alternative analyses of the phenomena in question which are fully consistent with the trigger-as-topic story. Section 5.1 deals with the issue of pronoun morphology, while in Section 5.2 I consider the interaction between PTT and raising to object.

5.1. *Pronoun Morphology*

Pronouns in Malagasy, unlike most nominal DPs, vary in form depending on their position in the sentence. The forms of the pronouns are given in (94) (note the inclusive/exclusive distinction in the first person plural, and the absence of number marking in the third person):

(94)

	A	B	C
1s	(iz)aho	ahy	-ko
1ex	izahay	anay	-nay
1in	isika	antsika	-ntsika
2s	ianao	anao	-nao
2p	ianareo	anareo	-nareo
3	izy	azy	-ny

The forms in column A are used when the pronoun functions as the trigger, as illustrated in (95) for *izy*. Notice that the form is the same regardless of the voice of the verb. The forms in column B are used when the pronoun is a predicate-internal Theme, as in (96). The forms in the column C, which cliticize to the verb, are used when the pronoun is a non-trigger Actor (97a) (these forms also encode a pronominal possessor, cliticizing onto the possessed noun (97b); see also footnote 42).

(95) a. Namangy ny ankizy ***izy***
Pst.AT.visit Det children 3
"He/she/they visited the children"

b. Novangian' ny ankizy ***izy***
Pst.TT.visit Det children 3
"The children visited him/her/them"

(96) Namangy *azy* **ny ankizy**
Pst.AT.visit 3 Det children
"The children visited him/her/them"

(97) a. Novangia*ny* [< no-vangi-an + -*ny*] **ny** **ankizy**
Pst.TT.visit-3 Det children
"He/she/they visited the children"

b. ny trano "the house"
ny trano*ny* "his/her/their house"

This morphological alternation in the pronouns is usually interpreted as a reflex of structural case assignment/checking. Specifically, the A forms are identified with NOMINATIVE case, while the B and C forms are identified with ACCUSATIVE and GENITIVE case, respectively (Keenan 1976; Voskuil 1993, et al.). The fact that the trigger position is associated with distinctive pronoun morphology might thus be taken as strong evidence for treating it as a case position (Spec, IP, in the analysis of Guilfoyle et al. 1992).

However, it turns out that the A forms have a wider distribution than suggested above, weakening the argument for associating the trigger position with nominative case: Comparing (98a) and (98b) below, we see that the A form of the third person pronoun (*izy*) is used in the postverbal Actor position in place of the C form (*-ny*) when the pronoun is coordinated with another DP. The A form also replaces the C form when the pronoun is modified. This is shown in (98c), where the pronoun combines with the plural proximate demonstrative *ireo* to form a complex pronominal meaning "they, those ones" (often used in place of the simple pronoun to indicate explicitly that the referent is plural); and in (98d), where the pronoun is modified by the verb *mivady* 'be married' (*vady* 'spouse') to form an expression meaning "they who are married, the married couple".[41]

(98) a. Nojere*ny* tany an-tokotany **i** **Koto**
Pst.TT.watch-3 Pst.there Obl-garden Det Koto
"He/she/they watched Koto in the garden"

b. Nojeren' *izy* sy ny zaza tany an-tokotany
Pst.TT.watch 3 and Det child Pst.there Obl-garden
i **Koto**
Det Koto
"He/she/they and the child watched Koto in the garden"

c. Nojeren' *izy* ireo tany an-tokotany **i** **Koto**
Pst.TT.watch 3 these Pst.there Obl-garden Det Koto
"They watched Koto in the garden"

d. Nojeren' *izy* mivady tany an-tokotany
Pst.TT.watch 3 AT.married Pst.there Obl-garden
i **Koto**
Det Koto

[41] Pronoun modification is quite common in Malagasy. Other examples include *izy mirahalahy* 'the brothers' (lit. "they who-are-brothers" < *rahalahy* 'brother [of a man]') and *izy roalahy* 'the two men' (lit. 'they two-male') from example (44).

''They, the married couple, watched Koto in the garden''

(98b–d) are all environments in which clitic pronouns are typically disallowed. I therefore suggest that *izy* and *-ny* do not spell out distinct case features (nominative and genitive, respectively). Rather, *-ny* is a clitic pronoun marked for nominative/genitive case, while *izy* is a default pronoun, unmarked for case. (I assume that *azy* carries accusative case features, as in the traditional analysis.)

That the A form is really a morphological default is supported by the fact that this is the form used when the pronoun does not have case features, but instead functions as the predicate in an equational (99a) or cleft (99b) construction:

(99) a. *Ianao* ihany **ity**
2s just this
''It's just you''

b. *Ianao* irery **no novangian' ny ankizy**
2s alone Foc Pst.TT.visit Det children
''It's only you that the children visited''

In many ways, the A forms in Malagasy are comparable to the so-called strong pronouns in French (*moi*, *toi*, *lui*, etc.). Like the former, the latter may be regarded as default forms which do not distinguish morphological case. Moreover, the strong forms are required when the pronoun is clefted or topicalized (*C'est* ***moi*** *qui ai écrit cet article* 'I am the one who wrote that article'; ***Moi****, je veux partir* 'As for me, I want to leave') and when the pronoun is coordinated or modified (*Daniel et* ***moi****, nous sommes fatigués* 'Daniel and I are tired'; ***Lui*** *qui a écrit cet article*... 'He who wrote that article...').[42]

In short, the existence of morphological alternations in the pronouns does not support the treatment of the trigger position as a case-checking position, given that the form used when the pronoun is

[42] Another place where strong pronouns occur in French is after prepositions (*après* ***moi*** 'after me'). The situation in Malagasy is more complex: Most prepositions take the C form, e.g. *anaty* 'inside', *anati****ny*** 'inside him/her'. However, these prepositions appear to derive from nouns to which the oblique prefix *an-* has been added (*anaty* < *aty* 'liver'), making forms like *anatiny* formally parallel to possessive constructions. Of those prepositions which are not derived from nouns, the majority take complements in the accusative B form (*lavitra* ***azy*** 'far from him/her'), though a handful take the A form (*noho* ***izy*** 'because of him/her'). Those which take the B form are mostly derived from verbs or adjectival roots.

the trigger (column A) is arguably the morphological default. In fact, this evidence could be taken as (weak) support for my analysis of the trigger as a base-generated topic, insofar as pronouns might be expected to appear in their default form when generated in a non-case position such as Spec, TopP.

5.2. *Raising to Object*

I now turn to another potential argument for treating the trigger as a subject, involving the so-called RAISING TO OBJECT (RTO) construction (discussed in depth by Paul and Rabaovololona 1998). In this construction, PTT in a lower clause seems to feed subsequent movement into the derived Theme position of a higher clause. Since the derived Theme almost certainly occupies an A-position, this suggests that the trigger also occupies an A-position, assuming that movement from an A′-position to an A-position—known as IMPROPER MOVEMENT—is disallowed. However, I suggest that the derived Theme does not actually extract from the lower clause. Instead, it originates in the higher clause and is coindexed with a null operator in the lower clause from which it receives its θ-role, much as in the English *tough* construction (cf. Davies 2000b, who argues for a similar non-movement analysis of RTO in related languages such as Madurese, Indonesian, and Tagalog). If PTT does not feed RTO, then the issue of improper movement does not arise, and the argument for treating the trigger position as an A-position does not go through.

In RTO sentences, a DP which is thematically associated with an embedded verb functions syntactically as the Theme argument of a higher verb. I will designate this argument informally as the DERIVED THEME, to distinguish it from Themes which are θ-marked by the matrix verb. An example of RTO is given in (100a). Here the derived Theme *ny mpianatra* is separated from the embedded verb by the particle *ho* (I return to this particle below). This construction alternates with the clausal complement construction in (100b), where *ny mpianatra* appears in the embedded clause, headed by the complementizer *fa*. (Notice that clauses introduced by *ho* remain inside the matrix predicate phrase, preceding the matrix trigger, while those introduced by *fa* are generally extraposed to the right edge of the sentence.) Superficially, RTO complements resemble EXCEPTIONAL CASE-MARKING (ECM) complements in English, except that the verb is finite (in (100a), the verb carries the past tense prefix *n-*).

(100) a. Mihevitra ny mpianatra [ho namaky
AT.think Det student Pst.AT.read
ny boky] **Rabe**
Det book Rabe
"Rabe thinks of the student that (he) read the book"
or "Rabe believes the student to have read the book"

b. Mihevitra **Rabe** [fa namaky ny boky
AT.think Rabe that Pst.AT.read Det book
ny mpianatra]
Det student
"Rabe thinks that the student read the book"

As can be seen from the examples in (101)–(102), the grammatical function of the derived Theme determines the voice of the embedded verb.

(101) a. Mihevitra an-dRanaivo [ho namono an'ilay
AT.think Obl-Ranaivo Pst.AT.kill Obl-that
akoho] **Rakoto**
chicken Rakoto
"Rakoto thinks of Ranaivo that (he) killed that chicken"

b. *Mihevitra an-dRanaivo [ho novonoina **ilay**
AT.thinks Obl-Ranaivo Pst.TT.kill that
akoho] **Rakoto**
chicken Rakoto
"Rakoto thinks of Ranaivo that (he) killed that chicken"

(102) a. Mihevitra an'ilay akoho [ho novonoin-dRanaivo]
AT.think Obl-that chicken Pst.TT.kill-Ranaivo
Rakoto
Rakoto
"Rakoto thinks of that chicken that Ranaivo killed (it)"

b. *Mihevitra an'ilay akoho [ho namono **Ranaivo**]
AT.think Obl-that chicken Pst.AT.kill Ranaivo
Rakoto
Rakoto
"Rakoto thinks of that chicken that Ranaivo killed (it)"

This suggests that RTO is fed by PTT. That is, before a DP can raise to the derived Theme position of a higher clause, it must first become

the trigger of its own clause. This is potentially problematic for my analysis, since the derived Theme position is arguably a case position. Paul and Rabaovololona (1998) note that derived Themes behave like ordinary Themes with regard to case marking: When the derived Theme is a pronoun, for example, it occurs in the morphological accusative form (103a) (cf. (94)). Furthermore, the derived Theme may raise to become the trigger of the matrix clause, in which case it triggers TT morphology on the matrix verb (103b), just as a θ-marked Theme would:[43]

(103) a. Mihevitra *anay* [ho namono an'ilay akoho]
AT.think 1ex Pst.AT.kill Obl-that chicken
Rakoto
Rakoto
"Rakoto thinks of us that (we) killed that chicken"

b. Heverin-dRakoto [ho novonoin-dRanaivo] **ilay akoho**
TT.think-Rakoto Pst.TT.kill-Ranaivo that chicken
"That chicken, Rakoto thinks (of it) that Ranaivo killed (it)"

[43] Sentences such as (103b), in which a logical argument of an embedded verb is mapped to the matrix trigger position, bear a striking resemblance to some of the long-distance PTT examples discussed in 4.3 above, illustrated in (i). Superficially, (i) differs from (103b) primarily in the absence of the particle *ho*:

(i) Heverin-dRasoa novangian' ny lehilahy **ny zaza**
TT.think-Rasoa Pst.TT.visit Det man Det child
"The child, Rasoa thinks that the man visited (her)"

However, I believe that the two constructions are actually quite different syntactically. Whereas (103b) has its AT counterpart in (102a), with *ilay akoho* in the derived Theme position, this is not true of (i). Changing the matrix verb in (i) to its AT form and recasting *ny zaza* as a derived Theme renders the sentence unacceptable, as shown in (ii). (For (ii) to be grammatical, *ho* must be inserted after *ny zaza*, making it into a RTO construction.)

(ii) *Mihevitra *ny zaza* [novangian' ny lehilahy] **Rasoa**
AT.think Det child Pst.TT.visit Det man Rasoa
"Rasoa thinks of the child that the man visited (her)"

To explain this difference, I suggest that in (103b) the derived Theme *ilay akoho* is linked to an operator which has raised through the matrix accusative case position, Spec, AspP, to Spec, WhP; whereas in (i) the complement clause as a whole raises through Spec, AspP, pied-piped into Spec, WhP by the operator linked to *ny zaza*, as detailed in 4.3.

If the derived Theme originates as the trigger of the embedded clause, as suggested by (101)–(102), and if the landing site of the derived Theme is an A-position associated with accusative case checking, as suggested by (103), then the RTO construction presents a challenge to my claim that the trigger occupies an A′-position. Movement from an A′-position to a case position is generally ruled out on the basis of examples like (104): Here we see that a wh-phrase may not raise from the embedded Spec, CP (an A′-position) to the matrix Spec, TP (a case position) to satisfy the EPP feature of T:

(104) *Who$_i$ [$_{TP}$ t_i seems [$_{CP}$ t_i that Dennis visited t_i]] ?

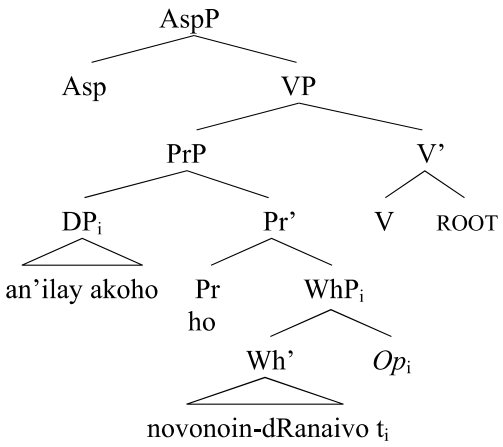
Of course, the RTO construction poses a problem for the trigger-as-topic theory only if we accept that the derived Theme actually raises out of the embedded trigger position. An alternative would be to assume that the derived Theme originates in a higher position, meaning that PTT does not actually feed RTO. This would allow us to treat the trigger as an A′-element without having to deal with the problem of improper movement. Here I briefly outline an analysis along these lines.

I suggest that in RTO constructions, the matrix verb selects a small clause complement headed by *ho*, which (following a suggestion by Paul and Rabaovololona 1998) I treat as a spell-out of Bowers's (1993) PREDICATION HEAD Pr. The sentence in (105a), for example, would have the partial structure in (105b) (abstracting away from movement): The PrP projected by *ho* merges as the internal argument of the matrix verb (viz. in Spec, VP—cf. the structure in (23)). The derived Theme *an'ilay akoho* is generated in the specifier of PrP, and bears an accusative case feature checked by the Asp head of the matrix clause. The complement of Pr is a WhP constituent containing a null operator in its specifier, which is interpreted somewhat like an indefinite free relative; thus the literal meaning of (105a) is something like ''Rakoto believes that chicken [to be] what Ranaivo killed''.[44]

[44] As possible evidence for analyzing RTO complements as small clauses headed by *ho*, note that this particle is also used to introduce nominal and adjectival secondary predicates in resultative constructions. Examples are given in (i) below. Suppose that secondary predicates consist of a PrP small clause taking a PRO subject and an NP or AP complement, as schematized in (ii). If this analysis is correct, then in both cases *ho* is treated as a predication head selecting a non-verbal complement—a nominal or adjectival complement in the case of resultative constructions,

(105) a. Mihevitra an'ilay akoho [ho novonoin-dRanaivo]
AT.think Obl-that chicken Pst.TT.kill-Ranaivo
Rakoto
Rakoto
"Rakoto thinks of that chicken that Ranaivo killed (it)"

b.



The specifier and complement of Pr stand in a predication relation, and thus share an index. Since the WhP complement gets its index from the operator chain contained within it, this ensures that the specifier of Pr will corefer with the operator chain in the embedded clause, and be interpreted as if it were a thematic argument of the embedded verb. The structure in (105b) recalls Chomsky's (1981) analysis of English *tough* constructions, mentioned in 4.2: The subject of the *tough* predicate is base-generated in the higher clause, and receives its θ-role through transmission from a null operator in the lower clause:

(106) That chicken$_i$ was easy [Op_i for Ranaivo to kill t$_i$]

---

and a free relative in the case of RTO. (On the treatment of secondary predicates as small clause complements, see Hoekstra 1988.)

(i) a. Namono [ho faty] ny lehilahy **izy**
Pst.AT.kill corpse Det man 3
"They killed the man dead"

b. Nikapoka [ho fisaka] ny fantsika tamin'ny maritoa **aho**
Pst.AT.hit flat Det nail Pst.with-Det hammer 1s
"I hit the nail flat with the hammer"

(ii) hit [$_{VP}$ the nail$_i$ [$_{V'}$ t$_V$ [$_{PrP}$ PRO$_i$ Pr [$_{AP}$ flat]]]]

Various details in the treatment of RTO remain to be worked out. The point is that a plausible analysis of this construction can be formulated which does not assume that RTO is fed by PTT. Thus the constraints on voice marking in RTO constructions cannot be taken as conclusive evidence for identifying the trigger position as a case position.

6. Conclusion

In this paper I showed that the TRIGGER in Malagasy is not a subject occupying a case position, but an A′-element comparable to fronted topics in Germanic V2 languages. Both triggers and V2 topics are generated in the specifier of an A′-projection, TOPIC PHRASE (TopP), and coindexed with a null operator which raises from a case position into the specifier of a WH-OPERATOR PHRASE (WhP). The genuine subject of the Malagasy clause—in the sense of the constituent which bears/checks structural nominative case—is the ACTOR, which immediately follows the verb when not functioning as the trigger.

Various kinds of evidence were provided in support of this analysis. I showed that triggers exhibit both reconstruction effects and weakest crossover effects, a combination of properties (shared by German and Icelandic topics) which is characteristic of constructions involving movement of a null operator. I also provided evidence from sentences involving long-distance PTT, where a matrix trigger is interpreted as an argument of an embedded clause: I showed that in such sentences, the grammatical function of the trigger determines the voice of the lower verb, while the voice of the higher verb is determined by the embedded clause as a whole. This pattern can be captured straightforwardly in terms of a derivation involving clause-bound operator movement combined with clausal pied-piping (as attested in long-distance *wh*-extraction in Basque and other languages), implicating an analysis of PTT as A′-movement. By contrast, A-movement analyses of the same facts face significant problems, arguing against the trigger-as-subject story.

My analysis of the trigger as an A′-element suggests a novel approach to the well known restrictions on voice marking in A′-extraction constructions such as relative clauses and clefts. Rather than explaining these restrictions in terms of a language-specific constraint prohibiting extraction of non-subject DPs, I suggested that they follow from the fact that *wh*-operators are licensed in the

specifier of WhP, blocking movement of a topic operator into this position. Since *wh*-extraction and PTT compete for the same landing site, they cannot co-occur in the same clause. I compared this with the situation in German, where *wh*-movement is mutually exclusive with topic-fronting.

I also outlined a new treatment of voice morphology in Malagasy. I argued that the distribution of the voice affixes correlates with the abstract case of the operator chain with which the trigger is coindexed—for example, AT morphology is inserted when the operator raises to Spec, WhP by way of the nominative case checking position, while TT morphology is inserted when it raises by way of the accusative case checking position. Inasmuch as it (indirectly) encodes the case features of an A′-element, Philippine-type voice marking is analogous to WH-AGREEMENT in Chamorro; the fact that voice morphology must appear on each verb is due to a requirement that the Spec, WhP position be filled in every clause. Again, this is comparable to the situation in languages like German and Icelandic, where the preverbal A′-position must be filled.

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