Chapter 2

Predicate-Argument Structure and Verbal Morphology

2.0. Introduction

Malagasy is an Austronesian language spoken by virtually the entire population of the island of Madagascar (approximately 12 million people). It is a member of the Western Malayo-Polynesian branch of Austronesian, and is thus closely related to the languages of the Philippines, such as Tagalog and Cebuano, as well as most of the languages of Malaysia and Indonesia. On the basis of comparative evidence, Dahl (1951) argues that Malagasy's closest relatives are the languages of the Southeast Barito subgroup of Kalimantan. He suggests that the ancestors of the Malagasy originated in southern Borneo, and migrated to Madagascar between 1000 and 1500 years ago. Although its phonology and lexicon have been influenced by the Bantu languages of mainland East Africa, Malagasy exhibits most of the characteristic morphosyntactic features of its Southeast Asian relatives, including verb-initial word order and a complex voicing system.

There are several dialects of Malagasy. All of the data cited in this thesis are from the Merina dialect spoken in and around the capital city, Antananarivo. In addition to being the native dialect of my principal consultant, Merina is the basis for standard written Malagasy, and has been the focus of most of the previous linguistic work on the language.

There is good deal of reliable descriptive literature on Malagasy. In addition to an excellent Malagasy-French dictionary (Abinal & Malzac 1963), several comprehensive pedagogical and reference grammars have been published, many of them written by native speakers. These include Rahajarizafy (1960), Rajemisa-Raolison (1971), Rajaona (1972), and Dez (1980). Recent years have seen an outgrowth of detailed descriptive work by native-speaking Malagasy linguists, including an extensive survey of verbal morphology and diathesis by Rabenilaina (1985, 1991), as well as studies of complex verbal constructions (Ranaivoson 1985), adjectives (Ralalaoherivony 1995), and temporal adverbs (Raharinirina-Rabaovololona 1991).

Within the generative grammar tradition, a good deal of research on various aspects of Malagasy morphology and syntax has been undertaken since the early 1970s. Important contributions include Keenan (1976, 1994), Travis & Williams (1983), Randriamasimanana (1986, 1998, 1999), Travis (1991a, 1994), Guilfoyle, Hung, & Travis (1992), Manaster-Ramer (1992), Voskuil (1993), Law (1995, 1997), Pearson (1996a, 1997), Dahl (1996), Keenan & Polinsky (1998), Paul (1998b, 1999, 2000, to appear), Phillips (2000), and Rackowski & Travis (2000). There are also two recent collections of working papers on various aspects of the structure of Malagasy, edited by Pearson & Paul (1996) and Paul (1998a).

In this chapter I offer some background information on the basic features of Malagasy, and introduce some of the issues to be investigated in this thesis. The organization of this chapter is as follows: In section 2.1 I discuss the basic structure of the Malagasy clause. Section 2.2 provides an overview of verb morphology, including the system of verbal *voice*, a central feature of the language. In this section I briefly discuss the interaction between voice morphology and extraction, an issue to which I return in chapter 3. In 2.3 I discuss nominal morphology and the hierarchical positions of arguments within the predicate phrase, and present my assumptions con-

cerning the phrase structure of the clause. Finally in 2.4 I consider voice morphology in more detail, and sketch an analysis of the voicing system where the voice morphemes are treated as functional heads involved in abstract case-licensing, which are spelled out overtly just in case their specifiers contain a trace. Thus, the function of voice morphology is to indicate the abstract case of an A′-chain. As evidence that voice morphology is triggered by A′-movement, I compare Malagasy with Chamorro, a related language: Chamorro normally exhibits φ-feature agreement on verbs. However, in wh-questions, relative clauses, and other constructions involving A′-extraction, regular φ-feature agreement is replaced by special *wh-agreement* morphology (Chung 1982, 1994, 1998). The wh-agreement morphemes appear to be cognate with the voice morphemes found in Philippine-type languages. One way to interpret this is to analyze Malagasy as a Chamorro-type language in which wh-agreement has been generalized to all clause types due to the presence of obligatory A′-movement of a nominal constituent to a topic position, as argued in chapter 3.

2.1. An overview of Malagasy clause structure

Malagasy is a verb-initial language (traditionally classified as VOS), with relatively fixed word order. Malagasy displays most of the usual Greenbergian word order properties of a head-initial language—viz., prepositions, postnominal possessors and modifying adjectives, postnominal relative clauses, postverbal PP adjuncts, and so on. Here I review some general facts pertaining to word order and constituency.

Malagasy clauses generally have a bipartite structure, comprised of a *predicate phrase* (PredP), and a constituent denoting the participant of which the PredP is predicated. This latter constituent is variously referred to as the *subject*, *topic*, or *focus* of the clause. In chapters 3 and 4 I argue that this element occupies an A′-position analogous to the position of preverbal topics in verb-second languages like German and Icelandic. However, rather than referring to this element as a topic, I will adopt a purely descriptive term, *external argument* (abbreviated EA). In sentence (1) below, the EA is marked with a dotted underline, a convention I follow throughout this thesis. The remainder of the sentence constitutes the predicate phrase:[1]

(1) Mamono akoho amin'ny antsy ny mpamboly
NomP.kill chicken with-Det knife Det farmer
"The farmer kills {a chicken / chickens} with the knife"

In (1) the predicate phrase consists of a verb and its dependents (a direct object and a PP). Non-verbal constituents may also function as predicate phrases: As the examples below show, the PredP may consist of a bare noun phrase (2a), a weak quantifier or numeral phrase (2b), an adjectival phrase (2c,d), or a locative phrase (2e). Except in existential constructions, non-verbal

[1] Standard Malagasy orthography is employed throughout this thesis. This orthography is fairly transparent, but note that *h* is generally silent, *o* = [u], *j* = [dz], and *dr* and *tr* represent voiced and voiceless retroflex plosives. Finally, the high front vowel [i] is written *y* word-finally and *i* elsewhere.

I will generally not indicate word-internal morpheme boundaries in the Malagasy examples, as the internal structure of words will usually not be relevant to the discussion. Note that the apostrophes and hyphens which occur in the Malagasy examples (e.g. in *amin'ny* in (1) and *henon-dRabe* in (3b)) are part of the standard orthography.

predicates are not introduced by an overt copular element (I remain noncomittal on whether the clauses in (2) contain a phonetically null copula).

(2) a. Dokotera ny rahalahiko
doctor Det brother-1s
"My brother is/was a doctor"

b. Roa ny zanan'i Noro
two Det children-Lnk-Det Noro
"Noro has two children"
lit. "The children of Noro (are) two"

c. Hendry ny ankizy
wise Det children
"The children are well-behaved"

d. Maty ny miaramila maro
dead/died Det soldier many
"Many of the soldiers {died / are dead}"

e. Ary anatin'ny ala ny gidro
there inside-Lnk-Det forest Det lemur
"The lemur is in the forest"

The fact that the clauses in (1)–(2) have a bipartite structure is supported by a variety of constituency tests, as discussed by Keenan (1976, 1994), Dahl (1996), and others. Note, for example, that it is possible to conjoin two PredPs using the phrasal connective *sy* "and", as in (3). In these sentences, the clause-final EA is predicated of both conjuncts:[2]

(3) a. [Misotro toaka] sy [mihinam-bary] Rakoto
NomP.drink rum and NomP.eat-rice Rakoto
"Rakoto is drinking rum and eating rice"

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[2] (3a) is taken from Keenan (1976). Note that Malagasy has two principal connectives equivalent to "and", namely *sy* and *ary*. *Ary* is generally used for conjoining clauses, while *sy* is used exclusively for conjoining constituents other than clauses, such as DPs and PPs (cf. the examples in (i)-(ii) below). The fact that the sentences in (3) require *sy* strongly suggests that we are dealing with conjoined PredPs sharing a single EA—rather than, say, conjoined clauses where the EA of the first clause has been deleted under coreference with the EA of the second clause.

(i) Misotro toaka Rajaona { *ary* / **sy* } mihinam-bary Rakoto
NomP.drink rum Rajaona NomP.eat-rice Rakoto
"[Rajaona drinks rum] and [Rakoto eats rice]"

(ii) Misotro toaka Rajaona { *sy* / ??*ary* } Rakoto
NomP.drink rum Rajaona Rakoto
"[Rajaona] and [Rakoto] drink rum"

b. [Henon-dRabe] sy [nojeren-dRajaona] ny mpihira gasy
heard-Rabe and Pst-AccP.watch-Rajaona Det folksinger
"The folksinger, Rabe heard (him) and Rajaona watched (him)"

Additional evidence for the constituency of the predicate phrase comes from the placement of certain particles, such as the yes/no question marker *ve*. As illustrated in (4), *ve* targets the boundary between the PredP and the EA:

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

b. * Mamono *ve* akoho amin'ny antsy ny mpamboly?
c. * Mamono akoho *ve* amin'ny antsy ny mpamboly?
d. * Mamono akoho amin'ny antsy ny mpamboly *ve*?

Paul (1999) argues convincingly that *ve* is a second-position clitic, which attaches to the right edge of the leftmost phrasal constituent in the clause (see section 4.4.1 for a discussion of Paul's evidence). Thus, the fact that *ve* follows *mamono akoho amin'ny antsy* in (4) shows that this string is a single constituent.

Turning to the external argument: There are certain featural restrictions on the type of constituent which may occupy the EA position. In particular, it must be of category DP, and it must be [+specific], in the sense of Enç (1991). That is, the EA must be associated with an existential presupposition, either by virtue of being definite/generic, or by expressing quantification over a definite set of entities (as with universal QPs and partitive expressions). Types of DPs which may appear in the EA position include pronouns (5a); proper names (5b); definite descriptions headed by a determiner such as *ny*, *ilay*, or *ireo* (5c-d); or definite descriptions flanked by copies of a deictic determiner, in what is known as the *framing demonstrative* construction (5e):[3]

(5) a. Mihinana akondro izahay
NomP.eat banana 1ex
"We are eating bananas"

b. Mihinana akondro i Tenda
NomP.eat banana Det Tenda
"Tenda is eating bananas"

c. Mihinana akondro ny gidro
NomP.eat banana Det lemur
"The lemur is eating bananas"
or "The lemurs are eating bananas"
or "Lemurs eat bananas" [generic]

[3] See 2.3.1 for additional discussion of determiners, and 4.4.2.1 for some remarks on the framing demonstrative construction.

d. Mihinana akondro ilay gidro
NomP.eat banana Det lemur
"That [previously-mentioned] lemur is eating bananas"

e. Mihinana akondro io gidro io
NomP.eat banana this lemur this
"This lemur is eating bananas"

By contrast, bare noun phrases and PPs may not function as EAs, as shown in (6):

(6) a. * Mihinana akondro gidro
NomP.eat banana lemur
"A lemur is eating bananas"

b. * Namonoan'ny mpamboly akoho tamin'ity antsy ity
Pst-CrcP.kill-Det farmer chicken Pst-with-this knife this
"The farmer killed chickens with this knife"

Although the EA is typically the rightmost element in the clause, there are a handful of other constituent types which also occupy right-peripheral positions. For example, certain kinds of adverbial expressions and PPs—specifically, those which serve to establish the general spatio-temporal context for the event denoted by the PredP—frequently occur outside the predicate phrase, following the EA, as shown in (7a-b) (adapted from examples in Rajemisa-Raolison 1971). Certain other sentential adverbials, such as *matetika* "generally", also optionally follow the EA, as shown in (7c) (adapted from Rackowski 1998):[4]

(7) a. Nanoratra taratasy ny zazavavy *tany* *am-pianarana*
Pst-NomP.write letter Det girl Pst-there Obl-school
"The girl wrote a letter in school"

b. Niasa tany tamin'ny angady izahay *omaly* *hariva*
Pst-NomP.work field Pst-with-Det spade 1ex yesterday evening
"Yesterday evening we worked (in the) fields with a spade"

c. Tsy mandamina mihitsy ny trano Rakoto *matetika*
Neg NomP.arrange at.all Det house Rakoto generally
"Rakoto generally does not put the house in order"

In addition to sentential adverbs and locative modifiers, adverbial and complement clauses regularly follow the EA, as shown in (8).[5] This is reminiscent of CP extraposition in English and other languages. (See sections 4.2.2 and 4.2.3 for some discussion of post-EA constituents.)

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[4] These adverbs are all licensed in rather high positions in the projection hierarchy, according to Cinque (1999)—a fact to which I return in Pearson (in preparation).

[5] Although extraposed clauses in Malagasy are generally introduced by an overt complementizer or subordinator such as *fa* "that" or *vao* "before", 'bare' CP complements are also sometimes extraposed, as in (i):

(8) a. Manantena i Tenda [fa hianatra tsara ny ankizy]
NomP.hope Det Tenda that Irr-NomP.study well Det children
"Tenda hopes that the children will study well"

b. Tsy maintsy nandalo amin'ny lavabato izy [vao tonga tany]
necessary Pst-NomP.pass in-Det cave 3 before arrive Pst-there
"They had to pass through a cave to get there [lit. before (they) arrived there]"

Normally in every sentence the external argument position must be filled. Taken in isolation, a sentence consisting just of a predicate phrase is generally judged ungrammatical, with three major exceptions: Certain types of imperatives lack an overt EA, as shown in (9) (see 2.3.2). Existential sentences formed with the copular verb *misy* "exist" also often lack an EA, as shown in (10a-b) (on the structure of existentials, see Polinsky 1994, Pearson 1996a/b, Paul 2000). Finally, the EA slot is sometimes empty in 'ambient' sentences—that is, sentences where the predicate is attributed to the environment—as in the example in (10c), taken from a passage in a text concerning the conditions inside a cave.[6]

(9) Mamakia boky Ø
NomP.read-Imp book
"Read a book!"

(10) a. Nisy entana tonga Ø
Pst-NomP.exist parcel arrived
"Some parcels have arrived"
lit. "(There) exist parcels (that) arrived"

b. Tsy nisy olona tonga tamin'ny fety Ø
Neg Pst-NomP.exist people arrived Pst-to-Det party
"Nobody came to the party"
lit. "(There) don't exist people (who) came to the party"

c. Feno rano Ø tao
full water Pst-in.there
"In there (it) was full of water"

(i) Talanjona ny vahoaka [nahita ilay tovolahy nipetraka amin'ny vato]
surprised Det people Pst-NomP.see that young.man Pst-NomP.sit on-Det rock
"The people were surprised to see that young man sitting on the rock"

[6] Consider also (i) below, courtesy of Ileana Paul (p.c.): Paul speculates that this sentence involves a rare example of a PP functioning as the external argument of a predicate. Another possibility is that the PP is extraposed, and the EA position is empty, or filled by a null expletive, as I have assumed for (10c).

(i) [$_{PredP}$ Toerana tsara hiafenana] ao amban'ny latabatra
place good Irr-CrcP.hide there under-Det table
"Under the table is a good place to hide"

Though sentences in isolation must have an EA, in connected discourse the EA is often elided under coreference with the EA of a previous clause, a phenomenon reminiscent of *topic-drop* in other languages (Huang 1984; cf. the discussion in 3.1.2). Consider the sequence of sentences in (11), taken from a passage in a folk tale: In the first clause (11a), the noun phrase *izy roalahy* "those two men" (lit. "they two-male") functions as the EA. Subsequent clauses in (11b-d) are understood to be predicated of the same referent, and the matrix EA position is left empty:

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

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

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

d. Tsy tampotampoka toy izay, nandositra Ø
Neg sudden.Redup like that Pst-NomP.run.away
"Just like that, [they] ran away"
(lit. "Not a little suddenly like that, [they] ran away")

Note finally that there is one class of sentences which may or may not contain an overt external argument, depending on one's analysis—namely sentences consisting of a matrix predicate followed by a complement clause headed by *fa*, such as (12a). The position of *ve* shows that the complement clause is outside of the predicate phrase (12b). However, it is unclear whether the complement clause occupies the EA position (12c), or whether it is extraposed, as in (8a), and the EA position is either empty or filled by a null expletive (12d). Here I will assume that the structure in (12c) is correct; however, the analyses I propose in this thesis which make reference to embedded clauses (e.g., my treatment of long-distance dependencies in 3.3) can be reformulated fairly easily in terms of the structure in (12d).

(12) a. Fantan-dRakoto [fa mamaky ny boky ny mpianatra]
known-Lnk-Rakoto that NomP.read Det book Det student
"Rakoto knows that the student is reading the book"

b. Fantan-dRakoto *ve* [fa mamaky ny boky ny mpianatra] ?
known-Lnk-Rakoto Qu that NomP.read Det book Det student
"Does Rakoto know that the student is reading the book?"

c. [$_{\text{PredP}}$ Fantan-dRakoto] [$_{\text{EA}}$ fa mamaky ny boky ny mpianatra]
lit. "That the student is reading the book is known by Rakoto"

d. [$_{\text{PredP}}$ Fantan-dRakoto] [$_{\text{EA}}$ Ø] [$_{\text{CP}}$ fa mamaky ny boky ny mpianatra]
lit. "(It) is known by Rakoto that the student is reading the book"

The two major questions addressed in this thesis concern the status of the EA and its structural relationship to the predicate phrase. These questions are: *What position in the phrase structure does the EA occupy?* and *Why does the EA show up at the right-periphery of the clause?* The first question is dealt with in chapter 3. There I argue that the EA occupies an A′-position in the C-domain of the clause, namely the specifier of a topic projection, TopP. In chapter 4 I turn to the second question, and argue that the surface word order of the clause is derived through leftward movement of the predicate phrase to a position above the EA. The motivation for this movement is similar to the motivation for T-to-C raising in VSO and verb-second languages, although the effects of this movement on surface word order are quite different due to independent morphological factors.

The remainder of chapter 2 sets the stage for the discussion in chapters 3 and 4. Having reviewed the basic layout of the clause, I now present some background information on those aspects of nominal and verbal morphology which will be relevant to this discussion.

2.2. An overview of verb morphology

In section 2.4, I discuss voice morphology in detail, and sketch a syntactic analysis of the various morphemes involved in marking voice. As a prelude to this discussion, I present an overview of the voicing system in 2.2.1–2.2.4. In 2.2.5 I comment briefly on other aspects of verb morphology, such as tense-marking.

2.2.1. The Malagasy voicing system

Consider again example (1), repeated below as (13a): Here the EA *ny mpamboly* "the farmer" denotes the agent of the killing event. It is also possible to place non-agents in the external argument position, as illustrated in (13b-c): In (13b), the patient of the event is acting as the EA. In (13c) the EA is a noun phrase denoting the instrument with which the action is carried out. Notice that in (13b-c) the agent occurs immediately after the verb, and fuses with the verb stem to form a single prosodic unit (e.g., in (13b) it contracts with *vonoina* to form *vonoin'ny mpamboly*; see section 2.3.1).[7]

(13) a. Mamono akoho amin'ny antsy ny mpamboly
NomP.kill chicken with-Det knife Det farmer
"The farmer kills chickens with the knife"

b. Vonoin'ny mpamboly amin'ny antsy ny akoho
AccP.kill-Det farmer with-Det knife Det chicken
"The chickens are killed by the farmer with the knife"
or "The chickens, the farmer is killing (them) with the knife"

[7] Notice that the preposition *amin'* "with", which marks the instrument in (13a-b), is absent in (13c). I return to this fact in 2.2.3 and 2.4.4.

c. Amonoan'ny mpamboly akoho ny antsy
CrcP.kill-Det farmer chicken Det knife
"The knife is being used by the farmer to kill chickens"
or "The knife, the farmer is killing chickens (with it)"

That *ny akoho* in (13b) and *ny antsy* in (13c) are functioning as the EA of their respective clauses is shown by the fact that they occur at the right-periphery of the clause, and are separated from the rest of the sentence by *ve* in yes/no questions (14).

(14) a. Vonoin'ny mpamboly amin'ny antsy *ve* ny akoho?
AccP.kill-Det farmer with-Det knife Qu Det chicken
"The chickens, is the farmer killing (them) with the knife?"

b. Amonoan'ny mpamboly akoho *ve* ny antsy?
CrcP.kill-Det farmer chicken Qu Det knife
"The knife, is the farmer killing chickens (with it)?"

The paradigm in (13) illustrates what is known as the *voicing* system of Malagasy (the term *verbal focus* is also sometimes used). Borrowing terminology from Travis & Williams (1983), I will refer to the operation which maps one or another dependent of the verb onto the external argument position/function as *externalization*, since the EA is outside the PredP constituent while the non-EA dependents are inside the PredP. For example, we would say that the agent of the verb is externalized in (13a), while the patient is externalized in (13b) and the instrument is externalized in (13c).

Notice that the morphological shape of the verb "kill" (whose root is *vono*) changes depending on which argument is externalized. In (13a), the verb has the form *mamono*; in (13b), the form *vonoina* is used; and in (13c), the form *amonoana* is used. For reasons discussed in 2.2.2 below, I will refer to these as the *nominative-pivot* (NomP), *accusative-pivot* (AccP), and *circumstantial-pivot* (CrcP) forms, respectively. Two other forms, the *translative-pivot* (TrnP) and the *dative-pivot* (DatP), are also attested (see 2.2.3 for examples). Although very few verbs appear in all five of these forms, most intransitive verbs accept both NomP and CrcP morphology, while most transitive verbs take these two forms and at least one of the three remaining forms, which may be grouped together as the *object-pivot* forms. The five forms are listed in (15), together with examples. I review their distribution in 2.2.3, returning in 2.4 to the voice morphemes themselves and their place in the functional hierarchy of the clause.

(15) The five voice forms

name	*morphological template*	*examples*	
		underlying form	*surface form*
Nominative-Pivot (NomP)	m- + PFX- + ROOT	m-an-vélar m-an-táov m-i-kápok	mamélatra manáo mikápoka
Accusative-Pivot (AccP)	ROOT + -in	vonó-in vidí-in kapók-in	vonóina vidína kapóhina
Dative-Pivot (DatP)	ROOT + -an	rosó-an tolór-an jinjá-an	rosóana tolórana jinjána
Translative-Pivot (TrnP)	a- + ROOT	a-róso a-tólor a-tósek	aróso atólotra atósika
Circumstantial-Pivot (CrcP)	PFX- + ROOT + -an	an-velár-an an-táov-an i-kapók-an	amelárana anáovana ikapóhana

As can be seen by comparing the underlying and surface forms in (15), various phonological changes accompany the addition of voice morphology to roots. These include nasal assimilation, the deletion or mutation of root-initial and root-final consonants, vowel reduction and coalescence, and (in forms such as *vonó-in* > *vonóina*, *m-i-kápok* > *mikápoka*, etc.) the insertion of an extrametrical default vowel *a* after an underlyingly stem-final consonant, allowing that consonant to be resyllabified as an onset. Most of these changes are triggered by surface phonotactic constraints banning consonant clusters and closed syllables (see Erwin 1996 for discussion).

Complex voicing systems of this sort are a central feature of the so-called 'Philippine-type' of Western Austronesian languages. Compare the paradigm in (13) with that in (16), which illustrates the voicing system of Tagalog (Schachter & Otanes 1972, Kroeger 1993, et al.). The various voice forms serve to 'promote' different constituents to a syntactically prominent function in the clause, more or less equivalent to the EA function in Malagasy. (Note that in Tagalog the promoted constituent is marked with the special determiner *ang* in (15), while non-promoted constituents take the unmarked determiner *ng* or the oblique determiner *sa*):[8]

[8] Here and throughout this thesis, examples from Philippine languages have been reglossed using the voicing terminology employed here for Malagasy. In the Tagalog literature, the voice forms illustrated in (16a-c) are usually referred to as the *actor-topic*, *goal-topic*, and *dative/locative-topic* forms, respectively. My identification of the forms in (16a) and (16b) as NomP and AccP is justified by the fact that they behave syntactically very much like the NomP and AccP forms in Malagasy, and in many cases appear to involve historically related morphemes—e.g., the *-an* suffix in *binilhan* is clearly cognate with the DatP/CrcP suffix *-an* in Malagasy.

(16) a. Bumili ng libro sa tindahan ang maestro
NomP.buy.(Perf) Det book Obl.Det store Det teacher
"The teacher bought a book from the store"

b. Binili ng maestro sa tindahan ang libro
AccP.buy.(Perf) Det teacher Obl.Det store Det book
"A/the teacher bought the book from the store"

c. Binilhan ng maestro ng libro ang tindahan
DatP.buy.(Perf) Det teacher Det book Det store
"A/the teacher bought a book from the store"

In (16) the *ang*-marked element is clause-final, suggesting that Tagalog clauses have the same bipartite structure as in Malagasy. However, the order of postverbal constituents in Tagalog is actually quite free: Though the *ang*-marked constituent normally occurs at the end of the clause, it may be freely permuted with other constituents, without any apparent effect on interpretation:

(17) a. Bumili ang maestro ng libro sa tindahan
NomP.buy.(Perf) Det teacher Det book Obl.Det store
"The teacher bought a book from the store"

b. Bumili ng libro ang maestro sa tindahan
NomP.buy.(Perf) Det book Det teacher Obl.Det store
"The teacher bought a book from the store"

Thus Tagalog lacks the rigid surface constituent structure found in Malagasy.[9] In all other respects, however, the voicing systems of the two languages are highly comparable: In both languages, each matrix clause must have one and only one EA; in both languages, the EA must be a [+specific] DP; and in both languages, the voicing system interacts closely with other components of the grammar such as relativization and wh-question formation (section 2.2.4).

2.2.2. A note on terminology

In this thesis I adopt novel terms for the voice forms. Pedagogical and descriptive grammars (e.g., Rajemisa-Raolison 1971) generally refer to the NomP as the *active* form and the CrcP as the *circumstantial* or *relative* form, while the AccP, DatP, and TrnP are grouped together as different types of *passives*.[10] These labels were adopted by Keenan (1976) and have since become standard in the linguistics literature.[11]

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[9] Richards (2000) argues that the pivot is licensed in a predicate-external position just like in Malagasy. The two languages differ in that movement to this position takes place in the overt syntax in Malagasy, but covertly in Tagalog. This difference may be linked to the fact that in Tagalog, but not in Malagasy, the EA is identified morphologically by means of a special set of determiners (e.g., *ang*).

[10] The designation *passive* is also applied to two other forms, constructed by adding the prefixes *voa-* and *tafa-* to the root. Examples are given in (i). These forms differ from the AccP, DatP, and TrnP forms in that (a) they typically occur without an overt agent phrase, and (b) they have an inherently completive meaning. I will not consider these forms here, but see Randriamasimanana (1986) and Travis (1996) for some discussion.

However, this terminology is misleading. Although forms such as the AccP and DatP are functionally similar to passives in English and French, in that the patient is 'promoted' over the agent to the structurally and pragmatically salient EA role, syntactically the two constructions are quite distinct. As I show in 2.3.2, the 'demoted' agent in an AccP clause does not function as an oblique comparable to the *by*-phrase in English passives, but as a core argument of the verb which behaves in all important respects like the postverbal subject in a VSO language. Moreover, as I discuss in chapter 3, the 'promoted' patient in an AccP clause does not have the properties of a derived subject, but functions more like a topic (for example, I present evidence from binding and other domains to show that the EA occupies an A′-position rather than an A-position). Thus, to prevent confusion with actives and passives in European languages, I reject the traditional terms here and adopt case-based designations such as *nominative-pivot* and *accusative-pivot* instead. In this respect I follow Kroeger (1988), who proposes a similar nomenclature for the voicing system of Kimaragang Dusun, a related language.

These labels incorporate the term *pivot*, which comes from the descriptive literature on Western Austronesian, where it refers to the constituent whose grammatical function (subject/ agent, object/patient, oblique) is identified by the voice marking on the verb. In all of the cases to be considered in this chapter, it is the external argument of a given clause which functions as the pivot of the verb in that clause. For example, in (18), the EA *ny akoho* "the chickens" functions as the pivot of the verb *vonoina* "kill", insofar as the AccP marking on the verb identifies the EA as a patient.

(18) Vonoin'ny mpamboly amin'ny antsy ny akoho
AccP.kill-Det farmer with-Det knife Det chicken
"The farmer killed the chickens with the knife"

In chapter 3 I show that there are certain special contexts, involving extraction from embedded clauses, in which the voice of a given verb is determined not by the external argument, but by some larger constituent pied-piped by the external argument. Hence the terms *pivot* and *external argument*, while they usually overlap in reference, are not synonymous. However, because the difference between pivots and EAs is not relevant to the discussion in this chapter, I will defer further discussion of this issue until chapter 3.

My choice of case-based designations like *nominative-pivot* and *accusative-pivot* (rather than semantically-based terms such as *agent-pivot* and *theme-pivot*) reflects the observation that the mapping of EAs to voice forms cuts across traditional thematic roles, showing a distribution

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(i) a. Voafina tao anatin'ny boaty ny vola
Voa.hide Pst-in.there inside-Det box Det money
"The money was hidden in the box"

b. Tafatsangana ny lay
Tafa.put.up Det tent
"The tent got put up"

[11] Some researchers, however, most notably Guilfoyle, Hung, & Travis (1992), follow the naming conventions found in the literature on Philippine languages, and refer to the NomP and AccP forms as the *actor-topic* and *theme-topic* (or *goal-topic*) forms, respectively.

which seems to have more in common with case-marking patterns in other languages than with θ-marking. Consider the distribution of the nominative-pivot voice, for example: This form is used not only when the EA is the agent of a canonical transitive verb such as "kill", but also when the EA is the experiencer argument of a perception verb (19a), or the theme argument of an intransitive verb (19b-c). In other words, this form is used when the EA belongs to that class of DPs that typically receive nominative case in nominative-accusative case-marking languages:

(19) a. Mahita ny alika ny zazavavy
NomP.see Det dog Det girl
"The girl sees the dog"

b. Mipetraka eo ambonin'ny vato ny zazavavy
NomP.sit there on.top-Lnk-Det rock Det girl
"The girl is sitting on the rock"

c. Nianjera ny zazavavy
Pst-NomP.fall Det girl
"The girl fell down"

The intuition behind the labels adopted here is that voice morphology identifies the abstract case of the EA: The nominative-pivot form indicates that the EA bears (abstract) nominative case, while the accusative-pivot and dative-pivot forms indicate the EA bears (abstract) accusative and dative case, respectively.[12] I develop this idea further in 2.4, where I discuss the syntactic functions of the voice morphemes themselves.

2.2.3. The distribution of the voice forms

The *nominative-pivot* (NomP) voice is formed by adding the prefix *m-* to verb root, in combination with one of a small set of *verbal prefixes*, discussed in 2.4.2. For example, the NomP form *mamaky* "break, read" is comprised of the voice prefix *m-*, the verbal prefix *an-*, and the adjectival root *vaky* "broken". The *accusative-pivot* (AccP) voice is formed by adding the suffix *-in* to the root. The verbal prefix found on the NomP form is generally absent. Thus the AccP form corresponding to *mamaky* is *vakina*.

As its name suggests, the nominative-pivot form is used when the EA is the 'notional subject' (agent, actor, experiencer, etc.) of a transitive verb, or the sole core argument (experiencer, theme, etc.) of an intransitive verb. The *accusative-pivot* form is used when the EA is the direct object of a transitive verb (typically a patient/theme). Compare the sentences in (20). The NomP form *mamaky* in (20a) marks the agent *ny mpianatra* "the student" as the EA, while the AccP form *vakina* in (20b) marks the patient *ny boky* "the book" as the EA:

[12] For related conceptions of voice in Austronesian, see Schachter (1976) on Tagalog and Kroeger (1988) on Kimaragang Dusun. This approach to voice is also reminiscent of Chung's (1982, 1994, 1998) characterization of *wh-agreement* phenomena in Chamorro, to which I return in 2.4.5.

(20) a. *Mamaky* ny boky ny mpianatra
NomP.read Det book Det student
"The student is reading the book"

b. *Vakin'*ny mpianatra ny boky
AccP.read-Det student Det book
"The student is reading the book"

Additional examples illustrating the NomP and AccP forms are given in (21) and (22), respectively (these examples are all adapted from textual sources):

(21) a. *Manodidina* ny tanàna ny tamboho
NomP.surround Det village Det fence
"The fence surrounds the city"

b. *Nidina* tany anaty lavabato izy
Pst-NomP.descend Pst-there inside cavern 3
"He went down into the cavern"

c. Mba efa *nahita* gidro ve ianao?
Emph already Pst-NomP.see lemur Qu 2s
"Have you ever seen a lemur?"

(22) a. *Notapahin'*ny lehilahy ny vahitady
Pst-AccP.cut-Det man Det vine.rope
"The men cut the vine rope"

b. *Novonoin*-dRanaivo ny rahalahiny
Pst-AccP.kill-Ranaivo Det brother-3
"Ranaivo killed his brother"

c. *Narahin'*ny olona marobe ny mpanjaka
Pst-AccP.follow-Det people great.many Det king
"The king had a great many people following him [in his entourage]"

With certain verbs, the *translative-pivot* (TrnP) or *dative-pivot* (DatP) voice is used in place of the accusative-pivot voice to mark externalization of the direct object. The translative-pivot is formed by adding the prefix *a-* to the root, while the DatP voice is formed by adding the suffix *-an* (as with the AccP voice, the verbal prefix found on the NomP form is absent). For example, when the direct object of the verb *taov* "do, make" (NomP *manao*) functions as the EA, the TrnP form *atao* is used (23); and when the direct object of *sorat* "write" (NomP *manoratra*) functions as the EA, the DatP form *soratana* is used (24):

(23) a. Nanao ny fiomanana rehetra izahay
Pst-NomP.make Det preparation all 1ex
"We made all the preparations"

b. *Natao* ny fiomanana rehetra
Pst-TrnP.make Det preparation all
"All the preparations were made"

(24) a. Nanoratra ny taratasy ny mpianatra
Pst-NomP.write Det letter Det student
"The student was writing the letter"

b. *Nosoratan'*ny mpianatra ny taratasy
Pst-DatP.write-Det student Det letter
"The student wrote the letter"

The choice of the TrnP or DatP form over the AccP appears to be an idiosyncratic feature of the verbs in question. If voice marking involves a form of 'abstract case agreement', as I suggested above (cf. 2.4), then the use of the DatP or TrnP in place of the AccP is perhaps comparable to what we find in many morphological case-marking languages such as Russian or German, where certain verbs are lexically specified as taking a dative or genitive case-marked object in place of the normal accusative object.

Although the TrnP and DatP forms may occur as the sole object-pivot form of certain monotransitive verbs, they more commonly occur in alternation with each other to promote the objects of ditransitive verbs such as *tolor* "offer" (NomP *manolotra*). Here, the TrnP form *atolotra* is used when the direct object (theme) is functioning as the EA (25b), while the DatP form *tolorana* is used when the EA is the indirect object (recipient or benefactee) (25c):

(25) a. Nanolotra ny dite tamin'ny vahiny i Ketaka
Pst-NomP.offer Det tea Pst-to-Det guest Det Ketaka
"Ketaka offered the tea to the guests"

b. *Natolotr*'i Ketaka tamin'ny vahiny ny dite
Pst-TrnP.offer-Det Ketaka Pst-to-Det guest Det tea
"The tea, Ketaka offered (it) to the guests"

c. *Notoloran*'i Ketaka ny dite ny vahiny
Pst-DatP.offer-Det Ketaka Det tea Det guest
"The guests, Ketaka offered (them) the tea"

In addition, there are a handful of verbs, including *didi* "cut" and *kapok* "hit, beat", for which the TrnP form is used to mark the externalization of an instrument, while the DatP (or AccP) form marks externalization of the patient:

(26) a. Nandidy mofo tamin'ny antsy ny vehivavy
Pst-NomP.cut bread Pst-with-Det knife Det woman
"The woman cut bread with the knife"

b. *Nadidin*'ny vehivavy ny mofo ny antsy
Pst-TrnP.cut-Det woman Det bread Det knife
"The knife, the woman cut the bread (with it)"

c. *Nodidian*'ny vehivavy tamin'ny antsy ny mofo
Pst-DatP.cut-Det woman Pst-with-Det knife Det bread
"The bread, the woman cut (it) with the knife"

I will have little to say about the TrnP and DatP forms here, as distinct from the AccP form (see Voskuil 1993, Paul 1999, Pearson 1998c, [in preparation] for discussion). In general, the TrnP form is used to externalize a participant that undergoes a change of location or orientation, what Rappaport & Levin (1988) call the *locatum* of the event.[13] When used in alternation with the TrnP form, the DatP form marks externalization of the *goal*, i.e., the object/location where that participant ends up. The choice of the terms *translative-pivot* and *dative-pivot* is meant to reflect this association with locatum and goal, respectively.[14]

Finally, the *circumstantial-pivot* (CrcP) voice is formed by adding a verbal prefix to the root (the same prefix that is selected by the root when it occurs in the NomP form) together with the suffix *-an*. Thus, corresponding to NomP *mamaky* "read, break" [< *m- an- vaky*] we have the CrcP form *amakiana* [< *an- vaky -an*].

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[13] The association of the TrnP form with locatum arguments is supported by the fact that the vast majority of monotransitive verbs which select the TrnP as their sole object-pivot form are verbs which denote a change of position or location. Such verbs include *elez* "scatter, spread, sow", *hanton* "hang", *idin* "take down", *janon* "stop (tr.)", *joro* "set up, erect", *latsak* "lower", *tsangan* "raise", and *tosek* "push" (cf. Paul 1999 for discussion).

[14] Athough there are a number of verbs which show alternations between the TrnP form and either the DatP or the AccP form, it is rare for a single verb to take both the AccP and the DatP forms. This near-complementary distribution has led most authors (e.g., Keenan 1976, Travis 1994, Paul 1999) to regard the AccP and DatP forms as non-distinct, and to treat *-in* and *-an* as allomorphic variants of a single voice suffix.

However, there *are* a handful of verbs which may take either suffix, where the choice appears to depend on the argument structure frame which the verb occurs in. In an appendix to his reference grammar, Rahajarizafy (1960) lists eleven such verbs, many of them fairly common. Among these is *tafi* "drape", which (for some speakers at least) occurs in all three of the object-pivot forms. *Tafi* may be used either as a monotransitive verb meaning "wear [an article of clothing]", or as a ditransitive verb meaning "dress [s.o.] in [an article of clothing]". In the former case, the AccP form is used when the EA denotes the thing being worn (i). In the latter case, the TrnP form is used when the EA denotes the thing being worn (ii-a), while the DatP form is used when the EA denotes the one being dressed (ii-b):

(i) a. *Tafin*'ny zazakely ny lamba
AccP.wear-Det child Det lamba
"The lamba [a traditional Malagasy garment] is worn by the child"

(ii) a. *Atafin*'i Tenda ny zazakely ny lamba
TrnP.dress-Det Tenda Det child Det lamba
"The lamba, Tenda dresses the child (in it)"

b. *Tafian*'i Tenda amin'ny lamba ny zazakely
DatP.dress-Det Tenda in-Det lamba Det child
"The child, Tenda dresses (her) in the lamba"

On the basis of examples like these, the following tentative generalization may be made: For verbs which take a DP complement—i.e., monotransitives—the accusative-pivot form is generally used when that complement is mapped to the EA position (though certain verbs are lexically specified as taking either the DatP or the TrnP form instead). For verbs which take a small clause complement—i.e., ditransitives—the translative-pivot form is used when the subject of the small clause is mapped to the EA, while the dative-pivot form is used when the object of the preposition is mapped to the EA (cf. Pearson 1998c, [in preparation] for more discussion).

The distribution of the circumstantial-pivot voice is discussed at length in Paul (1999); here I offer a brief overview. This voice form is used when the EA is neither the notional subject nor a notional object of the verb, but instead corresponds to an *oblique* dependent of the verb—i.e., an adverbial or other non-θ-marked dependent, or a θ-marked dependent which is licensed by a preposition in non-CrcP clauses rather than receiving structural case from the verb complex. For example, in (27) below, the CrcP form is used when the instrument *ny antsy* "the knife" occupies the EA position:

(27) a. Mandidy ny hena amin'ny antsy ny vehivavy
NomP.cut Det meat with-Det knife Det woman
"The woman is cutting the meat with the knife"

b. *Andidian*'ny vehivavy ny hena ny antsy
CrcP.cut-Det woman Det meat Det knife
"The knife, the woman is cutting the meat (with it)"

Notice that in the NomP sentence in (27a) the instrument is marked by the all-purpose preposition *amin'* "with, to, at", while in the CrcP sentence this preposition is absent. This suggests a possible connection between CrcP-formation in Malagasy and applicative-formation in languages like Chichewa (Baker 1988a/b, Marantz 1993). In Chichewa, the addition of the suffix *-ir* to the verb promotes an oblique to the role of direct object, causing the preposition *ndi* "with" to be deleted/incorporated (or simply not generated, depending on one's theory). I return to the connection between CrcP morphology and applicative formation in 2.4.4.

(28) a. Mavuto a-na-umba mtsuko *ndi* mpeni
Mavuto 3s-Pres-mold waterpot with knife
"Mavuto molded the waterpot with the knife"

b. Mavuto a-na-umb-*ir*-a mtsuko mpeni
Mavuto 3s-Pres-mold-Appl waterpot knife
"Mavuto molded the waterpot with the knife"

The set of semantic roles which the EA of a CrcP predicate may bear is quite varied. Rajemisa-Raolison (1971) identifies several such roles. In addition to the instrumental construction illustrated above, the CrcP voice may be used when the EA denotes a spatial or temporal location (29a), goal or recipient (29b), benefactee (29c), material/substance (29d), or the domain of quantification in a partitive construction (29e):

(29) a. *Itoeranay* ity trano ity
CrcP.live-1ex that house that
"We live in that house"

b. Tsy *nilazana* ilay vaovao ny zanany
Neg Pst-CrcP.tell that news Det child-3
"Her child was not told the news"

c. *Namonoany* ny akoho ny vahiny
Pst-CrcP.kill-3 Det chicken Det guest
"She killed the chicken for the guests"

d. *Anaovany* trano ny birikinay
CrcP.make-3 house Det brick-1ex
"He is building a house out of our bricks"

e. *Nanasan*-dRakoto telo ny lovia
Pst-CrcP.wash-Rakoto three Det dish
"The dishes, Rakoto washed three (of them)"

Quite often, the CrcP form is used when an oblique phrase is focused—where focused constituents occur at the left edge of the clause, separated from the predicate phrase by the focus particle *no*. Examples are given below, showing clefted focused denoting a temporal location (30a), manner (30b), cause/reason (30c), and purpose (30d).

(30) a. Amin'ny alarobia no *handehananay*
on-Det Wednesday Foc Irr-CrcP.go-1ex
"We will leave on Wednesday"

b. Amin-kafaliana lehibe no *iarahabanay* anao
with-happiness great Foc CrcP.greet-1ex 2s
"It is with great joy that we greet you"

c. Ny fitiavana no *namonoany* tena
Det love Foc Pst-CrcP.kill-3 self
"He killed himself for love"

d. Mba ho hendry no *nanasaziako* azy
so.that Irr well-behaved Foc Pst-CrcP.punish-1s 3
"I punished them so that they'd behave"
lit. "It is in order that [they] would be well-behaved that I punished them"

What controls the voice of the verb in these sentences? In 3.4.2 I will argue (following Paul 1999) that the focus-fronting construction has the structure of a cleft, where the fronted constituent is (within) the matrix predicate phrase, while the remainder of the sentence (*no* plus the material which follows it) constitutes a CP which occupies the matrix EA position. This CP contains an operator-variable chain, and is interpreted as a free relative. Thus (30c), for example, would have the structure shown schematically in (31):

(31) $[_{PredP}$ ny fitiavana $]$ $[_{CP}$ Op_i no namonoany tena t_i $]$
Det love Pst-CrcP.kill-3 self
"It was love that he killed himself (for)"

(31) shows that the CrcP verb *namonoana* is in an embedded clause inside the matrix EA. This embedded clause in turn takes as its EA the null operator in SpecCP, which determines the voice

marking on the verb. (This operator quantifies over a contextually-specified class of oblique event participants—instruments, causes, locations, etc.—and is thus something like a null version of the oblique relative operator *dont* in French.)

Having discussed the basic distribution of the voice forms, I discuss various restrictions on that distribution. In 2.4 I return to the voice morphemes themselves, which I argue to be the spell-out of various predicate and functional heads involved in abstract case licensing (light verbs, applicative morphemes, and aspectual markers).

2.2.4. Voice and extraction restrictions

Consider again the voice paradigm in (13), repeated below as (32). These sentences each denote the same event, differing only in terms of which participant in that event is singled out as the EA:

(32) a. Namono ny akoho tamin'ny antsy ny mpamboly
Pst-NomP.kill Det chicken Pst-with-Det knife Det farmer
"The farmer killed the chicken with the knife"

b. Novonoin'ny mpamboly tamin'ny antsy ny akoho
Pst-AccP.kill-Det farmer Pst-with-Det knife Det chicken
"The farmer killed the chicken with the knife"

c. Namonoan'ny mpamboly ny akoho ny antsy
Pst-CrcP.kill-Det farmer Det chicken Det knife
"The farmer killed the chicken with the knife"

Native speakers generally judge such sentences to be paraphrases of each other. When called upon to explain how the sentences might differ in meaning, they respond that (32a) tells us something about the farmer, (32b) tells us something about the chicken, and (32c) tells us something about the knife. In other words, (32a-c) contrast in terms of how they present the event—specifically with regard to which participant is identified as the principal subject matter of the sentence (viz., the argument of sentence-level predication). Thus, while voicing alternations do not seem to affect the truth-conditional semantics of the sentence, they do affect its discourse-functional content, inasmuch as the choice of EA determines how the information in the sentence is 'packaged'.

In fact, however, there are a variety of syntactic and semantic/pragmatic factors which serve to restrict the availability of certain voice alternations. Specificity is one such factor: Given that only [+specific] DPs may be EAs (section 2.1), it follows that the object-pivot form(s) of a transitive verb will be unavailable when the direct object is non-specific:

(33) a. Namono akoho tamin'ny antsy ny mpamboly
Pst-NomP.kill chicken Pst-with-Det knife Det farmer
"The farmer killed chickens with the knife"

b. * Novonoin'ny mpamboly tamin'ny antsy akoho
Pst-AccP.kill-Det farmer Pst-with-Det knife chicken
"The farmer killed chickens with the knife"

Furthermore, there are certain contexts in which the voice of the verb is strictly determined by the structure. Consider the focus-fronting construction, for example, as illustrated in (34b): The focused constituent occurs at the left edge of the clause, followed by the particle *no* (here glossed "Foc"), which is in turn followed by the predicate phrase.[15]

(34) a. Nihinana ny akondro ny gidro
Pst-NomP.eat Det banana Det lemur
"The lemur ate the banana"

b. Ny gidro no nihinana ny akondro
Det lemur Foc Pst-NomP.eat Det banana
"It's the *lemur* that ate the banana"

If the focused constituent is interpreted as the notional subject of the verb, then the verb must appear in the NomP form, as shown in (35). Similarly, if the focused constituent is the the direct object, the appropriate object-pivot form must be used (36), and if the focused constituent is interpreted as an oblique (e.g., an instrument), the CrcP form is required (37):[16]

(35) a. Ny mpamboly no *namono* ny akoho tamin'ny antsy
Det farmer Foc Pst-NomP.kill Det chicken Pst-with-Det knife
"It's the farmer who killed the chicken with the knife"

b. * Ny mpamboly no *novonoina* tamin'ny antsy ny akoho
Det farmer Foc Pst-AccP.kill Pst-with-Det knife Det chicken
"It's the farmer who killed the chicken with the knife"

c. * Ny mpamboly no *namonoana* ny akoho ny antsy
Det farmer Foc Pst-CrcP.kill Det chicken Det knife
"It's the farmer who killed the chicken with the knife"

(36) a. * Ny akoho no *namono* tamin'ny antsy ny mpamboly
Det chicken Foc Pst-NomP.kill Pst-with-Det knife Det farmer
"It's the chicken that the farmer killed with the knife"

b. Ny akoho no *novonoin*'ny mpamboly tamin'ny antsy
Det chicken Foc Pst-AccP.kill-Det farmer Pst-with-Det knife
"It's the chicken that the farmer killed with the knife"

c. * Ny akoho no *namonoan*'ny mpamboly ny antsy
Det chicken Foc Pst-CrcP.kill-Det farmer Det knife
"It's the farmer who killed the chicken with the knife"

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[15] In 3.4.2 I analyze the focus-fronting construction as a cleft (cf. Paul 1999). In (34b), for example, *ny gidro* constitutes a predicate nominal, while *no nihinana ny akondro* is a nominal constituent interpreted as a free relative. Thus the sentence is literally "(It is) the lemur (who) ate the banana".

[16] Here I limit my attention to the focusing of DPs. When a non-DP (a PP or adverbial) is focused, these same voicing restrictions do not apply, as discussed in 3.4.4.

(37) a. * Ny antsy no *namono* ny akoho ny mpamboly
Det knife Foc Pst-CrcP.kill Det chicken Det farmer
"It's the knife that the farmer killed the chicken (with)"

b. * Ny antsy no *novonoin*'ny mpamboly ny akoho
Det knife Foc Pst-AccP.kill-Det farmer Det chicken
"It's the knife that the farmer killed the chicken (with)"

c. Ny antsy no *namonoan*'ny mpamboly ny akoho
Det knife Foc Pst-CrcP.kill-Det farmer Det chicken
"It's the knife that the farmer killed the chicken (with)"

The focus-fronting construction is extremely common in Malagasy. When a constituent is associated with a focus operator such as *irery* "alone" or *ihany* "truly" (both used in the sense of "only"), it is obligatorily fronted (38). In addition, matrix wh-questions in Malagasy take the form of focus-fronting structures, where the wh-phrase occupies the focus position (39). (In this respect, Malagasy recalls Hungarian and other languages with a fixed focus position; cf. Horvath 1986, Kiss 1987.)

(38) a. Ny mpamboly irery no namono akoho tamin'ny antsy
Det farmer alone Foc Pst-NomP.kill chicken Pst-with-Det knife
"Only the *farmer* killed chickens with the knife"

b. Akoho ihany no novonoin'ny mpamboly tamin'ny antsy
chicken only Foc Pst-AccP.kill-Det farmer Pst-with-Det knife
"The farmer killed only *chickens* with the knife"

c. Ny antsy ihany no namonoan'ny mpamboly akoho
Det knife only Foc Pst-CrcP.kill-Det farmer chicken
"The farmer killed chickens with only the *knife*"

(39) a. Iza no namono ny akoho tamin'ny antsy?
who Foc Pst-NomP.kill Det chicken Pst-with-Det knife
"Who killed the chicken with the knife?"

b. Inona no novonoin'ny mpamboly tamin'ny antsy?
what Foc Pst-AccP.kill-Det farmer Pst-with-Det knife
"What did the farmer kill with the knife?"

c. Inona no namonoan'ny mpamboly ny akoho?
what Foc Pst-CrcP.kill-Det farmer Det chicken
"What did the farmer kill the chicken with?"

These same voicing restrictions are replicated in a number of other constructions which arguably involve A′-extraction. These include what Keenan (1976) calls the *weak topicalization* construction, which I will refer to as the *dia-topic* construction. Here, a contrastive topic occurs in a fronted position, separated from the predicate by the topic particle *dia* (glossed "Top"):

(40) a. Nihinana ny akondro ny gidro
Pst-NomP.eat Det banana Det lemur
"The lemur ate the banana"

b. Ny gidro dia nihinana ny akondro
Det lemur Top Pst-NomP.eat Det banana
"(As for) the lemur, (it) ate the banana"

As with focus-fronting, the voice of the verb is generally constrained by the grammatical function of the topicalized constituent: If the *dia*-topic is the notional subject of the clause, the NomP form is required (41a); if the *dia*-topic is the object, the appropriate object-pivot form is required (41b); and if the topic is a non-subject, non-object DP, the CrcP form is required (41c). (I return to the syntax of *dia*-topicalization in 3.4.3.)

(41) a. Ny mpamboly dia *namono* akoho tamin'ny antsy
Det farmer Top Pst-NomP.kill chicken Pst-with-Det knife
"As for the farmer, he killed chickens with the knife"

b. Ny akoho dia *novonoin*'ny mpamboly tamin'ny antsy
Det chicken Top Pst-AccP.kill-Det farmer Pst-with-Det knife
"As for the chickens, the farmer killed them with the knife"

c. Ny antsy dia *namonoan*'ny mpamboly akoho
Det knife Top Pst-CrcP.kill-Det farmer chicken
"As for the knife, the farmer killed chickens with it"

This close dependency between voice-marking and A′-extraction is entirely typical of languages belonging to the Philippine type. Consider Tagalog, for example: Like Malagasy, Tagalog has a complex voicing system which functions to promote one or another of the verb's dependents to the EA function. Although the details of the system are different in Tagalog, alternations analogous to the NomP/AccP alternation in Malagasy can be found, as shown in (42) (adapted from Richards 1997). (Recall that, unlike in Malagasy, there is no fixed position for the EA in Tagalog). As (43)–(44) show, questioning the subject requires the NomP form, while questioning the object requires the AccP form. Similar paradigms are found in other languages as well (see, e.g., Bell 1979, 1983 on Cebuano, and Kroeger 1988 on Kimaragang Dusun).

(42) a. *Bumili* si Maria ng kalabaw sa tindahan
NomP.buy.(Perf) Det Maria Det water.buffalo Obl.Det store
"Maria bought a water buffalo at the store"

b. *Binili* ni Maria ang kalabaw sa tindahan
AccP.buy.(Perf) Det Maria Det water.buffalo Obl.Det store
"Maria bought the water buffalo at the store"

(43) a. Sino ang *bumili* ng kalabaw sa tindahan?
who Foc NomP.buy Det water.buffalo Obl.Det store
"Who bought a/the water buffalo at the store?"

b. * Sino ang *binili* ang kalabaw sa tindahan?
who Foc AccP.buy Det water.buffalo Obl.Det store
"Who bought a/the water buffalo at the store?"

(44) a. * Ano ang *bumili* si Maria sa tindahan?
what Foc NomP.buy Det Maria Obl.Det store
"What did Maria buy at the store?"

b. Ano ang *binili* ni Maria sa tindahan?
what Foc AccP.buy Det Maria Obl.Det store
"What did Maria buy at the store?"

Notice that in these constructions, the A′-extracted element appears to fulfill the external argument role of the clause. Keenan (1976), who treats the EA as a grammatical subject, explains the voice restrictions in Malagasy in terms of a language-specific constraint which limits the application of certain transformations to subjects (the well-known *accessibility constraint* of the Western Austronesian languages; cf. also Guilfoyle, Hung, & Travis 1992). According to this theory, one of the major functions of the voicing system is to 'feed' subject-only transformations by allowing different dependents of the verb to be promoted to the surface subject role, rendering them eligible for extraction. For example, the voicing alternations in (45) below may be accounted for by arguing that only subjects can undergo the wh-fronting transformation: In (45a), the underlying subject (agent) is being questioned, and so the verb appears in its unmarked 'active' form. In order to question an underlying direct object (patient), the verb must first be 'passivized', thereby converting that object into a derived subject capable of undergoing the wh-transformation (45b):

(45) a. Iza no *namono* ny akoho?
who Foc Pst-NomP.kill Det chicken
"Who killed the chicken?"

b. Inona no *novonoin*'ny mpamboly?
what Foc Pst-AccP.kill-Det farmer
"What was killed by the farmer?"

In 3.4 I present a different view of voice restrictions, based on the idea that the EA is not a subject, but a topic-like element which occupies an A′-position in the C-domain of the clause. I argue that wh-operators in Malagasy are licensed in the same A′-position as EAs (cf. the situation in verb-second languages like German, where topic-fronting and wh-fronting are mutually exclusive in the same clause). Thus, externalization does not feed wh-movement; rather, wh-movement is a special kind of externalization, which blocks the externalization of [+specific] DPs. This analysis allows us to account for the existence of voice restrictions without having to posit a language-specific accessibility constraint limiting extraction to subjects.

2.2.5. Additional verb morphology

In addition to inflecting for voice, verbs in Malagasy also inflect for tense. Three tense forms are distinguished: The *non-past*, which is unmarked; the *past* (Pst), which is marked by the prefix

n(o)-; and the *irrealis* (Irr) or *future*, marked by the prefix *h(o)-*. In the NomP form, *n-* and *h-* replace the voice prefix *m-*. In the other voice forms, *n-* and *h-* are used if the stem begins with a vowel, and *no-* and *ho-* are used if the stem begins with a consonant. The tense paradigm for *vono* is given in (46):

(46)

	NomP	AccP	CrcP
non-past	mamono	vonoina	amonoana
past	**n**amono	**no**vonoina	**n**amonoana
irrealis	**h**amono	**ho**vonoina	**h**amonoana

All verbs in Malagasy are marked for tense; there are no infinitival constructions. However, there is a certain amount of functional overlap between the irrealis form and infinitival/subjunctive forms in other languages. A number of verbs select bare clausal complements with irrealis marking, as shown in (47) ((47b) is from Paul & Ranaivoson 1998):

(47) a. Nikasa hanasa ny zaza i Tenda
Pst-NomP.intend Irr-NomP.wash Det child Det Tenda
"Tenda intended to wash the child"

b. Mivoaka hitady hanina ny biby
NomP.exit Irr-NomP.look.for food Det animal
"The animals go out to look for food"

Verb stems also take prefixes to form morphological causatives and reciprocals, while verb roots may undergo reduplication to indicate durative/iterative aspect; however, these phenomena do not play any role in this thesis. I refer the interested reader to Randriamasimanana (1986) and Andriamierenana (1996) for extensive treatments of causative formation, Keenan & Razafimamonjy (to appear) for a discussion of morphological reciprocals, and Erwin (1996) and Keenan & Polinsky (1998) for information on reduplication and verbal morphology in general.

2.3. Morphological case and the structure of the predicate phrase

In this section I present some background information on the syntax and morphology of nominals. In 2.3.1 I discuss nominal morphology. I argue against the traditional characterization of morphological case in Malagasy, which distinguishes three separate case forms, *nominative*, *accusative*, and *genitive*. I propose that the distinction between the 'nominative' and 'genitive' forms (found only on the pronouns) is not one of case, but involves an alternation between 'strong' (default) and 'weak' (clitic) forms.

In 2.3.2, I consider the syntactic positions of noun phrases within the predicate phrase. I present evidence to show that the agent phrase (viz., the immediately postverbal DP in non-NomP clauses) has the properties of a subject, rather than an oblique element comparable to the *by*-phrase in passives. From this we can conclude that the EA is not the subject, as Keenan (1976) and others have claimed, but some higher constituent such as a topic, a conclusion which I argue for at length in chapter 3. I outline a syntactic structure for the predicate phrase in 2.3.3 which is similar in its basic features to the clause structure proposed for many VSO languages

(cf. Ouhalla 1994a/b, Bobaljik & Carnie 1996, McCloskey 1996, Lee 1998, and papers in Carnie & Guilfoyle 2000).

2.3.1. Nominal morphology

In this section I briefly discuss morphological alternations on noun phrases. For a detailed treatment of this issue, with particular reference to the internal structure of pronouns and determiners and the syntax of DP, see Zribi-Hertz & Mbolatianavalona (1999).

Unlike other languages of the Philippine type, Malagasy has a rather impoverished system of nominal inflection. However, there are certain classes of nominals, notably pronouns and proper names, which do exhibit morphological alternations. In describing these alternations, one must distinguish three broad distributional classes of noun phrases, namely PredP-internal objects, PredP-internal agent phrases and possessors, and PredP-external noun phrases. Keenan (1994), Voskuil (1993), et al., associate these classes with *accusative*, *genitive*, and *nominative* case, respectively. However, as I will show below, the so-called *nominative* does not actually constitute a distinct case form. Rather, its distribution overlaps that of the genitive, and also includes environments in which the nominal is arguably unmarked for case. In contexts where the nominative and genitive contrast (namely, in the pronouns), the contrast is not between different case forms, but between 'strong' (default) and 'weak' (clitic) variants of the same case form. I thus conclude that there are only two morphological cases in Malagasy, an accusative case and a nominative/genitive case, the latter of which is generally the unmarked member. To avoid confusion with the terms I have adopted for the voice forms (e.g., *nominative-pivot*), I will refer to these morphological forms as the *objective* and *subjective* case, respectively.[17]

I begin by reviewing the morphological forms of pronouns, and then turn to proper names and definite descriptions. As shown in the table below, pronouns in Malagasy distinguish three forms, *strong subjective*, *weak subjective*, and *objective*. (Note the existence of an inclusive/exclusive distinction in the first person plural, and the absence of a singular/plural distinction in the third person.)[18]

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[17] My choice of *subjective* as the name for the case which marks predicate-internal agent phrases anticipates the discussion in 2.3.2, where I show that agent phrases have the properties of postverbal subjects rather than obliques.

[18] Notice that the strong forms in (48) are generally prefixed with the element *i-*, while the objective forms appear to contain an element *a(n)-*. In Pearson (1996b), I analyzed the *i-* prefix as a spell-out of D^0, noting that this element appears to show up in a number of other forms which arguably contain a D head, including the definite determiners *i* and *ilay* (mentioned below), as well as the demonstratives *ity*, *iny*, *iretsy*, *izany*, etc., the operator *izay* (see 3.4.1), and the referential wh-words *iza* "who" and *inona* "what". As for *a(n)-*, this is presumably related to the oblique prefix *an-* discussed below.

In addition to the forms given in (48), various complex pronominal expressions are also attested, such as the special third person plural forms *izy ireo* and *ry zareo* (where *ireo* and *zareo* are plural demonstrative elements, and *ry* is a plural determiner sometimes used with proper names).

(48)

	subjective		*objective*
	strong	*weak*	
1s	aho, izaho	-ko	ahy
1ex	izahay	-nay	anay
1in	isika	-ntsika	antsika
2s	ianao	-nao	anao
2p	ianareo	-nareo	anareo
3	izy	-ny	azy

The *objective* form is mainly used when the pronoun occurs within the predicate phrase, as the direct or indirect object of the verb:

(49) a. Namangy *azy* ny ankizy
Pst-NomP.visit 3 Det children
"The children visited him/her/them"

b. Nanolotra *azy* ny dite ny ramatoa
Pst-NomP.offer 3 Det tea Det woman
"The woman offered him/her/them the tea"

The *weak* form is used when the pronoun occurs as the postverbal agent phrase of a non-NomP verb, as in (50). DP-internal possessors also occur in the weak form (hence the traditional term *genitive*), as do the complements of most prepositions, as shown in (51) and (52), respectively. Weak pronouns are enclitics, which form a tight phonological unit with the preceding predicate (as reflected in the orthography, where the two are written as a single word).

(50) a. Novangia*nay* ny ankizy
Pst-DatP.visit-1ex Det children
"We visited the children"

b. Naseho*ko* ny ankizy ireo sary ireo
Pst-TrnP.show-1s Det children these picture these
"I showed the children these pictures"

(51)

ny boky	"the book"
ny boki*ko*	"my book"
ny boki*nao*	"your book"
ny boki*ntsika*	"our book"

(52)

amin'	"with"
ami*ko*	"with me"
ami*nao*	"with you"
ami*ntsika*	"with us"

Finally, the *strong* form is used in contexts where the weak and objective forms are disallowed. This is the form in which clause-final EAs appear, as shown in (53). The strong form is also used in other contexts where the pronoun is not in the case-licensing domain of a verb—for example, when the pronoun is predicative, as in (54), or when it is focus-fronted, as in (55).[19] Finally, the strong form is used in the *dia*-topic construction, when the pronoun is base-generated in a left-dislocated position, as in (56) (see 3.4.2 and 3.4.3 for discussions of focus-fronting and *dia*-topicalization):

(53) a. Mpianatra *ianao*
student 2s
"You are a student"

b. Namangy ny ankizy *ianao*
Pst-NomP.visit Det children 2s
"You visited the children"

c. Novangian'ny ankizy *ianao*
Pst-DatP.visit-Det children 2s
"The children visited you"

(54) *Ianao* ihany ity
2s only this
"It's only you"

(55) a. *Ianao* irery no namangy ny ankizy
2s alone Foc Pst-NomP.visit Det children
"You alone visited the children"
lit. "(The one who) visited the children (is) you alone"

b. *Ianao* irery no novangian'ny ankizy
2s alone Foc Pst-DatP.visit-Det children
"The children visited you alone"
lit. "(The one who) the children visited (is) you alone"

(56) *Ianao* dia namangy ny ankizy
2s Top Pst-NomP.visit Det children
"As for you, (you) visited the children"

Strong pronouns are also used in place of weak pronouns in situations where cliticization is blocked for one reason or another. Consider the sentence in (57a), for example, in which the weak third person pronoun *-ny* occupies the agent phrase position: Since weak pronouns in Malagasy may not be conjoined with another noun phrase (a general property of clitics cross-linguistically), the strong form *izy* is used in place of *-ny* in (57b), where the subject is a coordi-

[19] In 3.4.2 I argue that the focus-fronting construction is actually a cleft. Hence, the use of the strong form when the pronoun is focused is really a special case of the predicative use illustrated in (54).

nated DP. Also, as in most languages, clitics in Malagasy may not be modified or head complex expressions, so *izy* replaces *-ny* in these contexts as well. For example, in (57c), *izy* combines with the plural proximate demonstrative *ireo* to form the complex pronoun *izy ireo* "they, those ones" (often used in place of the simple pronoun when the speaker wants to indicate explicitly that the referent is plural). In (57d), the pronoun is modified by a relative clause consisting of the verb *mivady*. Here again, the weak form *-ny* is replaced with *izy* (*izy mivady*, literally "they who-are-married" [< *vady* "spouse"], is a common way of saying "the married couple").[20]

(57) a. Hita*ny* tany an-tokotany i Koto
saw-Lnk-3 Pst-there Obl-garden Det Koto
"She/he/they saw Koto in the garden"

b. Hitan' [*izy* sy ny zaza] tany an-tokotany i Koto
saw-Lnk 3 and Det child Pst-there Obl-garden Det Koto
"S/he and the child saw Koto in the garden"

c. Hitan' [*izy* ireo] tany an-tokotany i Koto
saw-Lnk 3 these Pst-there Obl-garden Det Koto
"They saw Koto in the garden"

d. Hitan' [*izy* mivady] tany an-tokotany i Koto
saw-Lnk 3 NomP.married Pst-there Obl-garden Det Koto
"They, the married couple, saw Koto in the garden"

The fact that strong and weak forms have an overlapping distribution shows that they do not encode distinct morphological cases, but a single case, the *subjective*, contrasting with the *objective* case. Since the objective case has a more limited distribution, I conclude that the subjective case is the morphological default. This conclusion is corroborated by the fact that the subjective is the form used when the pronoun does not bear case—either because it is functioning as a predicate (as in simple copular sentences and focus constructions), or because it is base-generated in a non-case position outside the predicate phrase and licensed through coindexation with a null operator (as I assume for the *dia*-topic construction; see 3.4.3). In this respect, strong pronouns in Malagasy are comparable to strong pronouns in French (*moi*, *toi*, *vous*, etc.), which are arguably unmarked for case. Like the *izy* form in Malagasy, the French strong pronouns are used in place of case-marked clitic pronouns in coordinate structures, and also appear in the dislocated position in clefts and clitic left-dislocation constructions.

Turning to non-pronominal noun phrases, these may be divided into various subclasses according to the kind of determiner they take. Proper names take the determiner *i* or *ra-*, where the former is written as an independent word and the latter as a prefix—e.g., *i Koto*, *Rakoto*.[21]

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[20] 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").

[21] Broadly speaking, *i* is used with names of foreign origin, as well as indigenous names when used of children, while *ra-* is used with indigenous names of adults (there are numerous exceptions, however). Note that some speakers appear to have reanalyzed the prefixal determiner *ra-* as part of the name itself; for these speakers, names beginning with *ra-* require the determiner *i* (e.g., *i Rakoto*). Anecdotal evidence suggests that this usage is spreading, and that *ra-* will eventually cease to be recognized as a determiner.

Definite descriptions take a separate class of determiners, which include *ny*, *ilay*, and *ireo*: *Ilay* marks the noun phrase as [+definite,+singular] while *ireo* marks it as [+definite,+plural]. These determiners are used when the noun phrase refers back to an entity which was recently mentioned in the discourse. *Ny*, the most common determiner, marks the noun phrase as [+specific], in the sense of Enç (1991)—i.e., as definite, specific indefinite, generic, or quantificational (when the set being quantified over is presupposed, or when the quantifier is strong, in the sense of Milsark 1977). Examples of DPs headed by *ny* include *ny lehilahy* "the man/men, men in general", *ny lehilahy anankiray* "one [specific] man", *ny lehilahy tsirairay* "each man". Definite descriptions may also be flanked by a pair of identical demonstrative determiners, which agree in number with the head noun—e.g., *ity lehilahy ity* "this man", *ireto lehilahy ireto* "these men" (this is known as the *framing demonstrative* construction; cf. 4.4.2).[22] Non-specific noun phrases, whether referential or non-referential, appear without an overt determiner.

Non-pronominal noun phrases normally have identical subjective and objective forms, as shown in (58):

(58) a. Ampianarinay amin'ny sekoly *ny ankizy*
AccP.teach-1ex at-Det school Det children
"We teach the children at school"

b. Mampianatra *ny ankizy* amin'ny sekoly izahay
NomP.teach Det children at-Det school 1ex
"We teach the children at school"

c. Vangian'*ny ankizy* izahay
DatP.visit-Det children 1ex
"The children visit us"

A major exception is proper names, which mark the objective case by means of the oblique prefix *an-*, as shown in (59).[23] Some speakers also prefix *an-* to noun phrases headed by *ilay*, *ireo*, or a demonstrative (*an'ilay lehilahy*, *an'ireto lehilahy ireto*).[24] However, *an-* is never used as an objective case marker with bare noun phrases, or those headed by *ny*.

(59) a. Ampianarinay amin'ny sekoly *Rakoto*
AccP.teach-1ex at-Det school Rakoto
"We teach Rakoto at school"

b. Mampianatra *an-dRakoto* amin'ny sekoly izahay
NomP.teach Obj-Rakoto at-Det school 1ex
"We teach Rakoto at school"

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[22] Pronouns, demonstratives, and the determiners *ilay* and *ireo* are the only elements in the language which mark number or number concord. There is no singular/plural marking on nouns.

[23] The insertion of an orthographic *d* between *an-* and *Rakoto* in (59b) reflects the fact that when *r* is preceded by a nasal, the two sounds fuse to become a prenasalized retroflex plosive *ndr*. This same change occurs when the verbal prefix *an-* attaches to a root beginning with *r*, as in *mandrava* "destroy" (< *m-* + *an-* + *rava*).

[24] Ed Keenan (p.c.) reports that some speakers even attach *an-* to the third person objective pronoun *azy* (e.g., *Namangy an'azy ny ankizy* "The children visited him/her/them").

An- also functions as a locative marker (60a) and in possessive predicate constructions (60b), and is also used to form adverbial expressions such as *an-tsirambina* "carelessly" (< *tsirambina* "carelessness"). This suggests that *an-* is a prepositional element of some kind.[25] (In this thesis, I will gloss *an-* "Obj" when it is used as an objective case marker, and "Obl" when it is used as an oblique marker, leaving open the question of whether these functions should be given a uniform treatment.)

(60) a. Mamaky boky any *an*-tokotany ny mpianatra
NomP.read book there Obl-garden Det student
"The student is reading a book in the garden"

b. *An*-dRakoto ity boky ity
Obl-Rakoto this book this
"This book is Rakoto's"

Note that in the subjective form, noun phrases (like pronouns) fuse with their hosts to form a single prosodic unit. In the case of noun phrases, this fusion is mediated by the linking morpheme *-n* (glossed "Lnk"), which attaches to the host as a suffix. For example, *-n* suffixes to the translative-pivot form *aseho* "show" (root *seho*) when the latter is followed by the subject *ny vehivavy* "the woman", yielding *asehon'ny vehivavy* "shown by the woman". Keenan (1994) dubs this process *n-bonding*. Examples illustrating n-bonding of non-pronominal DPs are given in (61)–(63):

(61) a. Natosin'*i* *Ketaka* ny vato
Pst-TrnP.push-Lnk-Det Ketaka Det stone
"Ketaka pushed the stone"

b. Natosin-*dRajaona* ny vato
Pst-TrnP.push-Lnk-Rajaona Det stone
"Rajaona pushed the stone"

c. Namonoan*'io* *mpamboly io* ny akoho ilay antsy
Pst-CrcP.kill-Lnk-this farmer this Det chicken that knife
"This farmer killed the chickens with that knife"

(62)
ny boky	"the book(s)"
ny bokin'ny zaza	"the child's book(s)"
ny bokin'ireto zaza ireto	"these children's book(s)"
ny bokin-dRakoto	"Rakoto's book(s)"

(63)
amin'	"with"
amin'ny zaza	"with the child"

[25] Cf. the use of the preposition *a* to mark [+human] direct objects in Spanish. Note that Zribi-Hertz & Mbolatianavalona (1999) analyze *an-* as an overt head of KP (Case Phrase) (cf. Travis & LaMontagne 1992).

amin'ireto zaza ireto	"with these children"
amin-dRakoto	"with Rakoto"

As evidence that the subjective DP and its host form a prosodic unit, note the following: (a) The DP must be strictly adjacent to its host; no elements, however light, may intervene between them. (b) Attachment of the DP to its host triggers certain sound changes, many of which are also attested word-internally. For example, *amonoana* "CrcP. kill" combines with the linking morpheme *-n* and the subject *Rakoto* to produce *amonoan-dRakoto*. Here the final epenthetic *a* of the verb is lost (or not inserted), the *n* of the CrcP suffix *-an* merges with the linking morpheme into a single segment, which in turn fuses with *r* to form *ndr* (cf. footnote 23). (c) The DP and its host behave as a unit for purposes of stress assignment. For example, when *àmonóana* "AccP.kill" merges with *ny mpambóly* "the farmer", the primary stress on the verb is reduced to a secondary stress, yielding *àmonòan'ny mpambóly*.[26]

Although the DP and its host clearly form a *phonological* unit, they do not appear to form a *syntactic* unit. Note for example that the DP may be coordinated, as in (64) (cf. (61b)), strongly suggesting that it has not incorporated into its host in the syntax.

(64) Natosin-*dRajaona* *sy* *Ranaivo* ny vato
Pst-TrnP.push-Lnk-Rajaona and Ranaivo Det stone
"Rajaona and Ranaivo pushed the stone"

In the discussion which follows, I will assume that the DP and its host do not form a constituent in the syntax, but combine only at PF (possibly as a result of a morphological operation which merges linearly adjacent heads, as in Halle & Marantz 1993). This distinction between syntactic

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[26] Interestingly, the fusion of a subject/possessor nominal with a preceding head is not unique to Malagasy, but is also attested in other verb-initial languages such as Berber—and in virtually identical syntactic contexts. Nominals in Berber have two forms, the *construct state* (CS) and the *free state* (FS), distinguished morphologically for most singular noun phrases (e.g., "girl" is *tafruxt* in the free state and *tfruxt* in the construct state). These two forms are in complementary distribution: Simplifying somewhat, the CS is used when the noun phrase is (a) a postverbal subject, (b) a possessor within DP, or (c) the object of most prepositions; while the FS is used elsewhere (e.g. when the DP is a direct object, predicate nominal, preverbal topic, etc.). The following examples are from Tarifit Berber (Ouhalla 1994b):

(i) a. Y-zra *ufrux* tafruxt
3sM-see boy.CS girl.FS
"The boy saw the girl"

b. axxam *Umzzian*
room.FS Amzzian.CS
"Amzzian's room"

c. Afrux g *uxxam*
boy.FS in room.CS
"The boy is in the room"

Ouhalla argues that CS nominals form a word-like unit with the preceding head. As with n-bonding constructions in Malagasy, the CS nominal and the preceding head must be strictly adjacent, and function as a unit for purposes of stress assignment. Furthermore, the concatenation of a CS nominal with a preceding head triggers certain phonological processes which are otherwise restricted to word-internal domains.

constituency and phonological constituency will become important in 4.3.4, where I appeal to phonological constituency as a trigger for pied-piping.

2.3.2. The agent phrase as a structural subject

Consider once again the voicing paradigm in (13), repeated here as (65):

(65) a. Mamono akoho amin'ny antsy ny mpamboly
NomP.kill chicken with-Det knife Det farmer
"The farmer kills chickens with the knife"

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

c. Amonoan'ny mpamboly akoho ny antsy
CrcP.kill-Det farmer chicken Det knife
"The knife, the farmer kills chickens (with it)"

The order of constituents within the predicate phrase is relatively fixed. The subjective case-marked agent phrase (when present) is immediately right-adjacent to the verb. The agent phrase is followed by the objective case-marked object (when present), which is in turn followed by PPs and other dependents. We can schematize the order of elements within the predicate phrase as in (66):[27]

(66) a. *NomP*: $[_{\text{PredP}}$ V e_i Obj PP] DP$_i$

b. *AccP*: $[_{\text{PredP}}$ V Ag e_i PP] DP$_i$

c. *CrcP*: $[_{\text{PredP}}$ V Ag Obj e_i] DP$_i$

In section 2.3.3 I present some initial assumptions about the internal phrase structure of the PredP constituent (to be elaborated in later chapters). In this section I focus on the properties of the postverbal agent phrase.

Descriptive grammarians such as Rajemisa-Raolison (1971) treat the predicate-external constituent as the subject of the clause, and thus regard object-pivot constructions such as (65b) as *passives*. If (65b) were indeed a passive, we might expect the agent phrase to behave as some sort of adjunct element, analogous to the *by*-phrase in English passives. However, as I will show here, the agent phrase actually possesses the properties of a subject. I conclude that this constituent occupies a position structurally comparable to that of postverbal subjects in VSO clauses in languages like Standard Arabic (67a) and verb-second clauses in languages like Icelandic (67b):

[27] Here I ignore various complications, which will be dealt with in Pearson (in preparation). For example, Malagasy has limited rightward scrambling of direct objects across adverbs and PPs (which I analyze in terms of leftward remnant movement). I also disregard word order in double object constructions, which presents further complications.

(67) a. Ra'a-a *l-'awlaadu* Zaydan
saw-3s Det-boys.Nom Zayd.Acc
"The boys saw Zayd"

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

At first glance, the postverbal agent phrase in Malagasy does appear to possess some of the properties of an adjunct. For example, like *by*-phrases in passives, agent phrases are generally optional, as shown in (68):

(68) a. Novonoin'ny mpamboly ny akoho
Pst-AccP.kill-Det farmer Det chicken
"The chicken(s) were killed by the farmer"

b. Novonoina ny akoho
Pst-AccP.kill Det chicken
"The chicken(s) were killed"

However, this apparent similarity to the *by*-phrase is misleading. Although agent phrases are in principle optional, in actual usage they are present more often than one would expect if they were adjuncts. In one text frequency study, Keenan & Manorohanta (to appear) found that approximately 60% of the non-NomP verbs they counted had overt agent phrases. Furthermore, in many cases where the verb lacked an overt agent phrase, the agent phrase slot could be analyzed as containing a null pronominal argument coindexed with an overt argument in a higher clause (cf. example (70) below, where the covert agent phrase of the embedded verb *hosasana* is controlled by *Rasoa*, the agent phrase of the matrix verb). By contrast, overt *by*-phrases show up in English passives less than 20% of the time, according to most studies (Keenan & Manorohanta cite figures from Svartvik 1966, Dusková 1972, Stein 1979, and Givón 1979).

In nearly all respects, the agent phrase clearly exhibits the properties of an argument rather than an adjunct. For example, recall from the previous section that the agent phrase must be strictly adjacent to the verb. I know of no language which imposes an adjacency requirement on postverbal adjuncts. However, as Ouhalla (1994b) points out, VSO languages quite often impose just such a restriction on postverbal subjects: In Berber, Semitic, and Celtic, for example, nothing may intervene between the verb and a postverbal subject (other than phonologically light clitics). Interestingly, a similar restriction holds in English subject–aux inversion contexts, where the subject must be strictly right-adjacent to the raised auxiliary:

(69) a. I'm sure that *slowly* Daniel will come to his senses.
b. * Will *slowly* Daniel come to his senses?

c. I know that *this article* Amanda would rather I didn't read.
d. ?* Why would *this article* Amanda rather I didn't read?

In addition to the distributional evidence, there is evidence from control structures for identifying the agent phrase as a subject. In embedded clauses, the position occupied by the agent phrase

may be filled by a null argument controlled from outside the clause (presumably PRO). Consider the example in (70a), taken from Law (1995), where the EA "the child" is interpreted as the patient of the embedded verb "wash" (and hence presumably forms a chain with a trace in the embedded direct object position). Here the covert agent phrase of the embedded verb *hosasana* "wash" is controlled by the agent phrase of the matrix verb, namely *Rasoa*. A possible structure for this sentence is given in (70b):

(70) a. Kasain-dRasoa hosasana ny zaza
AccP.intend-Rasoa Irr-DatP.wash Det child
"The child, Rasoa intends to wash (him)"

b. $[_{PredP}$ Kasain-dRasoa$_i$ $[_{CP}$ hosasana PRO$_i$ t$_j$]] ny zaza$_j$

If the structure in (70b) is correct, then such examples can be taken as strong evidence for treating the agent phrase as a subject rather than an oblique, given that PRO is usually understood to be confined to subject positions (Chomsky 1981, et al.).[28]

Furthermore, consider the deletion of the understood second person subject in imperatives: As Keenan (1976) and Manaster-Ramer (1995) discuss, each of the five basic voice forms in Malagasy has a corresponding imperative form. Compare the indicative sentences in (71a-c) with their imperative counterparts in (71a′-c′):

(71) a. Mamono akoho i Soa
NomP.kill chicken Det Soa
"Soa is killing (some) chickens"

a′. Mamonoa akoho
NomP.kill-Imp chicken
"Kill (some) chickens!"

b. Vonoin'i Soa ny akoho
DatP.kill-Det Soa Det chicken
"Soa is killing the chickens"

b′. Vonoy ny akoho
DatP.kill-Imp Det chicken
"Kill the chickens!"

c. Amonoan'i Soa akoho ny antsy
CrcP.kill-Det Soa chicken Det knife
"Soa is using the knife to kill (some) chickens"

[28] Cf. Anderson (1976), who makes extensive use of control tests (or, to use his pre-GB terminology, *equi-NP deletion*) to identify the subject constituent in morphologically ergative languages.

c′. Amonoy akoho ny antsy
CrcP.kill-Imp chicken Det knife
"Use the knife to kill (some) chickens!"

In the NomP imperative construction in (71a′), where the agent phrase and the external argument are non-distinct, the EA position is empty (presumably filled by some null argument with understood second person reference). Significantly, in the non-NomP imperatives in (71b′-c′) it is the agent phrase rather than the EA which is the target for deletion. Deletion in imperatives being a traditional test for subjecthood, this pattern further corroborates the identification of the agent phrase as a subject rather than an oblique element.

Finally, as various authors have observed, the agent phrase behaves as an argument for purposes of binding. Consider the example in (72), adapted from Keenan (1993), where the verb is in the CrcP form and the EA *ny zanany* "his children" is interpreted as a benefactee. Here we see that the agent phrase *ny lehilahy* "the man" may bind a reflexive anaphor *tena* within the predicate. Compare this with the examples in (73), showing that the *by*-phrase in an English passive is incapable of binding an anaphor within the local domain of the passive verb:[29]

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

(73) a. Daniel$_i$ was shown pictures of himself$_i$ by the children
b. ?* Daniel was shown pictures of themselves$_i$ by the children$_i$

Furthermore, as the examples in (74) and (75) show, the agent phrase occupies a position from which it asymmetrically c-commands the PredP-internal position of the direct object: Whereas the agent phrase may act as the antecedent for an reflexive object, as shown in (72), the direct object is incapable of anteceding a reflexive in the agent phrase position, as shown in (74). Similarly, whereas a quantified agent phrase may bind into the direct object (75a), sentences in which a quantified object binds into the agent phrase are judged quite marginal (75b).

---

[29] Concerning the English examples, note that Baker, Johnson, & Roberts (1989) argue that passive sentences in English in fact contain a subject argument capable of entering into binding relations, namely the passive morpheme -EN. They analyze this morpheme as a subject clitic, generated in Infl and optionally coindexed with a *by*-phrase, which receives a θ-role and Case from the VP, just like a regular DP subject. For example, a sentence like (i-a) would have the underlying structure in (i-b) according to this theory:

(i) a. Daniel was seen (by Dennis)
b. [$_{IP}$ [$_{I'}$ -EN$_i$ [$_{VP}$ see Daniel (by Dennis$_i$)]]]

However, the ungrammaticality of sentences like (73b) is actually problematic for Baker, Johnson, & Roberts's theory: It is unclear why the clitic subject -EN (coindexed with *the children*) should be unable to bind into the VP-internal direct object in (73b) (cf. the deep structure in (ii)), given that a regular DP subject in a non-passive ditransitive clause is perfectly capable of binding into the direct object, as shown in (iii):

(ii) * [$_{IP}$ [$_{I'}$ -EN$_i$ [$_{VP}$ show Daniel pictures of themselves$_i$ (by the children$_i$)]]]

(iii) The children$_i$ showed Daniel pictures of themselves$_i$

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

(75) a. Nanasehoan'ny lehilahy tsirairay$_i$ ny rahalahiny$_i$ ny zanany
Pst-CrP.show-Det man each Det brother-3 Det child-3
"Each man$_i$ showed his$_i$ brother to his children"

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

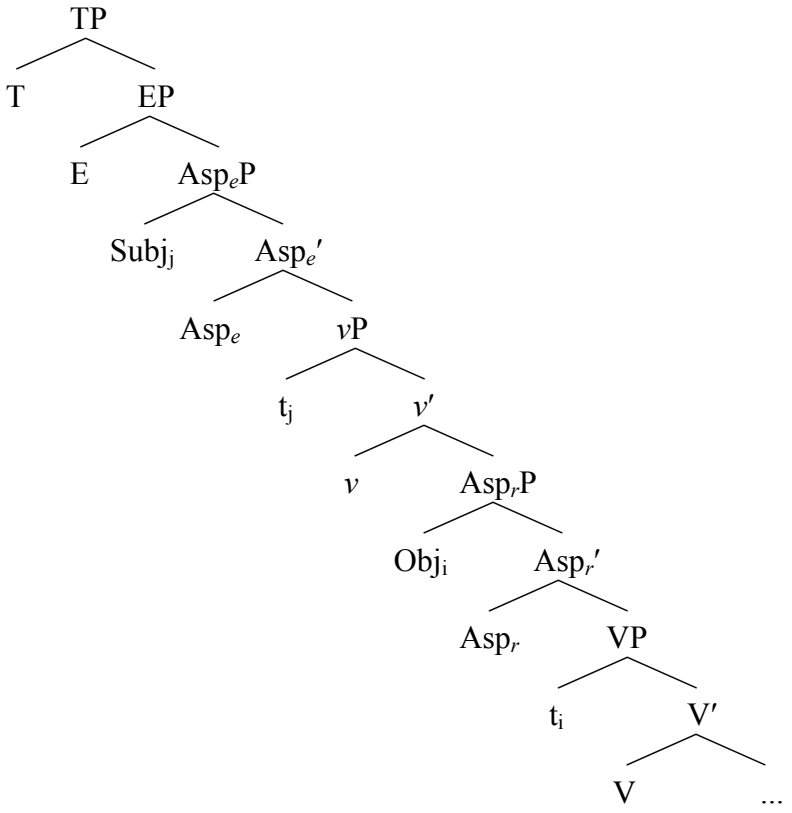
On the basis of this evidence, I conclude that the agent phrase position is the structural subject position in Malagasy—viz., the highest A-position in the clause, in which abstract nominative case features are checked, and to which morphological subjective case is assigned (cf. 2.3.1). Of course, if the agent phrase is the 'true' subject of the clause, it follows that the *external argument*, located above the position of the agent phrase, must be a topic of some kind (see below). As a consequence, the traditional typological classification of Malagasy must be revised: Malagasy is not a VOS language at all, but a VSO language containing a clause-final topic position to which the subject frequently moves (cf. Pensalfini 1995). I defend this conclusion in detail in chapter 3.[30]

2.3.3. The predicate phrase as a VSO structure

Having established that the postverbal agent phrase is the subject of the clause, located in the nominative case position (from which it asymmetrically c-commands PredP-internal objects), let me present some background assumptions on the internal phrase structure of the predicate. For simple transitive clauses, I will adopt the projection hierarchy in (75), based in part on Travis (1991a, 1994):

[30] Guilfoyle, Hung, & Travis (1992) come to a different conclusion, which is that both the EA and the agent phrase are subjects (more precisely, the structural properties normally associated with subjects are divided between the EA position and the agent phrase position). I argue against this approach in chapter 3.

(76)



Following Chomsky (1995, chapter 4), I assume that transitive verbs are composed of two predicate 'shells': The lexical verb is generated within the lower shell. It combines with the direct object to form VP, discharging its internal θ-role, and then raises to the light verb *v* to discharge its external θ-role to the subject, which is generated in the specifier of *v*P. I also adopt Chomsky's assumption that morphological case and agreement are reflexes of a syntactic relation of feature-checking, rather than the spell-out of an Agr head (cf. also Sportiche 1990, Koopman & Sportiche 1991, Travis 1994).

I differ from Chomsky in assuming that each of the predicate shells is dominated by an aspectual projection (cf. Travis 1991a, 1994, Borer 1994, 1998, Demirdache & Uribe-Extebarria 1997, Pearson 2000a for similar ideas). These projections play a role in licensing nominal arguments, and are thus analogous to the Agr$_S$P and Agr$_O$P of Chomsky (1995, chapter 3) and Bobaljik & Jonas (1996) (cf. also Mahajan 1990). The AspP dominating the lower VP shell, which I dub Asp$_r$P (*r* = result), is associated with the telicity of the event denoted by the verb. It attracts the direct object, thereby checking its morphological case features.[31] The AspP dominating *v*P,

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[31] The connection between object licensing and aspect has been noted by many authors, e.g., Tenny (1991), de Hoop (1992). In some languages we even find variation in the case form of the object according to the perfectivity of the predicate—e.g., Finnish, where partitive case is associated with incompletiveness and accusative case is associated with completiveness (Vainikka & Maling 1993):

(i) a. Anne rakensi *taloa*
Anne build-Pst house-Part
"Anne was building a/the house" [incompletive]

dubbed Asp$_e$P (*e* = event), checks the case features of the subject. This aspectual projection is associated roughly with the initiation of the event, and by extension, with the agentivity of the event (Borer 1994 dubs this projection Asp$_{or}$P, where *or* stands for "originator").

Above Asp$_e$P is EP, or *event phrase* (Travis 1994). This projection, which corresponds closely to Stowell's (1996) *zeit phrase* (ZP), introduces or licenses the event argument of the verb, and serves to 'close off' the predicate, converting it into an event-denoting constituent. EP is in turn selected as an argument by the tense phrase, TP, which orders the event relative to some reference time, typically the moment of speaking (cf. Zagona 1990, Stowell 1995, 1996 on tense as an ordering predicate which takes time- or event-denoting constituents as its arguments).

TP marks the upper boundary of the verbal domain of the clause. I will assume here that the verb stem raises as far as the EP projection, where it adjoins to the left of E^0.[32] Since E^0 immediately precedes the specifier of Asp$_e$P (where nominative case is checked), this ensures that the verb will be immediately left-adjacent to the agent phrase in non-NomP clauses, allowing them to combine at PF into a single prosodic unit. Although nothing hinges on this, I speculate that the linking morpheme *-n* (section 2.3.1), which intervenes between the verb stem and the postverbal subject, is generated in E^0 (cf. Travis 1994), and attracts the verb to check a feature. I further assume that the tense morpheme, which appears at the left edge of the verb complex, is generated in T^0, immediately above the highest position of the verb. I thus treat the tense morpheme as a proclitic, which attaches to the verb stem at PF, rather than a 'true' prefix which combines with its host in the syntax (this assumption will turn out to be important in the section 4.3.4, where I appeal to the proclitic status of the tense morpheme as a morphological trigger for predicate-fronting).

To illustrate these assumptions, consider the sentence in (77a). (77b) shows the structure for the verb complex *nohanin'ny gidro*, comprised of the past tense marker *no-*, the AccP verb stem *hanina* (< *han* "eat" + *-in*), the linking morpheme *-n*, and the postverbal subject *ny gidro* "the lemur".[33] Though they fail to form a syntactic constituent, these elements combine into a single prosodic unit at PF.

(77) a. Nohanin'ny gidro ny voankazo
Pst-AccP.eat-Det lemur Det fruit
"The lemur ate the fruit"

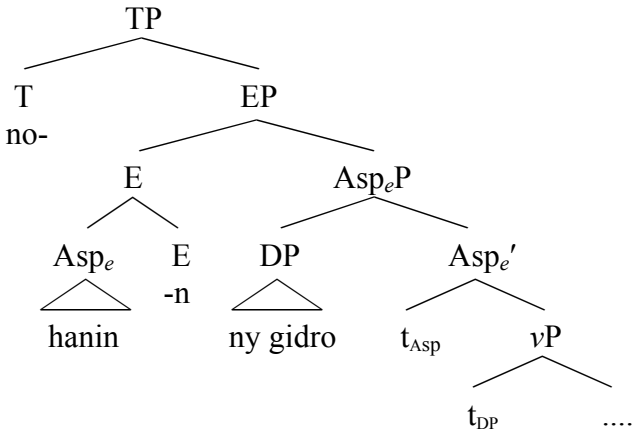
---

b. Anne rakensi *talon*
Anne build-Pst house-Acc
"Anne built a/the house" [completive]

[32] In the tree in (77b) below, I depict this move as head-adjunction (Asp$_e^0$, containing the verb, adjoins to E^0). However, given the theory developed in chapter 4, it is also possible that verb-movement in Malagasy involves XP movement. I leave this as an open question (but see Pearson [in preparation]).

[33] The verb stem and the AccP suffix *-in* combine within the complement of *v*. In 2.4.3 below I suggest that *-in* is generated in the head of Asp$_r$P.

b.



I return in 2.4 to the heads of the lower projections, Asp$_e$P, *v*P, and Asp$_r$P, in which I locate various pieces of the voice morphology discussed in 2.2.1.

It is likely that there are additional projections above TP. For example, the negative morpheme *tsy* precedes the tense morpheme, as shown in (78) below, suggesting that TP is optionally dominated by a NegP projection (or perhaps Pol(arity)P, as in Laka 1992). Other elements which precede the tense morpheme include the aspectual particles *efa* "already" and *mbola* "still, yet" (79a-b), which presumably head their own functional projection(s). However, for the sake of simplicity, I will ignore these complications and treat TP as the highest projection in the predicate phrase.

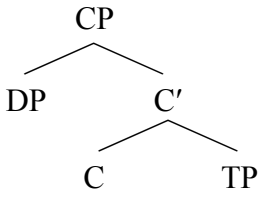
(78) *Tsy* nohanin'ny gidro ny voankazo
Neg Pst-AccP.eat-Det lemur Det fruit
"The lemur did not eat the fruit"

(79) a. *Efa* nohanin'ny gidro ny voankazo
already Pst-AccP.eat-Det lemur Det fruit
"The lemur has already eaten the fruit"

b. *Mbola* tsy nohanin'ny gidro ny voankazo
still Neg Pst-AccP.eat-Det lemur Det fruit
"The lemur still hasn't eaten the fruit"

Where is the *external argument* located with respect to the structure in (76)? In chapter 3 I present extensive evidence to show that the EA is a topic-like element, analogous in many respects to the preverbal topic in verb-second clauses in Icelandic and other languages. I will therefore locate the EA in an A′-position in the C-domain of the clause, above TP. The exact position of the EA will be discussed in chapter 3. As a provisional analysis, we may assume (following the traditional account of topic-fronting in verb-second languages; cf. den Besten 1989) that the EA extracts from the predicate phrase and raises to the specifier of CP to check a feature in C^0:

(80)



DP = *external argument*
TP = *predicate phrase*

2.4. Voice morphology up close

As I discussed in section 2.2.1, Malagasy has five morphologically distinct voice forms, constructed by adding prefixes and suffixes (or combinations thereof) to the verb root. The full array of forms is illustrated in (81) for *velar* "unroll, spread out", one of the few verbs for which all five voices are attested. Notice that these forms do not appear to constitute a morphological *paradigm* in the traditional sense: Some of the voice morphemes are prefixal, others are suffixal. Some appear to be mutually exclusive with other morphemes, while others co-occur in particular combinations. Some morphemes even recur in more than one voice.

(81)

NomP	**m-**	*an-*	velar		>	mamelatra
CrcP		*an-*	velar	**-an**	>	amelarana
DatP			velar	**-an**	>	velarana
AccP			velar	**-in**	>	velarina
TrnP	**a-**		velar		>	avelatra

In this section I focus on the syntactic status of the voice morphemes in (81), which I analyze as the overt realizations of predicate and functional heads within the structure laid out in 2.3.2. Because of the complexity of the data, I will only be able to present the outlines of an analysis here, leaving many questions unanswered. In particular I will set aside the thorny issue of how the voice morphemes combine with the verb root to produce the correct linear order at PF. (This matter is taken up in Pearson (in preparation), where some tentative proposals are made.) For purposes of the discussion in chapters 3 and 4, what is most important are the central assumptions which I will make about voice morphology, summarized in (82):

(82) a. The voice morpheme *m-* is generated in the aspectual head Asp_e, associated with abstract nominative case assignment, while *-in* is generated in Asp_r, associated with abstract accusative case.

b. The head of AspP is pronounced only if its specifier contains an A′-trace (perhaps due to a generalized doubly-filled COMP filter).

c. The morpheme *-an* is the overt realization of an applicative head. Like the Asp heads, it is pronounced only if its specifier contains a trace.

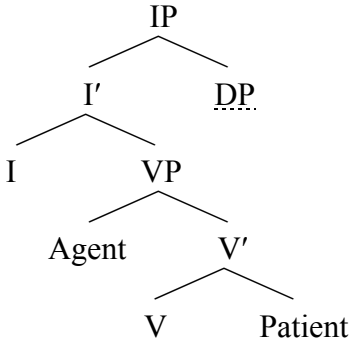
I show that the function of the voicing morphology is to specify the abstract case of an A′-chain: In a sense, then, voice morphemes such as *m-* and *-in* mark a kind of 'case agreement' with an A′-moved constituent, typically the EA in SpecCP.

As evidence for this general approach, I compare Malagasy with another Austronesian language, Chamorro. Chamorro normally exhibits φ-feature agreement on verbs, following an

ergative-absolutive pattern. However, in clauses containing a wh-movement chain (wh-questions, relative clauses, etc.), this φ-feature agreement is replaced by special *wh-agreement* morphology, which correlates with the grammatical function of the wh-moved constituent (Chung 1982, 1994, 1998). As Donohue & Maclachlan (2000) and others have pointed out, the wh-agreement morphemes in Chamorro appear to be cognate with the voice morphemes in Tagalog —and, by extension, those in Malagasy. The fact that in Chamorro these morphemes show up on the verb just in case there is wh-movement suggests a strong link between voice and A′-movement. I conclude that Malagasy is a Chamorro-type language in which wh-agreement has been generalized to all clause types due to the presence of obligatory topicalization (movement of the EA to the specifier of CP, as in (80)).

In associating the morphemes in (81) with abstract case-assignment, I follow the general approach to voice proposed by Guilfoyle, Hung, & Travis (1992) (GHT), and elaborated in Travis (1991a, 1994, 1996, 1997). GHT analyze the Malagasy bipartite clause structure as in (84), where the predicate phrase corresponds to I′ and the EA occupies the specifier of IP. The clause-initial position of the verb is derived through overt V-to-I movement, while the clause-final position of the EA results from a language-particular parameter which orders the specifier of IP to the right of I′ (see chapters 3 and 4 for discussion of this structure):

(83)



GHT analyze the voice morphemes as case-assigners (generated in I^0), which license all but one of the arguments in (83) VP-internally, forcing the remaining argument to raise out of VP to SpecIP to get structural case from inflection. For example, the prefix *an-* is taken to assign case to the patient in its base position, leaving the agent without inherent case and forcing it to raise to SpecIP. By contrast, the suffix *-in* assigns case to the agent in SpecVP. The absence of the *an-* prefix in the AccP form means that the patient fails to receive case in its base position, forcing it to raise to SpecIP.

Although I disagree with GHT on the landing site and motivation for externalization, I concur with their general claim that the voice morphemes play a role in case-licensing. My implementation of this idea is outlined in the following sections: In 2.4.1 I discuss the properties of verb roots. 2.4.2 deals with the verbal prefixes *an-* and *i-*, which attach to the verb in the NomP and CrcP forms. These I analyze as instantiations of the light verb *v* (Travis 1991a, Chomsky 1995). In 2.4.3 I discuss the NomP morpheme *m-* and the AccP morpheme *-in*, and sketch the analysis summarized in (82a-b) above. In 2.4.4 I discuss the suffix *-an*, which occurs in the DatP and CrcP forms. I analyze *-an* as an applicative suffix (82c), which converts obliques into accusative case-marked objects (cf. Travis 1997; see also Voskuil 1996 for a similar approach to the cognate suffix *-an* in Tagalog). Finally in 2.4.5 I return to the analogy between voice-marking in Malagasy and wh-agreement in Chamorro.

2.4.1. The structure of root predicates

Verbs in Malagasy are formed from *roots*, to which voice-related prefixes and suffixes are attached. For example, the NomP verb *mamono* "kill" consists of the root *vono*, to which the prefixes *m-* and *an-* have been added. Many roots never occur except in combination with voice morphology. However, a great number of roots can function as uninflected free forms, and it is on the basis of these that we can ascertain some of the properties of roots.

Free roots may be divided into two broad lexical classes, *nominal* roots and *adjectival* roots. Nominal roots are roots which may function as nouns. Examples of verbs derived from nominal roots include *misotro* "drink" from *sotro* "spoon", *manondro* "point at, indicate" from *tondro* "index finger", *mangady* "dig" from *hady* "ditch", and *mivady* "be married" from *vady* "spouse". Adjectival roots are those which function primarily as predicates or noun phrase modifiers. Examples of verbs built from adjectival roots include *mameno* "fill (up)" from *feno* "full", *manapaka* "split (in two), cut" from *tapaka* "split/cut [adj.]", *mandrava* "destroy" from *rava* "ruined", *mandre* (or *mahare*) "hear" from *re* "heard", and *mamita* "finish" from *vita* "complete/done".

Adjectival roots are morphologically distinct from verbs, insofar as they fail to inflect for past tense. In terms of their argument structure, adjectival roots generally form one-place predicates, whose sole core argument acts as the EA, as shown in (84).

(84) a. Feno ny tavoahangy
full Det bottle
"The bottle is full"

b. Lany ny vola
spent Det money
"The money is/was spent"

c. Maty ny miaramila
died/dead Det soldier
"The soldiers {died / are dead}"

Some adjectival roots may optionally add a second argument, as shown in (85) and (86). In two-place adjectival predicates, the theme argument maps to the EA position while the secondary argument maps to the PredP-internal subjective case position, and forms a phonological unit with the adjective. Notice that when this secondary argument is present, the adjective is suffixed with the linking morpheme *-n* (2.3.1). Because two-place adjectives pattern with the AccP voice in externalizing the theme, Rajemisa-Raolison (1971) refers to this form as the *passif racine*, or *root passive*.

(85) a. Vita ny asa
finished Det work
"The work is/was finished"

b. Vitan'*ny* *ankizy* ny asa
complete-Lnk-Det children Det work
"The children (have) finished the work"

(86) a. Hitan'*ny* *lehilahy* ny alika
seen-Lnk-Det man Det dog
"The man saw the dog"

b. Tian-*dRajaona* i Tenda
loved-Lnk-Rajaona Det Tenda
"Rajaona loves Tenda"

Adjectival roots generally denote states, as in (87a). However, a number of roots may also be taken to denote events involving a punctual change of state (i.e., *achievements* in the event typology proposed by Vendler 1967). Some achievement-denoting roots are listed in (87b):

(87) a.			b.		
	faly	"be happy"		azo	"get, understand"
	fantatra	"know"		hadino	"forget"
	soa	"be beautiful"		hita	"see, find"
	tia	"love, want"		re	"hear"
	tsara	"be good"		tadidy	"remember"
	vaky	"be broken"		tonga	"arrive, happen"

There are also a number of adjectival roots which appear to be ambiguous between the two readings, as shown in (88). These may be construed as denoting either the inception of a state, or the state itself:

(88)			
	maty	"die"	"be dead"
	simba	"ruin"	"be ruined"
	vita	"finish"	"be complete"

I will assume here that the stative meaning of these roots is basic, and that the change-of-state meaning is secondary. As evidence for their basic stativeness, note that achievement-denoting roots (unlike the verbs which may be formed from them) are inherently completive—that is, they presuppose the existence of a result. I illustrate this in (89)–(90) below by contrasting the AccP verb *vitaina* "be completed" with the root *vita* "complete", from which it is formed.

As Travis (1996) demonstrates, verbs in Malagasy—even ones denoting inherently telic events—are underspecified for completiveness: For instance, while the sentence in (89a) is most naturally construed such that the work actually got finished, this construal may be freely overridden in the presence of information to the contrary. Thus the continuation in (89b) is truth-conditionally compatible with (89a):

(89) a. Vitain'ny ankizy ny asa
AccP.complete-Det children Det work
"The children { finished / set about finishing } the work"

b. ... nefa mbola tsy vita foana
but still Neg complete entirely
"... but (it's) still not completely finished"

Bare roots, by contrast, are inherently completive. Thus (90a), containing *vita* without any voice morphology, must be construed such that the work got finished. Continuing the sentence with information which negates this construal, as in (90b), renders the sentence semantically ill-formed.

(90) a. Vitan'ny ankizy ny asa
complete-Lnk-Det children Det work
"The children finished the work"

b. # ... nefa mbola tsy vita foana
but still Neg complete entirely
"... but (it's) still not completely finished"

2.4.2. Verbal prefixes and VP-shells

In forming the NomP and CrcP voices, the root (whether nominal or adjectival) is usually prefixed with one of a small set of *verbal prefixes*, of which the principal examples are *i-* and *an-* (or *ana-*).[34] The choice of prefix is determined by the root. For example, *resak* "conversation" takes *i-* to form *m-i-resak*, *i-resak-an* [> *miresaka*, *iresahana*] "talk with", while *vaky* "broken" takes *an-* to form *m-an-vaky*, *an-vaky-an* [> *mamaky*, *amakiana*] "break, read".[35]

It is unclear exactly what semantic or structural factors (if any) determine the choice of *i-* or *an-* for a given root. Yet there is evidence that the distribution of these prefixes is not entirely idiosyncratic. Note for example that there are a large number of roots which combine with both of these prefixes, yielding pairs of related verb stems. In such cases, the stem containing *an-* is invariably transitive, while the stem containing *i-* is almost invariably intransitive (usually unaccusative, but sometimes unergative/reflexive).[36] Examples of *an-*/*i-* stem pairs are given in (91):

(91)

m-an-haja	>	manaja	"respect (tr.)"
m-i-haja	>	mihaja	"be respected"
m-an-janon	>	manjanona	"stop (tr.)"
m-i-janon	>	mijanona	"stop (intr.), stay"

[34] A third prefix, *a-*, is used primarily to form stative verbs from nominal roots—e.g., the root *tokis* "confidence" takes *a-* to form *m-a-tokis* [> *matoky*] "trust, have confidence in". There are also a handful of roots which form verbs without the addition of a prefix, including *ody*, which forms the NomP verb *m-ody* [> *mody*] "go home". Here, however, I will focus my attention on verbs formed with *i-* or *an-*.

[35] Certain other morphemes, which I will not discuss here, may intervene between the root and the verbal prefix. To give just one example, the prefix *a-* (footnote 35) may be followed by the element *ha-*, which Travis (1996) characterizes as a marker of telicity. When attached to a nominal root, *a-* + *ha-* denotes successful completion of an event, e.g., *m-a-ha-dera* "manage to praise" < *dera* "praise"; *m-a-ha-jery* "catch sight of" < *jere* "look at". When attached to an adjectival root, *a-* + *ha-* denotes causativity, e.g., *m-a-ha-soa* "make [s.th.] beautiful" < *soa* "beautiful". (See Phillips 2000, Travis 1996 for more discussion.)

[36] In a sample of 81 *an-/i-* pairs which I examined, there were only three cases where the *i-* stem was (optionally) transitive, and no cases at all where the *an-* stem was intransitive.

m-an-sasa	>	manasa	"wash (tr.)"
m-i-sasa	>	misasa	"wash onself"
m-an-voha	>	mamoha	"open (tr.)"
m-i-voha	>	mivoha	"be open (intr.)"

This suggests that *an-* and *i-* are transitivity markers. However, the situation is complicated by the existence of a large number of transitive verbs in Malagasy which take *i-* as their verbal prefix. Some examples are given in (92a) (notice that this list includes a number of 'canonically transitive' predicates such as "eat" and "hit"). In addition, there is a small group of intransitives which take *an-* as their verbal prefix, as shown in (92b). The existence of such verbs cast doubt on the notion that the choice between *an-* and *i-* is directly determined by transitivity. I leave this issue unresolved.

(92) a.

m-i-hinan	>	mihinana	"eat"
m-i-kapok	>	mikapoka	"hit, beat"
m-i-lanja	>	milanja	"carry"
m-i-tadi	>	mitady	"look for"
m-i-tehak	>	mitehaka	"cuff, strike"

b.

m-an-dihiz	>	mandihy	"dance"
m-an-hatsiak	>	mangatsiaka	"be cold"
m-an-lehan	>	mandeha	"go, walk"

Adding *i-* or *an-* converts a root into a verb capable of inflecting for tense. In the case of adjectival roots, adding a prefix generally alters the argument structure as well. As the examples in (93) and (94) show, adding *an-* to a one-place adjectival predicate converts it into a transitive verb taking an agent and a theme:

(93) a. Feno ny tavoahangy
full Det bottle
"The bottle is full"

b. Mameno [< m- *an-* feno] ny tavoahangy ny lehilahy
NomP.fill Det bottle Det man
"The man is filling the bottle"

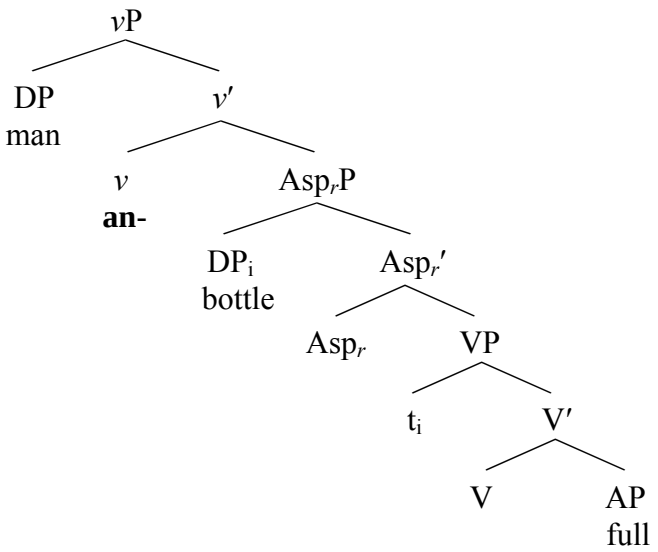
(94) a. Lany ny vola
spent Det money
"The money is/was spent"

b. Mandany [< m- *an-* lany] ny vola ny lehilahy
NomP.spend Det money Det man
"The man is spending the money"

Because the prefix plays a role (however indirect) in determining the transitivity of the verb, and in the process adds a participant to the argument structure, I will assume that *an-* and *i-* are in-

stantiations of the light verb *v*, much as in Travis (1991a).[37] A partial structure for the predicate in (94a), abstracting away from head-movement, is given in (95) (cf. Erteschik-Shir & Rapoport (1999) and Rapoport (1999), who argue for a similar structure for accomplishment/causative predicates in general): The adjectival root *feno* "full" combines with a phonetically null verb head (meaning roughly "go" or "become") to form a dynamic predicate "become full". The theme DP *ny tavoahangy* "the bottle" merges in the specifier of this predicate, and then raises to the specifier of Asp$_r$P to check its accusative case features. Asp$_r$P merges with the verbal prefix *an-* in v^0 (meaning roughly "do" or "cause") to form the transitive *v*P predicate "cause to become full" = "fill", and the agent DP *ny lehilahy* "the man" is generated in its specifier:[38]

(95)



In 2.2.1 I observed that the verbal prefix is present in the NomP and CrcP, but absent in the AccP, DatP, and TrnP forms. What accounts for this distribution? Recall that the NomP and CrcP forms are used to externalize subjects and obliques, respectively, while the remaining forms are used to externalize case-marked direct and indirect objects. The proper generalization concerning the distribution of the verbal prefixes would appear to be the following:

(96) The verbal prefix is overt iff the object is spelled out in its case position. If the object is spelled out in a higher position (viz., the EA position or some other A′-position), the verbal prefix is suppressed.

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[37] Analyzing the prefix as a light verb seems to accord with the intuitions of native-speaking linguists. Cf. Randriamasimanana (1999), who treats *(m)an-* as a reduced form of the semantically bleached verb *(m)anao* "do, make".

[38] By adopting a multi-layered structure of this sort, I follow Hale & Keyser (1993), Mulder (1992), Kural (1996), Erteschik-Shir & Rapoport (1999), Rapoport (1999), and others, in assuming that θ-roles are not grammatical primitives, but may be defined configurationally: *Ny tavoahangy* is a theme by virtue of the fact that it is generated as the specifier of a V which takes an adjectival root as its complement, while *ny lehilahy* is an agent by virtue of being generated in the specifier of the light verb *v*. However, for the sake of convenience, I will continue to use thematic terms such as *agent* and *theme*, and to refer to verbs as 'discharging' θ-roles in specific positions.

In what follows, I will assume that (96) is descriptively correct. However, I will have nothing insightful to say about why this condition should hold. Instead, I set this issue aside as a matter for future inquiry.

2.4.3. Accusative- and nominative-pivot morphology

Recall from 2.2.3 that when the postverbal subject of the verb raises to the EA position, the NomP prefix *m-* is added to the verb stem (97a), and when the direct object raises to the EA position, the AccP suffix *-in* is typically added to the verb stem (97b):

(97) a. Mamaky [< *m-* an- vaky] ny boky ny mpianatra
NomP.read Det book Det student
"The student is reading the book"

b. Vakin' [< vaky *-in*] ny mpianatra ny boky
AccP.read Det student Det book
"The student is reading the book"

Traditionally, NomP and AccP morphology are associated with the externalization of thematic agents and patients, respectively. However, in 2.2.1 I showed that the distribution of the NomP form has more in common with case-marking than θ-marking, since it is used not only to externalize agents, but also experiencers and the themes of intransitive verbs—viz., more-or-less the range of constituents which bear nominative case in languages with nominative-accusative case-marking systems.

By the same token, AccP morphology is not associated exclusively with patients, but also marks externalization of other constituents which arguably receive structural accusative case from the verb: Consider the *raising-to-object* construction in (98b), for example, discussed in detail in sections 3.5.2 and 4.4.2: Here the predicate phrase in (98a) is embedded under a higher verb *hever* "think, believe", and its external argument *Rasoa* is mapped to the abstract accusative case position of the matrix clause, as shown by the fact that it bears the objective case prefix *an-* (2.3.1):

(98) a. Namono ny akoho *Rasoa*
Pst-NomP.kill Det chicken Rasoa
"Rasoa killed the chicken"

b. Mihevitra *an-dRasoa* ho namono ny akoho i Bao
NomP.think Obj-Rasoa Pst-NomP.kill Det chicken Det Bao
"Bao believes Rasoa to have killed that chicken"

In (98b), *Rasoa* does not stand in a thematic relation to the matrix verb "think"; instead it is interpreted as the agent of the embedded verb "kill". And yet, when *Rasoa* is promoted to the EA position of the matrix clause, as in (98), the matrix verb carries AccP morphology (the suffix *-in* is added to the root *hever*):

(99) Heverin'i Bao ho namono ny akoho Rasoa
AccP.think-Det Bao Pst-NomP.kill Det chicken Rasoa
"Rasoa, Bao believes to have killed that chicken"

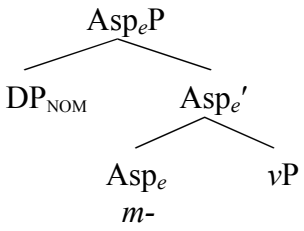
On the basis of such examples, I conclude that the following generalization holds:

(100) a. When a DP bearing abstract *nominative* case raises into the EA position, the verb in the clause containing that DP is marked with the prefix *m-*.

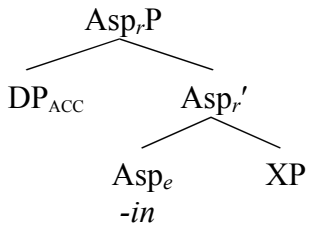
b. When a DP bearing abstract *accusative* case raises into the EA position, the verb in the clause containing that DP is marked with the suffix *-in*.

What are *m-* and *-in*, and why do they get affixed to the verb stem under these circumstances? In 2.3.3 I posited that nominative and accusative case are assigned/checked in the specifiers of aspectual projections dominating the higher and lower predicate shells in the clause: Accusative case (if present) is checked in the specifier of Asp_rP, a projection associated with the endpoint of the event denoted by the verb—reflecting the observation that the properties of direct objects often determine whether an event is interpreted as telic (*Daniel built a house*) or atelic (*Daniel built houses*)—while nominative case is checked in the specifier of Asp_eP, associated with the initiation of the event. Suppose, then, that *m-* and *-in* are instantiations of the aspectual heads Asp_e and Asp_r, respectively:

(101) a.



b.



Of course, *m-* is only inserted in the structure if the nominative case-bearing DP has raised into the C-domain—that is, Asp_e^0 is overt if and only if the DP has extracted from SpecAsp_eP, leaving an A′-trace (unpronounced copy). A similar situation holds for *-in*. To explain this pattern, I invoke a generalized 'doubly-filled COMP' filter of the type suggested by Sportiche (1992) (cf. Koopman 1996). This filter states that a feature F may not be spelled out on both the head and the specifier of the functional projection in which F is checked/assigned:[39]

(102) *Generalized Doubly-Filled COMP Filter*

* [$_{HP}$ XP [$_{H'}$ H^0 ...]], where H is a functional category licensing some property F, and both XP and H^0 overtly encode F.

[39] Within the copy theory of movement (see chapter 1), this filter can be thought of as a principle constraining the pronunciation of copies.

This analysis of *m-* and *-in* is summarized in (103):[40]

(103) a. The prefix *m-*, inserted in Asp_e, is suppressed by the Generalized Doubly-Filled COMP Filter unless the specifier of Asp_eP contains an A′-trace.

b. The suffix *-in*, inserted in Asp_r, is suppressed by the Generalized Doubly-Filled COMP Filter unless the specifier of Asp_rP contains an A′-trace.

There is some evidence to suggest that *m-* and *-in* are Asp heads, insofar as the choice between NomP morphology and non-NomP morphology sometimes has consequences for the aspectual interpretation of the clause: As I illustrate below, all other things being equal, the use of an AccP or DatP construction tends to put focus on the endpoint of the event denoted by the verb, while use of a NomP construction puts focus on the event as a whole, or in some cases on the beginning point of the event.

Consider the sentences in (104). Taken in isolation, these sentences are regarded by native speakers as near paraphrases of each other, differing only in which participant (the agent or the theme) is construed as more salient from the perspective of information structure:

(104) a. *Namoha* ny varavarankely Rakoto
Pst-NomP.open Det window Rakoto
"Rakoto opened the window"

b. *Novohain*-dRakoto ny varavarankely
Pst-AccP.open-Rakoto Det window
"Rakoto opened the window"

However, when these sentences are embedded within a larger event context, they are often evaluated differently with regard to aspect. Consider the examples in (105) below: Here, the sentences in (104) are preceded by a subordinate clause headed by *rehefa*, meaning "as, when, as soon as" (105a). In the context of (105a), (105b), with the verb in the NomP form, is construed such that the event of opening the window overlaps the moment at which the speaker enters the house; while (105c), with the verb in the AccP form, is construed such that the event of opening the window properly precedes or follows the moment of entering the house:[41]

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[40] Cf. Travis (1996), who also appeals to a doubly-filled COMP filter to solve a problem involving voice morphology in Tagalog.

[41] (105c) is ambiguous between a reading in which the event of opening follows the event of entering (paraphrasable as *After I entered the house, Rakoto opened the window*) and one in which the event of opening precedes the event of entering (paraphrasable as *By the time I entered the house, Rakoto had already opened the window*). In actual usage, such sentences are usually disambiguated by adding extra material to the matrix clause, as shown in (i)-(ii): In (i), the sequential particle *dia* "then" is added to enforce the reading where the event of opening the window follows the event of entering. In (ii), the aspectual adverb *efa* "already" indicates that the event of opening the window precedes the event of entering:

(i) Rehefa niditra an-trano aho, *dia* novohain-dRakoto ny varavarankely
when Pst-NomP.enter Obl-house 1s then Pst-AccP.open-Rakoto Det window
"When I entered the house, Rakoto then opened the window"
i.e. "After I entered the house, Rakoto opened the window"

(105) a. Rehefa niditra an-trano aho ...
when Pst-NomP.enter Obl-house 1s
"When I entered the house..."

b. ... *namoha* ny varavarankely Rakoto
Pst-NomP.open Det window Rakoto
"... Rakoto was opening the window"

c. ... *novohain*-dRakoto ny varavarankely
Pst-AccP.open-Rakoto Det window
"... Rakoto (had) opened the window"

Consider also the pair in (106) below:

(106) a. Telo andro [vao *nosoratany* ny taratasy]
three day before Pst-DatP.write-3 Det letter
"It was three days before he had written the letter"
i.e. "It took him three days to finish writing the letter"

b. Telo andro [vao *nanoratra* ny taratasy izy]
three day before Pst-NomP.write Det letter 3
"It was three days before he was writing the letter"
i.e. "It took him three days to begin writing the letter"

Where English uses PPs such as *in three days* to express a measure of time, Malagasy employs a biclausal construction of the form *telo andro vao X* "(it was) three days before X". When X is an accomplishment-denoting predicate, this construction may express either the amount of time required to accomplish the event, or the amount of time which elapses before the event is initiated.[42] Interestingly, the choice between these two readings appears to be determined by the voice of the verb embedded under *vao* "before": When a non-NomP verb is used (106a), *telo andro* "three days" specifies the duration of the event of writing the letter—i.e., the end of the three days is associated to the endpoint of the event. When a NomP verb is used (106b), *telo andro* specifies the length of time between some contextually determined reference point and the point at which the event of writing the letter begins—i.e., the end of the three days is associated to the beginning point of the event.

The choice between the NomP and non-NomP forms thus appears to correlate with what Erteschik-Shir & Rapoport (1999) and Rapoport (1999) call *aspectual focus*. They propose that accomplishment predicates denote complex events comprised of an activity component and an

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(ii) Rehefa niditra an-trano aho, *efa* novohain-dRakoto ny varavarankely
when Pst-NomP.enter Obl-house 1s already Pst-AccP.open-Rakoto Det window
"When I had entered the house, Rakoto had already opened the window"

Elements such as *dia* and *efa* are extremely common in texts, where they serve to clarify the relative sequence of events in a narrative.

[42] English exhibits this same ambiguity: Cf. *We will climb the mountain in three days*, which may mean either "It will take us three days to climb the mountain" or "Three days will elapse before we [begin to] climb the mountain".

endpoint (achievement) component. For example, the meaning of *X runs to the store* incorporates both an activity "X runs", and an achievement "X reaches the store". For such predicates, they argue, it is possible to focus one's attention on either the activity component or the endpoint, with consequences for the aspectual behavior of the predicate as a whole.[43] If the examples in (105) and (106) are indicative of a larger pattern, it would seem that the NomP form is preferred when aspectual focus picks out the activity component of the event, while the non-NomP forms are preferred when aspectual focus picks out the endpoint. This makes a certain amount of sense if the non-NomP forms involve the spell-out of a functional head associated with the endpoint (Asp_r) while the NomP form involves the spell-out of a functional head associated with the event as a whole (Asp_e).

Of course, much more needs to be said about the relationship between voice marking, aspect, and event structure. I leave a detailed exploration of this issue for further research. For purposes of this thesis, what is crucial to note is that the choice of voice morphology in a given clause correlates not with the thematic properties of the external argument (agent, patient, etc.), but with something closer to abstract case features (nominative, accusative, etc.). In this respect, the distribution of the *m-* and *-in* morphemes is fully consistent with my treatment of externalization as movement from a case position to an A′-position (see next chapter), rather than movement from a θ-position to a case position.

2.4.4. Applicative formation and the dative- and circumstantial-pivot

In this section I briefly consider the identity of the suffix *-an*. I tentatively analyze this suffix as an applicative morpheme, which introduces an extra VP shell in the structure (cf. Marantz 1993, Ngonyani 1996), and with it an extra DP capable of raising into the accusative case position.

The *-an* suffix is found on both the dative-pivot form, which is generally used to promote indirect objects (107a), and the circumstantial-pivot form, which is used to promote obliques (instruments, benefactees, locations, etc.) (108b):

(107) a. Toloran' [< tolor *-an*] ny vehivavy ronono ny ankizy
DatP.offer Det woman milk Det children
"The woman offers the children milk"

b. Ikapohan' [< i- kapok *-an*] ny zazalahy ny hazo ny vato
CrcP.hit Det boy Det tree Det rock
"The boy hits the tree with the rock"

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[43] For example, the predicate *run to the store* is compatible with the measure phrase *for three minutes* only under its activity-focus interpretation. If focus is on the endpoint, *for three minutes* is disallowed:

(i) a. Endpoint focus: Andrea ran to the store *in three minutes*, and bought a carton of milk.
* Andrea ran to the store *for three minutes*, and bought a carton of milk.

b. Activity focus: Andrea ran to the store *for three minutes*, and then walked the rest of the way.

The distinction between activity-focus and endpoint-focus is independent of the more familiar contrast between perfective and imperfective aspect, although the two do interact.

There is a certain amount of functional overlap between the DatP form and the CrcP form. Both may be used to externalize a *goal* or *recipient*, for example, as shown in (108) with the verb *roso* "serve, present, put forward":

(108) a. Rosoan'ny vehivavy ny sakafo ny vahiny
DatP.serve-Det woman Det meal Det guest
"The woman serves the guests the meal"

b. Androsoan'ny vehivavy ny sakafo ny vahiny
CrcP.serve-Det woman Det meal Det guest
"The woman serves the guests the meal"

It appears that the availability of the DatP form for promoting recipients is dependent on the ability of the verb to undergo *dative shift*: If a ditransitive verb allows dative shift, either DatP or CrcP morphology may be used to promote a recipient to the EA position. If a ditransitive verb does not allow dative shift, then the DatP form is unavailable (or at best marginal). Contrast *roso* "serve, present, put forward", which allows dative shift (109), with *petrak* "put (down), place", which does not allow dative shift (110):

(109) a. Mandroso ny sakafo amin'ny vahiny ny vehivavy
NomP.serve Det meal to-Det guest Det woman
"The woman serves the meal to the guests"

b. Androsoan'ny vehivavy ny sakafo ny vahiny
CrcP.serve-Det woman Det meal Det guest
"The woman serves the guests the meal"
("The guests, the woman serves the meal [to them]")

c. Mandroso ny sakafo ny vahiny ny vehivavy
NomP.serve Det meal Det guest Det woman
"The woman serves the guests the meal"

d. Rosoan'ny vehivavy ny sakafo ny vahiny
DatP.serve-Det woman Det meal Det guest
"The woman serves the guests the meal"
("The guests, the woman serves [them] the meal")

(110) a. Mametraka ny boky eo ambonin'ny latabatra ny vehivavy
NomP.put Det book there on.top-Det table Det woman
"The woman puts the books on the table"

b. Ametrahan'ny vehivavy ny boky ny latabatra
CrcP.put-Det woman Det book Det table
"The woman puts the books on the table"
("The table, the woman puts the books [on it]")

c. * Mametraka ny boky ny latabatra ny vehivavy
NomP.put Det book Det table Det woman
"The woman puts the table the books"

d. * Petrahan'ny vehivavy ny boky ny latabatra
DatP.put-Det woman Det book Det table
"The woman puts the table the books"
("The table, the woman puts [it] the books")

This suggests that the DatP form is used specifically to promote the indirect object of a double object construction, while the CrcP form is used to promote a wider range of participants, including goal PPs (cf. the parenthesized glosses in (109b/d) and (110b/d)). I return to the difference between the DatP form and the CrcP form below.

What is the suffix *-an*? In 2.2.3 I pointed out a similarity between CrcP-formation (111) and applicative formation in languages such as Chichewa (112): In the case of Malagasy, the addition of the suffix *-an* to the verb serves to promote the complement of a preposition to the EA function, causing the preposition to be deleted/incorporated. In the case of Chichewa, adding the suffix *-ir* to the verb serves to promote the complement of a preposition to an argument position—again suppressing the preposition. The element promoted by the addition of applicative morphology (*mpeni* in (112b)) may be called the *applied object* (AO), while the original object is called the *direct object* (DO).

(111) a. Mandidy ny hena amin'ny antsy ny vehivavy
NomP.cut Det meat with-Det knife Det woman
"The woman is cutting the meat with the knife"

b. Andidian'ny vehivavy ny hena ny antsy
CrcP.cut-Det woman Det meat Det knife
"The knife, the woman is cutting the meat (with it)"

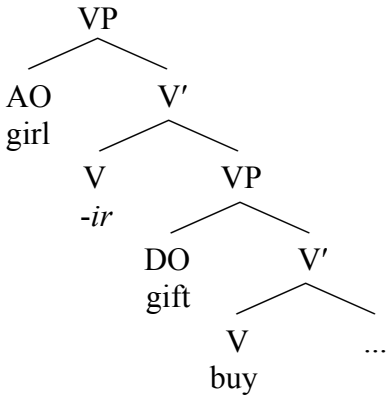
(112) a. Mavuto a-na-umba mtsuko ndi mpeni
Mavuto 3s-Pres-mold waterpot with knife
"Mavuto molded the waterpot with the knife"

b. Mavuto a-na-umb-ir-a mtsuko mpeni
Mavuto 3s-Pres-mold-Appl waterpot knife
"Mavuto molded the waterpot with the knife"

Marantz (1993) and Ngonyani (1996) argue that Bantu-type applicative constructions involve a layered VP shell structure (cf. Larson 1988). In the case of benefactive applicatives such as (113a), the lexical verb stem "buy" is generated in the lower VP shell, where it assigns a θ-role to the direct object, while the applicative morpheme is generated in the higher VP shell, and licenses the applied object in is specifier (113b).

(113) a. Chitsiru chi-na-gul-ir-a atsikana mphatso
fool 3s-Pres-buy-Appl girls gift
"The fool bought the girls a gift"

b.



Marantz extends the structure in (113b) to cover double object constructions in languages like English. Such constructions, he claims, are 'hidden' applicatives, in which the head of the higher VP shell is unpronounced. Under his theory, *dative shift* amounts to an alternation in the mapping of recipients and other participants to various positions within the VP structure: In the DP–PP construction (*give a book to Daniel*), a single VP shell is projected, and the recipient is mapped to a PP selected as the complement of the ditransitive verb. In the DP–DP (double object) construction, two VP shells are projected, and the the recipient is licensed as the specifier of the higher verb (a null applicative morpheme).

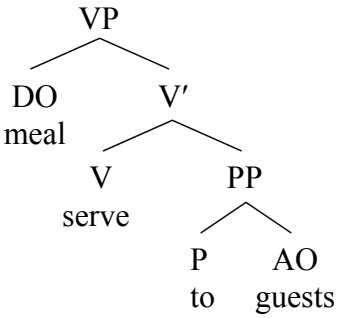
Extending this analysis to Malagasy, I propose that dative shift with verbs like *roso* "present, serve" involves the same structural alternation: The DP–PP predicate in (114a) has the structure in (115a), where *ny vahiny* "the guests" is the object of a preposition; while the DP–DP predicate in (114b) has the structure in (115b), where *ny vahiny* is the specifier of a higher VP shell headed by a null applicative morpheme:[44]

(114) a. Mandroso ny sakafo amin'ny vahiny ny vehivavy
NomP.serve Det meal to-Det guest Det woman
"The woman serves the meal to the guests"

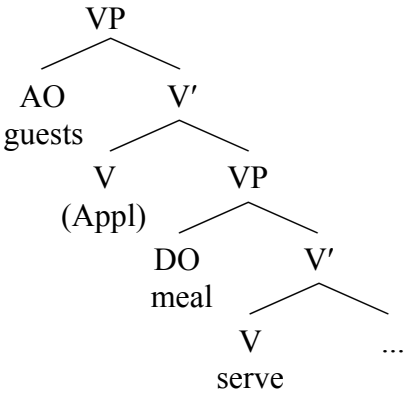
b. Mandroso ny sakafo ny vahiny ny vehivavy
NomP.serve Det meal Det guest Det woman
"The woman serves the guests the meal"

[44] Notice that in the double object construction in Malagasy, the indirect object follows the direct object, rather than preceding it as in English. I abstract away from this fact here, but see Pearson (2000b) for discussion.

(115) a.



b.

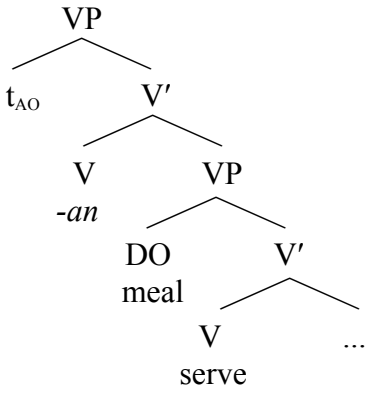


We are now in a position to offer an analysis of the DatP/CrcP suffix *-an*: I propose that *-an* is an overt instantiation of the null applicative head in (115b).

Recall my analysis of *m-* and *-in* from the previous section: I treated them as case checking heads, which, due to a generalized doubly-filled COMP filter, are only spelled out if the DP in their specifier has undergone A′-movement to a higher position. Suppose that the applicative head in (115b) has the same property in Malagasy. It follows that when the applied object of a ditransitive verb raises to the EA position, the applicative head will be spelled out. Consider the sentence in (116a): The recipient *ny vahiny* "the guests" is introduced in the applied object position; once it raises out to become the external argument of the clause, *-an* is inserted in the applicative head position, as in (116b). (Note that *-an*, like its equivalent in Chichewa, is suffixed to the verb stem; presumably the head of the lower VP shell left-adjoins to *-an* prior to spell-out.)

(116) a. Rosoan'ny vehivavy ny sakafo ny vahiny
DatP.serve-Det woman Det meal Det guest
"The woman serves the guests the meal"

b.



This derives the *-an* of the DatP form. But how do we account for the appearance of *-an* on the CrcP form? Recall from the discussion in 1.1.2 that the CrcP form differs from the DatP form in the presence of a verbal prefix (2.4.2). For example, from the root *roso*, we form the DatP *rosoana* by adding *-an*, and the CrcP *androsoana* by adding *-an* and the verbal prefix *an-* (also found in the NomP form *mandroso*). Recall also that the DatP form is associated specifically with dative shift verbs, while the CrcP form has a much wider distribution, occurring on virtually any

verb capable of taking an oblique dependent. It appears, then, that the generalization we need to explain is as follows:

(117) a. When an applied object is interpreted as the recipient/benefactee of a dative shift verb, the verbal prefix is suppressed when that object undergoes A′-movement

b. For all other applied objects, the verbal prefix is not suppressed when the object undergoes A′-movement.

What distinguishes recipients and benefactees from other kinds of applied arguments? Following Marantz (1993), I will argue that the crucial factor is *affectedness*. A verb denoting the transference of an object to a goal undergoes dative shift if and only if the goal is capable of being interpreted as affected by the action in question. Consider the minimal pair in (118), for example, adapted from Pesetsky (1995): A person can be affected by having a parcel sent to them, but a place cannot; hence, a double object construction is licensed for the verb *send* in the former case, but not the latter case:

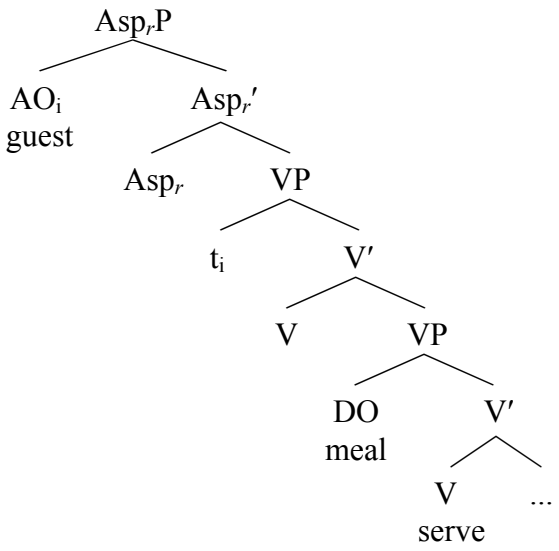
(118) a. Eric sent a parcel *to Daniel*
b. Eric sent *Daniel* a parcel
c. Eric sent a parcel *to France*
d. * Eric sent *France* a parcel

Suppose that in Malagasy, affected arguments are licensed in the specifier of Asp_rP. We saw in the last section that when the accusative case-marked object of a monotransitive verb raises to the EA position from SpecAsp_rP (triggering the insertion of the AccP suffix *-in*), the verbal prefix is suppressed. If we assume that affected applied objects (the benefactive/recipient arguments in double object constructions) are similarly licensed via accusative case assignment in SpecAsp_rP, then we can explain why the verbal prefix is suppressed in the DatP form as well.

I therefore propose the following: In double object constructions such as (119a), the applied object is generated in the specifier of the higher VP, and then raises to the specifier of Asp_rP to check accusative case, yielding the structure in (119b) (here I abstract away from word order; cf. footnote 44):

(119) a. Mandroso ny sakafo ny vahiny ny vehivavy
NomP.serve Det meal Det guest Det woman
"The woman serves the guests the meal"

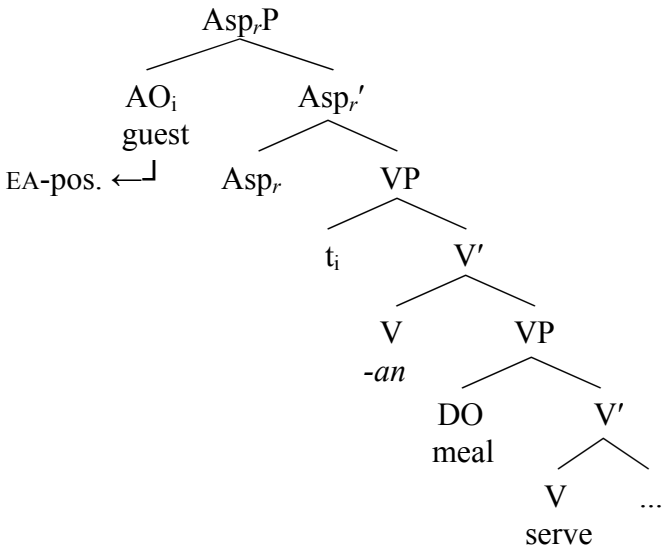
b.



Externalization of the applied object in a double object construction involves a two-step process. First the applied object extracts from the specifier of the higher VP and raises to the specifier of Asp$_r$P, as in (119). It then raises from SpecAsp$_r$P to the EA position, suppressing the verbal prefix in the process, and triggering the insertion of the applicative morpheme *-an*. This derivation yields the dative-pivot form, in which the verb root bears the *-an* suffix and there is no verbal prefix, as shown in (120). (Notice that, although there is A′-movement out of the specifier of Asp$_r$P, the suffix *-in* is not inserted. I tentatively suggest that there is a low-level morphological constraint which blocks *-in* from attaching to a verb stem which already carries an applicative suffix.)

(120) a. Rosoan'ny vehivavy ny sakafo ny vahiny
DatP.serve-Det woman Det meal Det guest
"The woman serves the guests the meal"

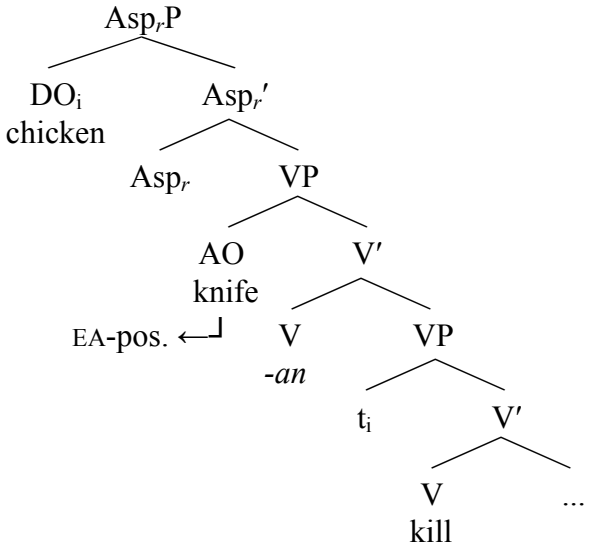
b.



How do we derive the circumstantial-pivot form, illustrated in (121a), in which *-an* and the verbal prefix are both present on the stem? As I concluded above, the CrcP form is used to externalize applied objects which are not interpreted as (directly) affected by the event denoted by the verb (instruments, locations, etc.). So in this case, it is not the applied object which raises to the specifier of Asp$_r$P, but the direct object, generated in the lower VP shell, as shown in (121b):

(121) a. Amonoan'ny mpamboly ny akoho ny antsy
CrcP.kill-Det farmer Det chicken Det knife
"The knife, the farmer kills the chicken (with it)"

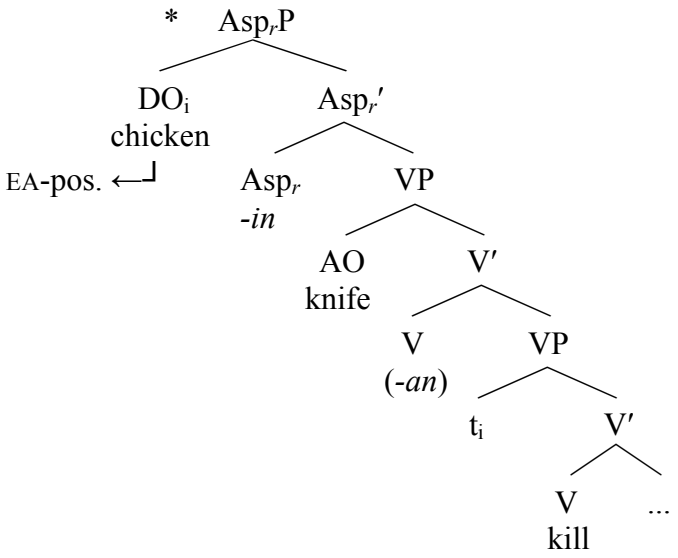
b.



Since the direct object does not raise out of SpecAsp$_r$P, the verbal prefix will surface (as it does in the NomP form, where the direct object again remains in its case position). The applied object extracts from VP and raises over the direct object to the EA position, triggering *-an* insertion in the applicative head. Thus the verb will surface with both the verbal prefix and the *-an* suffix attached to it.

One question raised by this analysis involves the following hypothetical situation: Suppose that once the direct object raises to SpecAsp$_r$P over the applied object, as in (121), it then raises on to become the EA of the clause, leaving the applied object in its base position (the specifier of the higher VP). Raising of the direct object out of SpecAsp$_r$P triggers *-in* insertion in Asp$_r^0$ (*-an* is not inserted in the higher V because there is a DP in its specifier at spell-out). The result is the ill-formed sentence in (122a-b), in which the verb shows AccP marking, in agreement with the externalized direct object *ny akoho* "the chicken" and the instrument *ny antsy* "the knife" surfaces as a predicate-internal applied object DP (cf. the well-formed sentence in (122c), in which the instrument surfaces not as an applied object, but as the complement of the preposition *amin'*):

(122) a. * Vonoin'ny mpamboly ny antsy ny akoho
AccP.kill-Det farmer Det knife Det chicken
"The chickens, the farmer kills with the knife"

b. 

c. Vonoin'ny mpamboly amin'ny antsy ny akoho
AccP.kill-Det farmer with-Det knife Det chicken
"The chickens, the farmer kills with the knife"

What rules out the structure in (122b)? Notice that this structure differs from those in (119)–(121) in that the applied object remains in the specifier of the higher VP at spell-out, rather than raising out to some higher position. I will therefore stipulate the following:

(123) The applied object projection—viz., the higher VP shell—may not license an overt DP argument in its specifier, but must contain a trace.

Thus, if the instrument *ny antsy* "the knife" is generated in the specifier of a VP headed by an applicative morpheme, it cannot remain in this position, but must raise into some higher position in order to be licensed—either SpecAsp$_r$P, as in (119)–(120), or the EA position, as in (121).

Why should the applied object position only be able to host covert elements (traces)? While I have no substantive answer to this question, it is worth noting that there are other examples in the literature of positions which appear to be limited by the very same constraint as in (123)—viz., they may license a DP argument, but only if that argument undergoes further (overt) movement. A famous example involves the subject position in non-finite clauses in French, as discussed by Kayne (1981) and others: Bare infinitival complements in French (selected by verbs such as *croire* "believe") may host a non-PRO subject, but only if that subject undergoes movement, leaving a trace behind:

(124) a. Je crois [PRO avoir fait une erreur]
I believe have.Inf made a mistake
"I believe myself to have made a mistake"

b. * Je crois [*Jean* être le plus intelligent de tous]
I believe Jean be.Inf the most intelligent of all
"I believe Jean to be the most intelligent of all"

c. Quel garçon$_i$ crois-tu [t$_i$ être le plus intelligent de tous] ?
which boy believe-you be.Inf the most intelligent of all
"Which boy do you believe to be the most intelligent of all?"

Even within the realm of Bantu applicatives, restrictions reminiscent of the one in (123) are not unknown. For example, Ngonyani (1996) notes that instrumental applicatives in Swahili are disallowed if both the applied object and the direct object are postverbal (regardless of the order in which they occur):[45]

(125) a. ?? Wa-li-vunj-i-a chungu mawe
3p-Pst-break-Appl pot rock
"They broke the pot with rocks"

b. ?? Wa-li-vunj-i-a mawe chungu
3p-Pst-break-Appl rock pot
"They broke the pot with rocks"

However, the construction becomes fully grammatical if one or the other of the objects is topicalized (126) or relativized (127):

(126) a. Mawe$_i$, wa-li-vunj-i-a chungu t$_i$
rock 3p-Pst-break-Appl pot
"The rocks, they broke the pot (with them)"

b. Chungu$_i$, wa-li-vunj-i-a t$_i$ mawe
pot 3p-Pst-break-Appl rock
"The pot, they broke (it) with rocks"

(127) a. mawe ambayo$_i$ wa-li-vunj-i-a chungu t$_i$
rock Rel 3p-Pst-break-Appl pot
"the rocks with which they broke the pot"

b. chungu ambacho$_i$ wa-li-vunj-i-a t$_i$ mawe
pot Rel 3p-Pst-break-Appl rock
"the pot which they broke with rocks"

Of course, there is a (possibly crucial) difference between the Swahili construction and the Malagasy construction: In Swahili, the instrumental applicative may be rescued by A′-moving *either* the applied object *or* the direct object; whereas in Malagasy, it is specifically the applied object which must move. Nevertheless, the similarities between the two constraints suggest that the stipulation in (123) may follow from more general principles of argument licensing in applicative constructions. I leave the investigation of this issue as a topic for future research.

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[45] The degree of acceptability of the sentences in (125) varies with the speaker. Ngonyani reports that these sentences are marginal in his dialect, but entirely ungrammatical in other dialects.

2.4.5. Voice-marking and wh-agreement: Malagasy versus Chamorro

In section 2.4.2 I suggested that the NomP prefix *m-* and the AccP suffix *-in* are generated in case-assigning aspectual heads. Due to some morphological property of these heads (perhaps a general doubly-filled COMP effect), the NomP and AccP morphemes only surface if the AspP projections in which they are generated have a trace in their specifiers (AccP morphology is also blocked by the presence of an applicative suffix on the verb). The effect of these morphemes, then, is to indicate the abstract case of an A′-extracted element.

While many questions remained to be answered, I believe that there is cross-linguistic evidence for the two major assumptions which underlie this analysis, namely that (a) the voice morphemes are associated with functional heads involved in argument licensing, and (b) voice morphology is triggered by the presence of A′-movement. In this section I compare voice-marking in Malagasy with *wh-agreement* in Chamorro, as discussed in detail by Chung (1982, 1994, 1998). In the spirit of Donohue & Maclachlan (2000), I suggest that voice-marking in Malagasy and wh-agreement in Chamorro are the same animal: I argue that both involve the spell-out of a case-licensing head in the presence of an A′-trace. The distributional differences between voice in Malagasy and wh-agreement in Chamorro are due to independent syntactic differences between the two languages: In Malagasy, externalization (which I analyze as A′-movement in the next chapter) is obligatory; therefore wh-agreement will be found in every clause containing a verb. Chamorro, on the other hand, lacks an (obligatory/overt) externalization operation, and so wh-agreement will show up on the verb only if an A′-chain is created by wh-operator movement, as in relative clauses and constituent questions.

Chamorro is a verb-initial language, usually classified as Western Austronesian on the basis of its structural resemblance to the Philippine languages. The details of wh-agreement in Chamorro are complex, but the basic facts are as follows (all examples taken from Chung 1998): In normal transitive clauses, the verb agrees in φ-features with the subject, along an ergative-absolutive pattern. In (128), for example, the verb bears the third person singular realis prefix *ha-*, indicating agreement with *si Juan*:

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

However, when the transitive subject undergoes A′-extraction, as in wh-questions (129a) and relative clauses (129b), the person/number-agreement morpheme is replaced with the infix *-um-* (or its allomorphic variant, the prefix *mu-*). Chung analyzes *-um-*/*mu-* as a special morpheme which indicates that the extracted element is to be interpreted as the transitive subject of the clause. Specifically, she argues that it marks agreement in case features between the verb (in I^0) and an A′-chain whose trace is in the minimal m-command domain of I^0. The general process whereby the regular person/number marking on the verb is replaced with special morphology in A′-extraction contexts is referred to as *wh-agreement*.[46]

[46] Wh-agreement phenomena have also been reported for the Austronesian languages Palauan (Georgopoulos 1991) and Tukang Besi (Donohue 1999).

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

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

The distribution of wh-agreement morphology is sensitive to a number of factors, including the grammatical function of the extracted element (subject, object, or oblique) and the transitivity of the verb.[47] Here I will focus on transitive verbs: When the subject of a transitive verb is extracted, *-um-*/*mu-* is inserted on the verb in place of ergative agreement morphology, as we saw in (129). When a transitive object is extracted, there are two options: Either no wh-agreement is triggered, as in (130a), or the infix *-in-* is added to the verb, as in (130b), and the regular subject agreement marker (here, the third person singular irrealis prefix *u-*) is replaced with the corresponding 'possessor agreement' suffix.[48] The infix *-in-*, like *-um-*/*mu-*, is analyzed by Chung as a wh-agreement morpheme, which indicates that a transitive object has undergone A′-extraction across the verb.

(130) a. Hafa pära u-fa'tinas si Juan?
what Fut 3sErg(Irr)-make Det Juan
"What is Juan going to make?"

b. Hafa pära f*in*a'tinas-ña si Juan?
what Fut *in*.make-3s.Lnk Det Juan
"What is Juan going to make?"

What exactly is wh-agreement? Let us assume that *-um-*/*mu-* and *-in-* are the overt realizations of the heads of functional categories, and ask what categories they might be. As I observed, the choice of morpheme varies depending on whether the A′-extracted constituent is a subject or object. Furthermore, *-um-*/*mu-* and *-in-* are in complementary distribution with regular (prefixed) ergative subject agreement. Thus, a reasonable hypothesis is that *-um-*/*mu-* and *-in-* are the realization of case/agreement-related heads.

As various authors have observed (e.g., Topping 1973, Richards 1997, Donohue & Maclachlan 2000), the Chamorro wh-agreement morphemes *-um-*/*mu-* and *-in-* are cognate with the 'actor-topic' (NomP) and 'theme-topic' (AccP) markers found in Tagalog and other Philippine languages, which serve to promote subjects and objects, respectively, to the EA function:

(131) a. B*um*ili si Maria ng kalabaw sa tindahan
NomP.bought Det Maria Det water.buffalo Obl.Det store
"Maria bought a water buffalo at the store"

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[47] The mood of the verb (realis vs. irrealis) also plays a role in the distribution of wh-agreement, but I will ignore this factor here. See Chung (1998) for details.

[48] These possessor agreement suffixes have a similar distribution to—and are in some cases clearly cognate with—the subjective enclitic pronouns in Malagasy, discussed in 2.3.1.

b. B*in*ili ni Maria ang kalabaw sa tindahan
AccP.bought Det Maria Det water.buffalo Obl.Det store
"Maria bought a water buffalo at the store"

Given the close genetic relationship between Tagalog and Malagasy, it is not implausible to assume that Chamorro *-um-/mu-* is also cognate with the Malagasy NomP prefix *m-*, while the infix *-in-* is cognate with the AccP suffix *-in*.[49] Furthermore, if my analysis of *m-* and *-in* is on the right track, we can reasonably conclude that Chamorro wh-agreement morphology and Malagasy voicing morphology are not just historically related, but in fact embody the same phenomenon synchronically, namely the spell-out of a functional head in the presence of an A′-trace: Like Malagasy *m-*, Chamorro *-um-/mu-* is generated in the head of Asp_eP (associated in this case with ergative case marking and agreement), while Chamorro *-in-*, like Malagasy *-in*, is generated in the head of Asp_rP.

Of course, voice morphology is prevalent in Malagasy (every verb must be marked for voice), while wh-agreement in Chamorro is confined to certain constructions such as wh-questions and relative clauses. If voice-marking and wh-agreement are really one and the same, why do they differ so dramatically in their distribution? Suppose we assume that externalization in Malagasy involves A′-movement, as I will argue in detail in the next chapter. Since externalization is obligatory (every clause must have an EA), it follows that every clause in Malagasy will contain an A′-chain with its head in SpecCP. If the function of wh-agreement/voice is to indicate the abstract case of an A′-moved element, and if every clause in Malagasy contains such an element, then we expect voice morphology to be present in all clauses. However, let us assume that Chamorro lacks an (obligatory) overt operation analogous to externalization in Malagasy, meaning that the EA position (SpecCP) may remain empty. It follows then that wh-agreement/voice will be confined to those clauses in which an A′-chain is created by movement of some other element to SpecCP, such as a wh-operator. In clauses where there is no A′-chain, the verb's arguments will remain in their case positions (triggering φ-feature agreement on the verb), and the case-licensing heads *-um-/mu-* and *-in-* will remain covert. In short, Malagasy is a Chamorro-type language in which wh-agreement has been generalized to all clause-types, due to the presence of an A′-position in the C-domain which must be filled in every clause.[50]

If an analysis of this sort turns out to be feasible, then we can interpret the Chamorro facts as strong comparative evidence in favor of a direct link between voice-marking and the presence of A′-movement. Many problems remain; however initial evidence suggests that an analysis of voice morphology along the lines suggested here can be made to work.

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[49] That a suffix in Malagasy should be cognate with an infix in Chamorro may seem far-fetched, however there is some language-internal evidence for the connection. Abinal & Malzac (1963) actually list a large number of verbs with two alternating AccP forms, one formed by suffixing *-in* to the root and the other formed by infixing *-in-* after the first consonant of the root (e.g., *vaky* "read" > *vakina*, *vinaky* "AccP.read"). Although the suffixed alternate is by far the more common in contemporary Malagasy, infixed forms were originally quite widespread, and are occasionally still attested.

[50] Alternatively, Chamorro is a Malagasy-type language in which voice marking has become limited to certain clause types, due to the loss of an obligatory externalization operation.

2.5. Summary of chapter 2

In this chapter I introduced some basic facts about Malagasy morphology and sentence structure, and presented some observations and speculative analysis on the voicing system. In 2.1 I showed that Malagasy clauses have a bipartite structure, comprised of a *predicate phrase* and a right-peripheral *external argument*, which is generally obligatory.

In 2.2 I discussed verbal morphology, with particular emphasis on the distribution of the five voice forms. Then in 2.3 I discussed nominal morphology and the hierarchical arrangement of arguments, and proposed a basic clause structure for the predicate phrase. I showed that the predicate-internal agent phrase has the properties of a case-bearing subject. This in turn suggests that the external argument is a topic-like element of some kind, which occupies an A′-position above the position in which the subject receives case. I tentatively identified this position as the specifier of CP (this proposal is refined in the next chapter).

Finally in 2.4 I considered the morphemes which comprise the voice forms. In basic agreement with Guilfoyle, Hung, and Travis (1992), I analyzed these morphemes as the spell-out of heads involved in case-assignment and argument promotion (light verbs, applicative morphemes, and case-licensing heads involved in aspect-marking). I suggested that, due perhaps to a generalized doubly-filled COMP filter, these heads are spelled out only if their specifiers contain an A′-trace.

As evidence for a connection between voice morphology and A′-movement, I compared Malagasy with a related language, Chamorro. Chamorro possesses a system of verbal morphology similar to the one in Malagasy, but only in wh-extraction contexts (constituent questions, relative clauses, etc.). In other clause types, this morphology is absent and the verb carries φ-feature agreement instead. I argued that if we analyze externalization as obligatory movement from a case position to an A′-position, as I propose in the next chapter, then it follows that every clause in Malagasy will contain an A′-chain. I suggested that Malagasy voice morphemes instantiate wh-agreement of the Chamorro type. The only real difference between the two languages is that Malagasy has generalized wh-agreement to all clause types.

In chapter 3 I take up the claim that the external argument is a topic-like element rather than a subject. I present comparative evidence showing that EAs share distributional properties with topics in other languages, as well as language-internal evidence from binding and extraction showing that externalization patterns with operator movement rather than case-driven DP-movement.